

Using the Meke Meter to Understand Rangatahi Hauora in the Aotearoa New Zealand Secondary School Context

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I declare that the work presented in this thesis, is, to the best of my knowledge and belief, original and my own work, except as acknowledged in the text and reference pages.

Signed:

Date: 31 March 2022

Whakarāpopotanga: Abstract

Background: In Aotearoa New Zealand (NZ), many rangatahi (adolescents) are not experiencing good quality of life (QoL), which negatively impacts their wellbeing. Wellbeing affects adolescents' engagement with learning, social and emotional behaviour, and overall satisfaction with life and with school. In the NZ tertiary education setting, the Meke Meter™ was found to be a quick and simple tool that benefited both students and educators through increased awareness and knowledge of the student's wellbeing and the various aspects that contribute to it. The Meke Meter™ is an indigenous, holistic self-reflection tool that has minimal text and does not require the user to write but instead score themselves for various aspects that contribute to their overall health and wellbeing. The purpose of this study was to answer the question: Is the Meke Meter™ an appropriate tool for capturing the self-evaluated wellbeing status of rangatahi in a secondary school setting? This overarching question has been broken into three sub-questions:

1. Is the online and/or paper version of the Meke Meter™ a suitable and user-friendly interface for rangatahi to use to self-evaluate their wellbeing?
2. Do classroom teachers feel that the Meke Meter™ can be effectively applied in the curriculum around wellbeing?
3. Are there any existing QoL or wellbeing tools suitable for use in the NZ secondary school context?

Methods: A case study approach was undertaken to answer sub-questions 1 and 2 with the Meke Meter™ being trialled in a mainstream secondary school and an alternative secondary education setting. At the mainstream secondary school, 12 kaiako (teachers) offered the paper version of the Meke Meter™ to their Whānau group and a total of 85 out of 97 (87.6 %) enrolled rangatahi gave consent to participate by completing their Meke Meter™. The Lead Facilitator of the alternative education programme used the digital format of the Meke Meter™ and at the time this case study took place, there were five rangatahi enrolled, of which four agreed to participate. After regular use of the Meke Meter™, the participating teachers and students provided feedback about the use of the Meke Meter™ via Google Forms. The qualitative data was analysed using an inductive thematic analysis and the appreciate inquiry framework was used to critically analyse and discuss the findings.

A systematic literature review was undertaken to answer sub-question 3. The review comprised of four stages. The COnsensus-based Standards for the selection of health Measurement INstruments (COSMIN) tool and the Preferred Reporting Items for Systematic review and Meta-

Analysis (PRISMA) flowchart were used to facilitate the selection of articles with appropriate instruments. The characteristics of the eligible QoL and or wellbeing instruments were determined, and the instruments were assessed for suitability in the NZ secondary school classroom setting.

Findings: In the case studies, both kaiako and rangatahi found the Meke Meter™, regardless of format, quick and easy to use requiring very little teacher instructional input. Rangatahi acknowledged that using the Meke Meter™ promoted self-awareness and allowed them to set goals and track progress. The kaiako found the Meke Meter™ to fit well with the current focus on student wellbeing and its use could support the school curriculum. The Meke Meter™ appeared to allow kaiako to gain insight into the lived experiences of rangatahi, which could enable them to alter their teaching pedagogy to better cater pastorally to their students' needs. The comments from some kaiako suggested that the development of student and teacher resources would support the use of the Meke Meter™ in the classroom. The digital version of the Meke Meter™ appeared to have some administrative and data collection advantages over the paper version.

In the systematic review, the titles and abstracts of 6,613 articles were screened to determine eligibility. After the initial screening, 89 articles were retrieved for full-text screening. From these, eight articles (n = 8) were included in the study and five instruments were identified for assessment. The instruments identified were insufficiently aligned to Māori understandings of wellbeing and in addition, most were unsuitable for teachers to administer during class time, nor were they fit for purpose for rangatahi, in particular rangatahi Māori.

Conclusion: In the absence of an existing adolescent QoL or wellbeing tool suitable for use in the NZ secondary school education settings, there is scope for the development of such a tool. This research study has begun to explore the applications of the Meke Meter™ in the secondary education sector. A continued journey of co-design that engages with Government, communities, whānau and rangatahi is needed. This is to ensure that the Meke Meter™ is not just a tool for promoting self-reflection of life, goal setting and progress tracking, but instead an entire wrap-around system of monitoring and resources to equip and empower rangatahi to live their best possible lives with a focus on thriving and flourishing to enhance wellbeing.

Keywords: Adolescents; Aotearoa; Education; Instrument; New Zealand; Quality of Life, QoL; Rangatahi; Secondary School; Meke Meter™; Tool; Wellbeing; Young People; Youth.

Mihimihi: Acknowledgements

Completing a Masters Degree has always been an academic goal of mine. However, writing this thesis has been a long journey, and a global pandemic was not part of the plan. Therefore, it is hard to believe that I have finally finished this thesis.

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timelines, and your patience has been appreciated. Working with you both made me realise that a masterate is not the pinnacle of my education but the beginning. You have both been responsible for igniting a spark inside of me. The pursuit for ensuring that our rangatahi thrive and flourish is burning bright, and I am looking forward to working on more research projects with you all in the future.

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Ehara taku toa, he takitahi, he toa takitini

*My success should not be bestowed onto me alone, as it was not individual success but success
of a collective*

Whakataki: Preface

He uri au no te whakapumautanga o Rākaihikuroa me Pāpāuma

Ko kupukore tōku maunga

Ko Owāhanga tōku awa

Ko Takitimu tōku waka

Ko Pāpāuma tōku marae

Ko Te Hika a Pāpāuma tōku hapū

Ko Ngāti Kahungunu ki Tāmaki nui-a-rua tōku iwi

Ko Alan Berquist tōku matua tāne

Ko Philippa Berquist tōku whaea

Ko Levi Armstrong tōku tāne

Ko Jordyn, rātou ko Paige, ko Pania, ko Jagger-Beau āku tamariki

Ko Dana Armstrong tōku ingoa

This research originally stemmed from my passion and interest in working with young people (rangatahi). I have been working as a secondary school teacher in Hawke’s Bay, Aotearoa New Zealand, over the last 16 years and have developed a particular interest in the wellbeing of rangatahi. More specifically, if they were able to reflect on their wellbeing over time, observe changes and set goals, could this lead to empowerment moving into adulthood. These thoughts arose due to spending time with rangatahi after they had left school and hearing comments that they would have liked to learn more about ‘adult life’ at school. Aspects such as recognising and maintaining healthy relationships, banking, and finances, living with others outside of family members (for example, flatting), preparing healthy kai (food), and regular exercising to preserve wellbeing. While these aspects are taught in the physical and health education subject area, they are not covered in depth in the junior curriculum, where it is a compulsory subject. I believe that health is a universal subject and that these aspects can and should be covered across the school curriculum, not just be confined to one subject area.

Due to the bilingual vocabulary and bicultural worldview in Aotearoa New Zealand, it is important to note that this dissertation is written in English but uses many Māori words, concepts, philosophies, and practices, all of which are defined and explained. Most Māori words

do not have a direct English translation, and many have multiple meanings in English. Often, translation of a word-to-meaning rather than a word-to-word occurs. An example of this is whenua, which means earth, land, country, or placenta; so due to the different interpretation of the word whenua, the phrase tangata whenua means people (tangata) of the land (whenua), those who belong to the land, those who are from or bonded to the land, or indigenous peoples (Mead, 2003). I have chosen to use a variety of definitions from Māori kaumatua, elders and people who have written about Māori and their philosophies to aid my discussion and use of Māori. I acknowledge that the translation will never be exact, but I wish to convey the meaning in the best possible way by drawing on many examples and use definitions. At all times, I wish to show my respect for Māori culture and protocols, as there is wisdom regarding Māori perspectives and Māori knowledge to which I am unable to do justice in this work. I am responsible for choosing which aspects and concepts were explored to provide a coherent overview.

In Aotearoa New Zealand, it has become an acceptable way of thinking, talking, and writing to incorporate Māori words, phrases, and concepts in sentences which are mostly comprised of English words. Consequently, to an uninitiated person, the bilingual nature of the language may seem confusing. However, the use of both languages within the same sentence is the common (and hopefully, the best) way to communicate a large variety of ideas, notions, and practices pertaining to Aotearoa. Throughout this dissertation, the Māori word will appear first, followed by the English translation or meaning, in acknowledgement of the prominence of Māori concepts and philosophy, and aid understanding of the concepts introduced. A Rāranga Kupu Māori (Glossary of Māori Terms) is also provided for the reader's convenience.

Māori and Western health perspectives are integrated in Aotearoa New Zealand, with Māori perspectives becoming increasingly more accepted as a means of understanding health concepts and issues by educators, health professionals, and Ministers of Parliament, as well as a cross-section of society nationally.

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Rāranga Kupu Māori: Glossary of Māori Terms

Āiō Mātua	God/Goddess the divine parents
Ākongā	Student, learner, pupil
Aotearoa	Used as the Māori name for New Zealand. Often translated as 'land of the long white cloud'
Atua	God, demon, supernatural being, deity
Hā a koro mā, a kui mā	Breath of life from forebearers; inherited strengths or inspiration from ancestors
Hapū	Sub-tribe
Haka	Cultural posture dance/performance
Hauora	A mode of wellbeing encompassing the interconnected aspects of social, spiritual, mental, and emotional, and physical health
Hinengaro	Mind, thought, intellect, consciousness, awareness
Hīrau	Paddle
Hui	Focus group, meeting
Iwi-katoa	Social structures
Kaiako	Teacher, instructor
Kaumātua	A person of status within the whānau, older person
Kaupapa	The principle of collective philosophy
Kuia	female elder
Mahi Tahī	Working together as one
Mana	Power and prestige
Mana ake	A dimension of Te Wheke representing the unique identity of individuals and family
Manaakitanga	Hospitality, support, kindness, caring for others
Manatū Hauora	The Ministry of Health
Māoritanga	Māori culture, practices, and beliefs
Marae	Māori meeting grounds
Mātauranga Māori	Māori knowledge, wisdom, understanding
Matua	Father, parent, uncle
Maunga	Mountain
Mauri	Life force in people, animals, environmental elements, and objects

Mauri ora	Cultural identity, belonging
Meke	means to strike (with the fist). Also, the shortened form of the colloquial phrase tu meke meaning “too much” or awesome
Moana	Ocean, a large lake
Ngā Tikanga Matatika, Ngā Paerewa	Our Code, Our Standards
Pākehā	People who are not of Māori descent
Papatūānuku	The earth mother
Pūrākau	Māori storytelling
Rangatahi	Younger generation, youth, adolescent, an emerging leader
Tamariki	Children
Tangihanga	Funeral
Taonga	Gifts
Tautoko	Support
Te ao Māori	The Māori world
Te ao Tūrua	The external environment
Te hinengaro	To the deep mind
Te Kete Ipurangi	TKI – is an online knowledge basket – New Zealand’s bilingual education portal and is an initiative of the Ministry of Education
Te pā harakeke	The flax tree
Te reo Māori	The Māori language
Te Tāhuhu o te Mātauranga	The Ministry of Education
Te taiao	The physical environment
Te Tiriti o Waitangi	The Treaty of Waitangi
Te Whare Tapa Whā	A model of Māori health and wellbeing that uses the analogy of a whare with four walls that was developed by Sir Mason Durie in 1984
Te Wheke	The octopus. A model developed by Rose Pere that uses the analogy of an octopus to define family health with each of the eight tentacles representing a specific dimension of health
Tikanga	Correct procedure, custom

Tinana	Body, physical being
Tino rangatiratanga	Self-determination
Tīpuna	Ancestors
Tūpuna	Ancestors
Tuakana-teina	Eldest brother, sister or cousin/youngest brother, sister, or cousin
Tūrangawaewae	A place to stand, a place where one has rights of residence and belonging through kinship and whakapapa
Waiata	to sing. song
Waiora	Total health, a dimension of Te Wheke representing total wellbeing for the individual and family
Wairua	Spirit, soul
Wairuatanga	Spirituality
Wananga	Discussion
Whaea	Mother, aunty
Waka	Canoe
Whakamā	Shyness, embarrassment
Whakapapa	Genealogy
Whakarongo	Listening
Whakataukī	Proverbs
Whakawhanaungatanga	Process of establishing relationships, relationship, kinship, sense of family connection
Whakaiti	Humility
Whānau	Family
Whanaungatanga	A sense of family connection and belonging, extended family
Whare	House, building
Whātumanawa	The seat of emotion, a dimension of Te Wheke representing the expression of emotions
Whenua	Land, place, roots, placenta

Chapter 1

Context of the Study

Whāia te mātauranga hei oranga mō koutou

Seek after learning for the sake of your wellbeing

1.1 Introduction

The whakataukī above highlights the importance of learning to wellbeing. This chapter introduces the topic of rangatahi (adolescent) wellbeing in the Aotearoa New Zealand (NZ) secondary school context. It outlines how this research came about and the key aspects of the study, including the aim, research questions and significance of this study. It introduces the Meke Meter™ and its use in other studies to measure wellbeing. In this thesis, the term rangatahi will be reserved for NZ adolescents.

Adolescence is a period of intensive development that roughly spans the ages of 12–18 years old. It is a phase of human development where a child transitions into an adult (Baheiraei et al., 2014; Crone & Dahl, 2012). Beginning with the onset of puberty, adolescence is highly variable and nonspecific in its end (Marcia, 1980). In addition to physical changes, young people also experience psychological, behavioural and social changes during this stage of development (Baheiraei et al., 2014; Crone & Dahl, 2012; Telzer, 2016). These changes have the potential to pose a significant risk as teenagers usually face confusion, curiosity, exuberance and enthusiasm to experiment (Baheiraei et al., 2014; Poulou & Norwich, 2019). Therefore, an important factor about the health of adolescents is the extent of their access to resources that enhance their growth. Adolescence is a sensitive stage of development, particularly for social and emotional learning. It represents a shift where young people begin to rely on their peers more than their parents for information, support and problem-solving (Baheiraei et al., 2014; Blakemore & Robbins, 2012). Peer networks, social media platforms and the Internet have become increasingly more influential in adolescent decision making (Baheiraei et al., 2014).

Worldwide, adolescents growing up today are part of a unique generation. They are maturing in an increasingly digitalised society, influenced intensively and pervasively by a digital screen (Orben, 2020). One aspect of growing interest in adolescent wellbeing is social media use. Social media allows for a more mobile, immersive, and continuous form of technological engagement. Young people are actively engaged with digital technologies (Pacheco & Melhuish, 2018). Thus,

reshaping the way they communicate, learn, socialise, and play, among other activities (Lenhart et al., 2015; Livingstone & Smith, 2014; Odgers, 2018; Pacheco & Melhuish, 2018). Research into the relationship between teenagers and digital technologies has produced conflicting discoveries about the impact of technology on different aspects of young peoples' lives, including their safety and mental health (Odgers, 2018; Odgers & Jensen, 2020; Rafla et al., 2014; Wu et al., 2016). The Youth19 report identified social media and technology as one of the top causes of distress for young people over the last decade (Fleming et al., 2020a).

The relationship between students' wellbeing and their ability to achieve academically is well established in both primary and secondary schools: students with poor mental health are likely to have low levels of academic achievement (Cushman et al., 2011; Stafford et al., 2007; Weare & Gray, 2003; Zubrick et al., 2000). Mental health and emotional wellbeing are considered to involve recognising and managing emotions, establishing positive relationships, developing concern for others, making responsible decisions and handling challenging situations effectively (Collaborative for Academic, Social, and Emotional Learning, 2003 *cited in* Cushman et al., 2011). For students, these aspects of mental health are essential to learning. Not only do they enable them to have more positive relationships with their teachers, family members and friends, but also to display more resilience for meeting life's challenges (Cushman et al., 2011).

In NZ, many adolescents are not experiencing good quality of life (QoL), which negatively impacts their wellbeing and thus academic capability (Department of the Prime Minister and Cabinet, 2019; Soutter et al., 2012). The recent Youth19 report highlights alarming statistics regarding declining adolescent mental health compared to previous Youth2000 surveys in 2001, 2007 and 2012 (Fleming et al. 2014 *cited in* Fleming et al. 2020a). Additionally, there is "persistent and growing mental health inequity between Māori and other ethnic groups", with rangatahi Māori having higher rates of depressive symptoms and suicide attempts compared to other ethnic groups in NZ (Fleming et al., 2020a, p. 1).

Wellbeing is associated with health and happiness (Steptoe, 2019). It affects students' engagement with learning, social and emotional behaviour, and overall satisfaction with school life. Therefore, it is of paramount importance to better understand adolescent wellbeing in NZ secondary schools because the troubles associated with poor wellbeing in adolescence can manifest into adulthood (Bornstein et al., 2003; Department of the Prime Minister and Cabinet 2019; Soutter et al. 2012). In addition, the Education Review Office state that "it is the ethical responsibility of teachers, leaders, and trustees to consider, promote and respond to all aspects of the student, including their physical, social, emotional, academic, and spiritual needs"

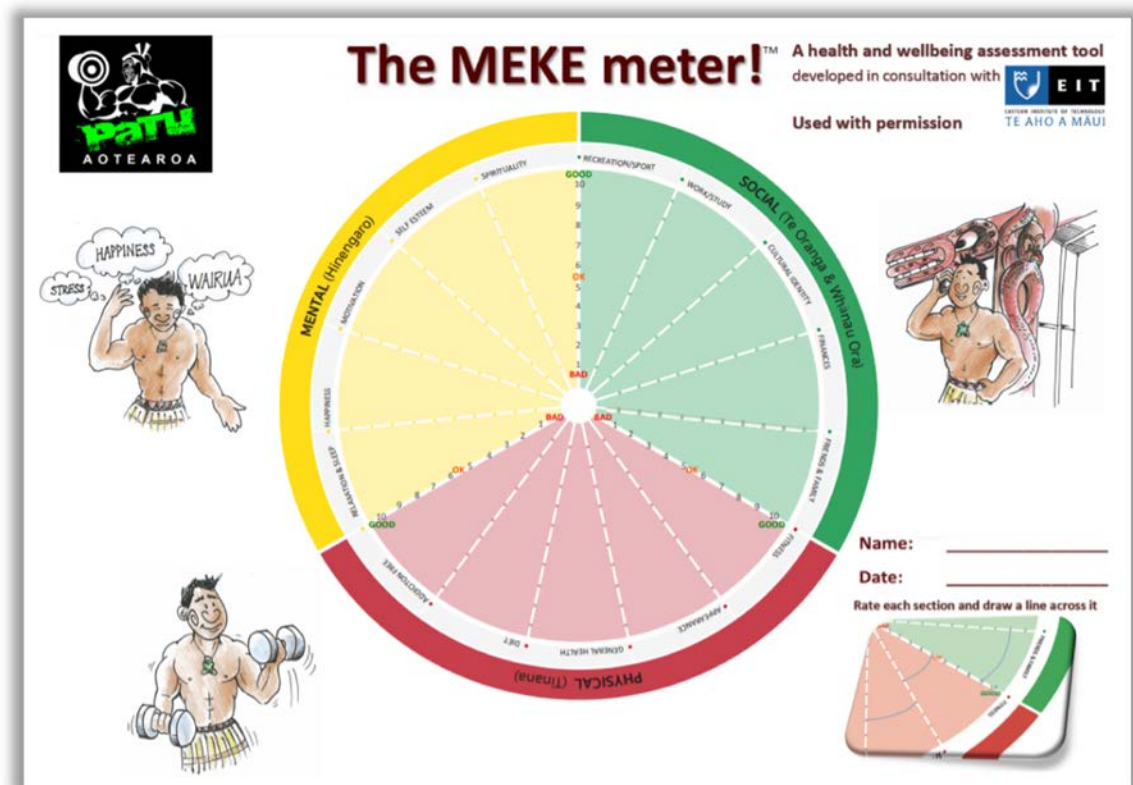
(Education Review Office, 2016, p. 4). While most young people are doing 'okay', the Youth19 report suggested that there is enough evidence to support the need for a tool to measure subjective wellbeing amongst rangatahi (Fleming et al. 2020a). Contributing to this evidence is the observation that despite the wellbeing of adolescents being of global public health and social significance, this topic has been poorly studied (Koot, 2002; Rose et al., 2017). In addition, when it has been researched, adolescent wellbeing has typically been measured either using child or adult-specific tools (Frisén, 2006; Rose et al., 2017). However, considering the extreme developmental changes from childhood to adulthood (Baheiraei et al., 2014; Poulou & Norwich, 2019), specific aspects of adolescents' wellbeing are often neglected, making traditional measurement tools ineffective and unreliable (Frisén, 2006). Therefore, the need for adolescent-specific tools is crucial for use at both a research-level and individual-level to promote positive wellbeing outcomes.

Schools are appropriate sites for promoting knowledge, skills, and attitudes that enhance personal and collective wellbeing. Emphasis on mental health has increased, and teachers are upskilling to be better placed to identify issues concerning students' social and emotional wellbeing (O'Reilly et al., 2018; Steptoe, 2019). Adolescent health issues are often expected to be addressed in schools through Health Education classes. However, a study conducted by Hargreaves (2013) revealed that there is neither adequate time nor support for teachers and schools to deliver Health Education programmes successfully. A whole-school approach to student wellbeing promotion calls for student wellbeing support to be embedded in a school's policies, curriculum, structures, and practices and as a shared responsibility of all stakeholders. However, Spence and Shortt (2007) state that a focus on wellbeing might divert valuable resources away from academic subjects and interfere with students' learning. Furthermore, a strong foundation for wellbeing and achievement amongst Māori involves incorporating te ao Māori (the Māori worldview) into learning to enable Māori students to connect with their identity as Māori (Te Tāhuhu o te Mātauranga–The Ministry of Education, 2013). This means that there is scope for implementation and use of a quick, easy, culturally appropriate tool for self-reflection about aspects of one's life to set positive goals individually to improve the overall wellbeing for all rangatahi.

In NZ, reflective practice is encouraged, with Te Kete Ipurangi stating that "when students become reflective about the teaching and learning process, they are strengthening their capacity to learn" (Te Tāhuhu o te Mātauranga–The Ministry of Education, n.d. para. 1). The Meke Meter™ (Figure 1.1) is a visual tool that "embraces reflective practice and the interdependence

of life elements and allows the user to apply the skill of self-reflection and examine many facets of their life without the enhanced proficiency in numeracy and literacy expected in other modes of self-reflection” (Forrest et al., 2019, p. 340). In addition, the online Meke Meter™ (www.mekemeter.org.) provides an easily accessible, innovative mechanism by which an individual can track their overall wellbeing and the factors that contribute to it. Rickard et al. (2016) found that the process of self-monitoring provides insight for personal growth and improved emotional wellbeing by facilitating goal setting and identifying the need to ask for help (Rickard et al., 2016). In the tertiary education setting, the Meke Meter™ was found to be a quick and simple tool that benefited both students and educators through increased awareness and knowledge of the student’s wellbeing and the various aspects that contribute to it. Also, by being able to track positive changes in the health of students, the Meke Meter™ can be used as a measure of non-academic-based success. In addition, ascribing value to rangatahi wellbeing will be beneficial for effectively implementing and evaluating pro-equity policies in education. The purpose of this study is to ascertain whether the Meke Meter™ is an appropriate tool for promoting self-reflection and capturing the self-evaluated wellbeing status of adolescents in the NZ secondary school setting to gain a better understanding of rangatahi wellbeing.

Figure 1.1 The Patu™ Meke Meter™ 2017. Used with permission; Trademarks held by Levi Armstrong



The Meke Meter™ is an indigenous, image-based, holistic self-reflection tool that has minimal text and does not require the user to write but instead score themselves for various aspects that contribute to their overall health and wellbeing (Forrest et al., 2014, 2016a, 2016b, 2019). Being kaupapa Māori in design, the Meke Meter™ was developed by Māori for Māori and embraces Te Whare Tapa Whā (Durie 1998), a concept which is currently embedded within the NZ secondary school education system (Te Kete Ipurangi, n.d.) that acknowledges that the critical elements of Māori health and wellbeing are tinana (body), hinengaro (mind), wairua (spirit) and whānau (family).

The Meke Meter™ was originally developed as a paper-based version used to evaluate the impact of Patu™ group exercise sessions on the wellbeing of participants (Forrest et al., 2019). The application of the Meke Meter™ as both a culturally appropriate self-reflection tool for students and an educator assessment and/or evaluation tool has been explored in a tertiary education setting (Forrest et al., 2019). The paper-based version of the Meke Meter™ has also been used to evaluate patients' QoL with chronic illnesses in the Australian health service setting (Harvey et al., 2019). Given that the Meke Meter™ is a simple, easy to use tool that is now also offered via an online platform, it may be suitable for use in NZ secondary schools.

1.2 The Research Questions

This section presents the research questions that underpin this study. Previous research conducted by Forrest et al. (2019) using the Meke Meter™ in the tertiary education context has set the scene for this study in the secondary school setting to explore the Meke Meter's™ feasibility in capturing the self-evaluated wellbeing status of rangatahi. The overall research question guiding this study was: Is the Meke Meter™ an appropriate tool for capturing the self-evaluated wellbeing status of rangatahi in a secondary school setting?

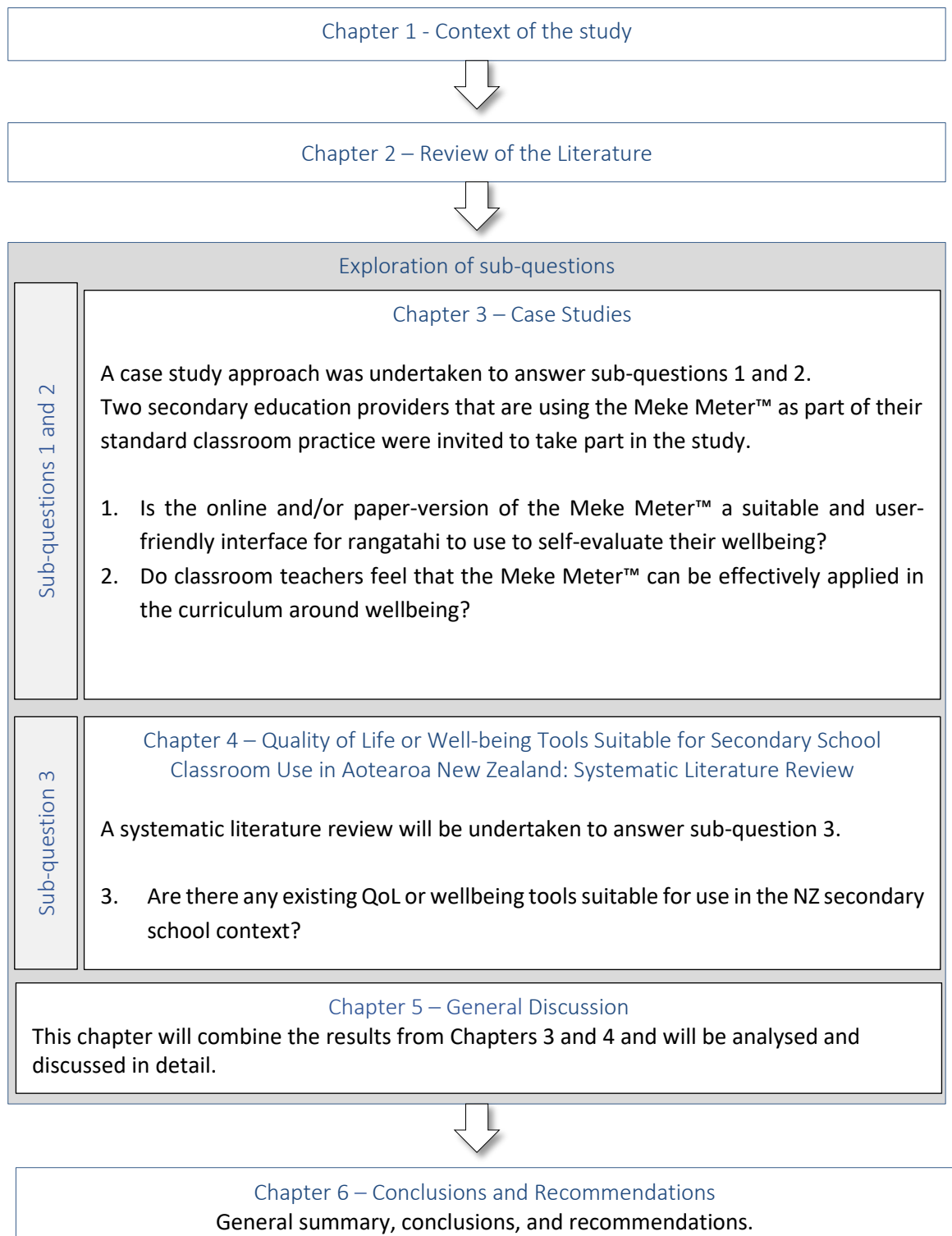
This overarching question has been broken into three sub-questions:

1. Is the online and/or paper version of the Meke Meter™ a suitable and user-friendly interface for rangatahi to use to self-evaluate their wellbeing?
2. Do classroom teachers feel that the Meke Meter™ can be effectively applied in the curriculum around wellbeing?
3. Are there any existing QoL or wellbeing tools suitable for use in the NZ secondary school context?

By trialling the Meke Meter™ in a mainstream secondary school and an alternative education setting, this study aimed to ascertain whether the Meke Meter™ is fit for purpose in the

classroom setting with adolescents and whether it is of benefit to students and educators for understanding rangatahi wellbeing. A better understanding will help inform the development and implementation of mana-enhancing, empowerment systems within secondary schools that address the specific needs of their students to support positive wellbeing. Figure 1.2 provides an overview of the thesis chapters.

Figure 1.2 Overview of the thesis chapters



Chapter 2

Review of the Literature

Whaowhia te kete mātauranga

Fill the basket of knowledge

The purpose of this chapter is to review the relevant national and international literature on adolescent health and wellbeing, and QoL to underpin this study. This review of the literature will focus on the empowerment of adolescents to improve their wellbeing, and in particular, an exploration of the use of wellbeing and QoL tools in secondary schools. It is important to acknowledge at the outset that adolescents as a group are not homogeneous but are diverse in terms of gender, age, culture, experiences, understandings, aspirations, and risk (Wyn & White, 2020). Further, the terms ‘adolescents’, ‘teenagers’, and ‘young people’ are used interchangeably in this thesis, with the focus being on those of secondary school age. The term “rangatahi” will only be used to refer to NZ adolescents.

2.1 Introduction

Adolescence is a period of drastic change for children. It is the phase of life stretching between childhood and adulthood (Sawyer et al., 2018). The World Health Organisation (WHO) defines the adolescence age bracket as individuals in the 10-19 years age group, ‘youth’ as individuals in the 15-24 years age group and ‘young people’ to covering the 10-24 years age group (WHO, 2021). According to Newman and Newman (1995), adolescence is further divided into early adolescence (11-14 years), middle adolescence (15-17 years) and late adolescence (18-21 years). As this study refers to the secondary school setting as a context when the term adolescent is used it will include the early and middle adolescence stages consistent with those individuals who fit within the secondary school age group, between 12-18 years of age.

In 1947, WHO made changes to their definition of health shifting away from the biomedical model, where health was defined by the body’s ability to function, and onto a biopsychosocial model of health asserting that health is “a state of complete physical, mental and social wellbeing and not merely the absence of disease or infirmity” (WHO, 1948, p. 1). This definition highlights the connection between physical health and mental wellbeing and is more empowering for individuals because it enables them to have increased control over their health and wellbeing, including, identifying, and realising aspirations, satisfying needs, and changing or

coping with the environment (WHO, 1948). Positive psychologists Seligman and Csikszentmihalyi (2000) state that health goes beyond the absence of illness and seeks to identify the factors that contribute to wellbeing.

Subjective QoL and subjective wellbeing are key concepts describing experience, capabilities, states, behaviours, appraisals, and emotional reactions to circumstances (Skevington & Böhnke, 2018). Despite the terms 'wellbeing' and 'QoL' being used interchangeably in research, policy, and practice, they are not interchangeable as they are connected to different theoretical concepts (Stewart-Brown, 2015). Furthermore, Skevington and Böhnke (2018) state that QoL and wellbeing support separate measurement fields that are usually underpinned by theory which may complicate measurement choice.

2.2 Quality of Life

There are various definitions of QoL in academic literature with many authors defining the concept as the individual's perception of their situation in their own life in the physical, social, mental, and spiritual dimensions (Medvedev & Landhuis, 2018; Pinto, et al. 2017; Jenney & Campbell, 1997). QoL was defined in the cross-cultural project by the WHO as:

An individual's perception of their position in life, in the context of the culture and value systems in which they live, and in relation to their goals, expectations, standards, and concerns. It is a broad ranging concept, affected in a complex way by the person's physical health, psychological state, level of independence, social relationships, and their relationships to salient features of their environment.

(WHOQOL Group, 1995, p. 1404)

This definition underpins the WHO model that was designed to improve QoL measurement cross-culturally (Skevington & Böhnke, 2018). QoL is also referred to as 'life satisfaction' or 'happiness with life' and is an individual's cognitive and emotional appraisal of their life quality (Medvedev & Landhuis, 2018).

2.3 Western Models of Wellbeing – Subjective and Objective Wellbeing

This section begins by presenting and describing two major approaches which have dominated Western wellbeing literature: subjective wellbeing and objective wellbeing. These models differ from Māori (and other indigenous) models of wellbeing as they do not have an integrative holistic approach, nor do they acknowledge the importance of ancestral lineage, cultural

significance, family, or spiritual health. However, they do provide an understanding of how wellbeing is viewed in Western literature and the individual features of personal wellbeing.

Although wellbeing is a multidimensional, holistic concept that has implications on a person's physical, mental, social, and environmental aspects of living and the interactions of these (Kiefer, 2008), wellbeing can be simply defined as the combination of feeling good and functioning well. In this respect, wellbeing refers to having optimal psychological experience and functioning (Deci & Ryan, 2008) and covers aspects such as awareness of the physical condition, stress reduction and self-responsibility in care (Pinto et al., 2017). In addition, Donoso et al. (2015) state that people could reach new ways of understanding and controlling their lives by focusing on strategies to achieve wellbeing. Diener (2009), states that wellbeing is different for each individual and therefore, people may place differing levels of importance and impact on various aspects.

When considering the two major Western approaches of wellbeing, measures of subjective wellbeing require people to self-evaluate the degree to which they experience a sense of wellness or overall life satisfaction (Deci & Ryan, 2008; Diener et al., 1985). According to Andrews and Withey (2012), and Diener (2009), subjective wellbeing encompasses three major components, happiness, positive affect, and life satisfaction. According to Cooke et al. (2016); Kahneman et al. (2003); Ryan and Deci (2001, 2008), subjective wellbeing has traditionally been explained from two perspectives: hedonic (the attainment of happiness and pleasure and avoidance of pain) and eudaimonic (attainment of meaningful purpose and self-realisation/actualisation), with many of the measures of subjective wellbeing aligning with the more hedonistic aspects. Ryan and Deci (2001) add that both perspectives are essential to living a good life and have been two of the most influential approaches in psychology. Objective wellbeing, on the other hand, is not self-evaluated but instead is based on external factors and assessments which are made using socioeconomic QoL indicators such as income, food, housing, and education along with physical health indicators such as body weight, body mass index, blood pressure and cardiovascular fitness (Diener & Suh, 1997).

2.3.1 Subjective wellbeing

Subjective wellbeing is the evaluation by an individual of their own life based on their feelings and opinions. It is a broad concept that is defined as "a person's cognitive and affective evaluations of his or her life" (Diener, et al., 2005, p. 63), where 'affect' refers to any experience or expression of feeling, emotion, or mood. Further, subjective wellbeing is described as a tripartite model consisting of satisfaction with life, the experience of pleasant emotions, and low

levels of negative moods. In assessing subjective wellbeing, the individual will make judgements about their life satisfaction, the frequency of positive affect and the infrequency of negative affect (Diener et al., 2005; Pavot, 2008). According to Opre et al. (2018), the multidimensional model of subjective wellbeing measurement is valid for adolescents, although a literature review revealed that most studies using measurement instruments were focused on adults' subjective wellbeing. Subjective wellbeing measurement tools must consider, what is referred to by Schmmack and Diener (1997) as 'the affect balance', which is determined by subtracting the number of positive emotions from the number of negative emotions that an individual may experience.

According to Hicks et al., (2013), there are three main approaches to assessing subjective wellbeing: evaluative, experiential, and eudaimonic. An evaluative approach assesses an individual's overall life satisfaction, including their health, work, relationships, community, and general life achievement (Dolan, et al., 2008). Longitudinal studies show that general life satisfaction remains consistent over time (Hicks et al., 2013). Evaluative wellbeing recognises that several aspects of a person's life can contribute to their happiness (Diener et al., 1985). Implementing evaluative approaches in the measurement of rangatahi wellbeing in NZ may be beneficial as it provides clear indicators of current satisfaction levels. However, it does not show the interconnected nature of many areas of a person's life, such as the influence of cultural identity and whānau wellbeing on the taha hinengaro (mental wellbeing).

The second approach assesses experience, which refers to how people feel daily; the frequency and strength of feeling or affect at any instance characterises an individual's emotional quality (Kahneman & Riis, 2005; Pavot & Diener, 1993). For example, this may be how frequently or intensely a person feels happy, angry, anxious, or excited. Experience measurements can detect both positive and negative emotional ranges. Closely linked with hedonic wellbeing, experience operates on the premise that increased pleasure and decreased pain lead to happiness (Kahneman & Riis, 2005; Pavot & Diener, 1993). Experience wellbeing varies from evaluative techniques in that it is concerned primarily with real-time and immediate affective states, whereas evaluative approaches are more concerned with the way people remember their past experiences (Rath et al., 2010).

Experience wellbeing, when considered in isolation may not be unhelpful when assessing the wellbeing of adolescents. Many activities that elicit positive emotions in the short term may not be sustainable in the long term (McMahan & Estes, 2011). For example, purchasing a new pair of shoes may produce an initial surge of happiness and excitement, but this is likely to decrease

over time and an adolescent is unlikely to have the resources to constantly buy new things. Completing a marathon, on the other hand, may have a comparable and positive impact, but this activity requires training and commitment. Completing a marathon allows for personal development which is sustainable long-term and produces positive emotions (McMahan & Estes, 2011). Furthermore, Ryan and Deci (2000) suggest that many pleasurable results are not always desirable for an individual and hence may not promote wellbeing. Western approaches to wellbeing have generally codified experiences into categories that are determined by the researcher (Ryan & Deci, 2000). Thus, limiting and framing the experience reporting, which may omit many key features such as change and complexity. Therefore, exploring rangatahi wellbeing using experience measures may limit a more comprehensive understanding of environmental and socio-cultural factors. Furthermore, Falkenberg (2014) states that although the wellbeing of students has always been a concern in school education, concerns are often more implicit than explicit and not always under the term 'wellbeing'. In NZ, there is no specific reference made to wellbeing in the National Education Goals (NEGs). NEG 5 even states that "priority should be given to the development of high levels of competence (knowledge and skills) in literacy and numeracy, science and technology, and physical activity" (Te Tāhuhu o te Mātauranga–The Ministry of Education, 2021b, para. 7).

The eudaimonic component of wellbeing is referred to as the functional or psychological component of wellbeing and it relates to fundamental psychological demands that provide meaning or a sense of control over one's life. These can be described as either 'flourishing' or 'languishing' in individuals (Keyes & Simoes, 2012). Eudaimonic measures consider constructs such as autonomy, control, competence, engagement, good personal relationships, a sense of meaning or purpose and achievement. This form of subjective wellbeing is related to the Greek concept of Eudaimonia, which states that people find satisfaction via life purpose, challenges, and growth (Keyes & Simoes, 2012). Eudaimonic wellbeing focuses on a person's sense of purpose in life, self-realisation, and the extent to which they integrate this into their life (Waterman, 1993). This component of wellbeing aligns with the Kaupapa Māori philosophy of tino rangatiratanga (self-determination), which relates to the autonomy and independence Māori have over their own culture, goals, and future (Smith, 1999). Through this perspective, a more in-depth understanding of whether rangatahi feel a sense of meaning or purpose in their lives, whether they are developing healthy relationships and whether they feel a sense of control over their destiny can be viewed.

2.3.2 Objective wellbeing

The external components of what constitutes a 'good life' are characterised as objective wellbeing, where a 'good life' refers to a desirable lifestyle with few problems or worries due to a high standard of living that adheres to ethical and moral laws (Western & Tomaszewski, 2016). Objective wellbeing is concerned with factors such as education, housing, parenting, socioeconomic status, and physical health (Axford et al., 2014), whereas subjective wellbeing considers internal perspectives of wellbeing as described in the previous section. Outcome, risk, and protective factors are all aspects of objective wellbeing (Axford et al., 2014). Objective wellbeing research has sought to define wellbeing via the use of specific lists. Sen (1993) argues that determining objective wellbeing should include ascertaining whether basic needs, such as food, water, shelter, clothing, and healthcare are met. Alternatively, Rawls (1971) presents an objective list of conceptual goods that he presumes every person aspires to have in a 'good life' such as money, opportunities, income, and factors that lead to self-respect.

Although these methods of identifying objective wellbeing allow for the identification of areas of a person's life that may need to be improved, assessing wellbeing from a rigid list may prove limiting for rangatahi. Objective list items are not necessarily universal when examining wellbeing thus, objective wellbeing measures can ignore differences between individuals, sub-groups, and larger populations and a general wellbeing list that does not account for this may increase the likelihood that research does not reflect the unique and specific areas of rangatahi wellbeing. Dréze and Sen (1989), for example, point out that ideal food consumption and nutrition might vary depending on culture, environment, and an individual's metabolism. According to Scanlon (1993), for objective list items to be relevant, researchers must identify items that add value to wellbeing regardless of a person's choices, living circumstances, or belief system. As a result, sticking to objective criteria of wellbeing may limit the understanding of rangatahi due to an increased risk of overlooking their unique preferences, values, and belief systems.

To get a better knowledge of wellbeing, researchers have investigated the relationship between objective and subjective wellbeing; material circumstances being an aspect of objective wellbeing have discernible impacts on subjective wellbeing (Axford et al., 2014). In populations where resources are in constant flux due to economic scarcity, poor mental health may be more frequent. Similarly, there is a correlation between low income and living in an area with poor conditions, lack of community spirit, and compromised neighbourhood safety. The American Psychological Association states: "Socioeconomic scarcity is linked to negative emotions like

depression and anxiety. These changes, in turn, can impact thought processes and behaviours.” (American Psychological Association, n.d., p. 1). As a result, the internal perception of wellbeing can be skewed negatively due to external factors (Bradshaw & Williams, 2000). Contrary to the idea that objective wellbeing is a predictor of subjective wellbeing, several studies show that objective wellbeing is not always a reliable predictor. These studies illustrate that it is possible to experience positive subjective wellbeing despite living in low socioeconomic conditions that include abuse and unemployment (Ryff & Keyes, 1995; Searle, 2008). Interestingly, Collinshaw et al., (2004) found that child mental health declined throughout extended economic expansion in certain industrialised nations. These findings challenge the idea that happiness and living a fulfilling life is determined by material wealth.

For adolescents, regularly monitoring subjective and objective wellbeing is vital for success in school because student wellbeing is strongly linked to learning. Many factors can influence a student’s ability to learn at school, including their satisfaction with life, their engagement with learning and their social-emotional behaviour (Education Review Office, 2016). According to Noble and Wyatt (2008), optimal student wellbeing is a sustainable state, characterised by predominantly positive feelings and attitude, positive relationships at school, resilience, self-optimism, and a high level of satisfaction with learning experiences. Many young people go through the period of adolescence successfully without experiencing trauma, reporting a satisfactory level of wellbeing, however, rangatahi have poorer health outcomes compared to other Organisation of Economic Co-operation and Development (OECD) member countries, with high rates of suicide, unintended pregnancy, and motor vehicle deaths (Clark et al., 2013). Furthermore, rangatahi Māori report poorer health outcomes for general health, injuries, risky driving behaviours and healthcare access compared to European students in NZ (Clark et al., 2018). Therefore, enhancing the wellbeing of rangatahi, in particular rangatahi Māori, is vital. Teachers are well placed to assist adolescents to monitor and reflect on their wellbeing to gain greater self-awareness and self-realisation. It is also an ethical responsibility of teachers, leaders, and trustees to consider, promote, balance, and respond to all aspects of the student, including their physical, social, emotional, academic, and spiritual needs so that the student can flourish and thrive (Education Council, 2017).

2.4 Positive Psychology

Positive psychology is known as the scientific study of human flourishing and what enables individuals and communities to thrive. Historically, psychology has focused on ill-health and problems, but positive psychology is a shift from this paradigm and asserts that the solutions to

some of society's more persistent issues may lie in exploring what is going well for people (Seligman & Csikszentmihalyi, 2000; Baños et al., 2017). Positive psychology focuses on three main categories: positive emotions, positive personality traits, and positive institutions (Seligman & Csikszentmihalyi, 2000). Positive psychology has found that wellbeing can be cultivated, and positive emotions and happiness can be built. Through hard work, individuals can increase their happiness and resilience. According to Diener et al. (2017), positive emotions are influenced by social relationships and negative emotions are connected to internal and social problems.

Positive individual traits can also be referred to as signature strengths. Since positive psychology's inception, significant advances in prevention have come from focusing on building strengths and resilience, not on correcting weakness (Seligman & Csikszentmihalyi, 2000). One example of this is that building optimism has been found to prevent depression (Seligman et al., 1999). Positive psychology identifies positive institutions as organisations that are inclusive of family, community, schools, and democracy. Positive institutions that engage with youth start with teachers being equipped with wellbeing skills themselves (White & Murray, 2015). Martin Seligman, one of the founders of positive psychology, developed a theory of wellbeing known as PERMA (2011). This acronym stands for five wellbeing pillars that lay the foundations for a flourishing life. These pillars are positive emotion, engagement, relationships, meaning and accomplishment (Seligman, 2011). Classrooms with a positive psychology focus aim to improve adolescents' personal and social development and to foster their happiness and that of their wider community. This all contributes to the young person's overall wellbeing (Lombas et al., 2019). However, to facilitate the improvement of personal and social development and to foster their happiness, teachers need access to appropriate tools and resources.

2.5 Positive Māori Identity Development

There has been an increase in Western research that acknowledges that wellbeing should be viewed from a multidisciplinary and multicultural perspective (Wassell & Dodge, 2015; Yampolsky et al., 2013). Culture is increasingly being recognised as playing a significant role in the understanding of wellbeing. Individual's subjective experiences and the importance they place on their culture play a significant role in their sense of wellbeing (Yampolsky et al., 2013). Furthermore, while designing interventions to enhance wellbeing, objective indicators such as material conditions, health, and behaviour, should not be seen in isolation from a cultural context. Previously research has viewed culture as a static barrier to achieving positive outcomes from Eurocentric interventions when cultural beliefs around health and behaviours are not

relinquished (Weisner, 2014). Cultural studies, on the other hand, have revealed that culturally relevant interventions can work as effective leverage in creating positive changes in wellbeing (Stevenson & Worthman, 2013). Western research is beginning to recognise the significance of cultural practices and cultural identity and the importance of indigenous approaches to achieving positive wellbeing outcomes. For NZ, this highlights the importance of Māori identity.

Keelan (2006) states that Māori identity in its broadest sense is comprised of three key components – race, ethnicity, and culture. Given the significant health disparities that rangatahi Māori face, there is a growing demand for Māori-specific evidence to inform and support programmes and policies that create services that are compliant with Te Tiriti o Waitangi (the Treaty of Waitangi), culturally safe, and relevant for whānau (Clark et al., 2018). Evidence is growing that whanaungatanga (social connectedness) and a strong sense of cultural identity are protective for a range of important health issues, including mental health (Clark, 2007; Huriwai et al., 2001; NiaNia et al., 2017; O’Carroll, 2013; Williams et al., 2018).

Education research has highlighted the benefits of a positive Māori cultural identity in promoting rangatahi wellbeing (Rata, 2012, 2015; Webber, 2012; Webber et al. 2020). Research has also highlighted the fluidity of cultural identity for rangatahi, as well as the necessity to interact with a diverse perspective on Māori identity to support their wellbeing (Greaves et al. 2021). This reflects the developmental stage that rangatahi are in, in addition to the unique challenges and opportunities that arise for them (Ware & Walsh-Tapiata, 2010).

2.6 Hauora Māori (Wellbeing from a Māori perspective)

Māori are over-represented in all negative health, social, educational, and economic indicators (Marriott & Sim, 2015; Manatū Hauora–Ministry of Health, 2013). It is generally accepted that the process of colonization (historical), and with it, loss of lands and language (societal), and positive identity (cultural), has had a devastating effect on Māori (Durie, 1994). The health system in NZ continues to underperform its inability to achieve health equity for the Māori population (Rolleston et al., 2020; Wilson et al., 2021). Māori have continued to experience health inequities, which is in breach of the Te Tiriti o Waitangi (Waitangi Tribunal, 2019). Te Tiriti o Waitangi outlines the relationship between Māori and the British Crown. It guarantees Māori the right to self-determination, partnership in their health care journey, equitable health outcomes, be well informed, and have health care options, including Kaupapa Māori and culturally safe mainstream services. The latter necessitates the NZ health system to embrace hauora Māori.

Health is not a universal construct, nor are health professionals necessarily in the best position to formulate the health aspirations of a people (Durie, 1985). Māori, like other Indigenous peoples, often have different concepts of health and wellbeing compared with non-Indigenous groups. Traditional concepts and knowledge still shape the thinking of most Māori today, and traditional values reverberate strongly in contemporary Māori society, laying the foundation for indigenous perspectives. The Māori worldview recognises that the cosmos has a natural order, a balance or equilibrium and that when one component of this system shifts, the entire system is thrown out of balance. The diversity of life is embellished in this world view through the interrelationship of all living things as dependent on each other, and Māori seek to understand the whole system rather than just sections of it. Many validated Eurocentric wellbeing and QoL tools use a limited range of measures. For Māori, hauora (the holistic view of health and wellbeing), has many components related to dimensions that lie beyond the scope of many QoL and wellbeing tools. Many existing wellbeing measurement tools have focused on individuals as being independent of external factors and these tools are ineffective in measuring the wellbeing of Indigenous peoples because the wellbeing of these populations is heavily influenced by historical, societal, and cultural factors (Australian Bureau of Statistics, 2010).

Many of the inequities in health stem from the fact that traditionally most health services follow a biomedical model. This model is based on a reductionist worldview, which does not recognise things that cannot be measured (Rochford, 2004). Definitions of health and what is 'healthy' have come from health professionals from the perspectives of treating illness instead of promoting wellness (Durie, 1985). Practices and cultural concepts that are imperative to Māori health and wellbeing has often been undermined by dominant European views on health (Simon, et al., 2001). From a Māori perspective, health invariably is holistic and includes wellbeing across spiritual, mental, social, and physical dimensions (Cram, Smith, & Johnstone, 2003). Māori models of health have been developed to inform health services and work towards addressing current inequities.

2.7 Māori Models of Health

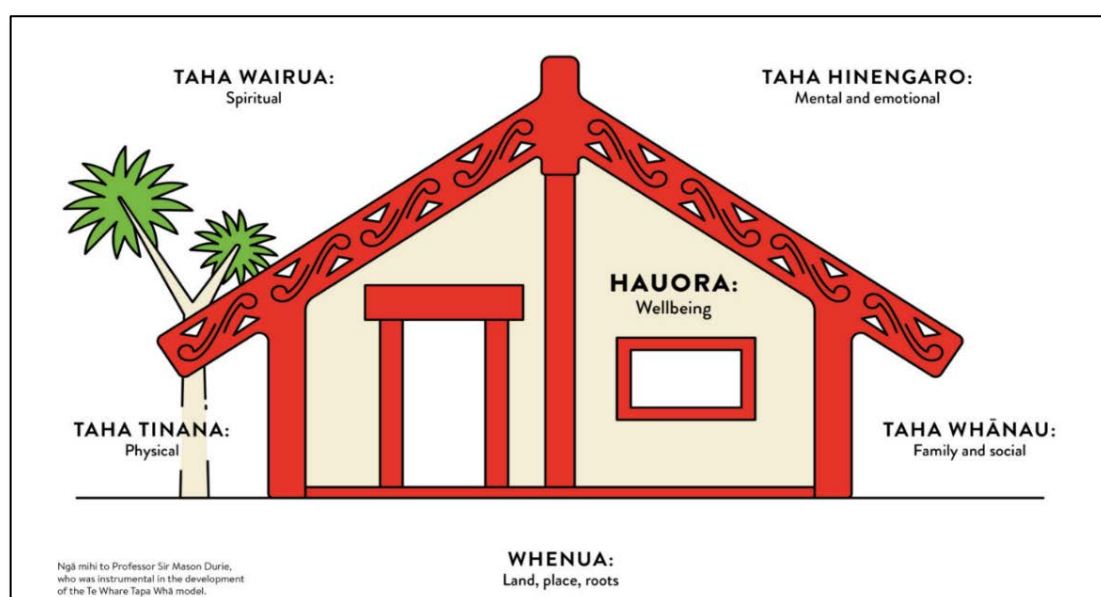
The Māori philosophy towards health acknowledges the importance of holistic and collective wellbeing (Cram, et al, 2003). Recognising the link between the mind, the spirit, the human connection with whānau, and the physical world in a way that is seamless and uncontrived is crucial to hauora Māori (Manatū Hauora–Ministry of Health, 2017a). Māori health is invariably centred on whānau health and wellbeing rather than the health of the individual (McCreanor and Nairn, 2002; Murchie, 1984; Durie, 1998). The importance of holistic and collective

wellbeing is reflected in the Māori models of health that have been developed over the last three decades, some of which are now recognised and are well known within the NZ health and education systems, for example, Te Whare Tapa Whā (Durie 1998), Te Wheke (Pere, 1984), Ngā Pou Mana (Henare, 1988), Te Pae Mahutonga (Durie, 1999), and the Meihana Model (Pitama, Robertson et al., 2007; Pitama, Bennett et al., 2017). All of which have identified important, inter-related cultural concepts and their relationship to health and wellbeing outcomes for Māori. Within the education system, two models that are often referred to in the NZ Curriculum are Te Whare Tapa Whā and Te Wheke and these are reviewed in the following sections.

2.7.1 Te Whare Tapa Whā

Te Whare Tapa Whā (Figure 2.1) is a Kaupapa Māori (made by Māori for Māori) model of health and wellbeing that represents a Māori view of health and uses a whare as a metaphor for strength and balance. The walls of the whare represent four important concepts of health: taha wairua (spiritual health), taha hinengaro (mental and emotional health), taha tinana (physical health) and taha whānau (family health). The natural environment, referring to the land, place, and roots, is represented as whenua and underpins these four components. Together, these concepts blend to form an integrated and comprehensive model for health. Waiora (total health) is interconnected with taha tinana, taha hinengaro, taha wairua, taha whānau and the whenua. In schools, and as part of the NZ Health curriculum, Te Whare Tapa Whā is used to explore the concept of Hauora.

Figure 2.1 Te Whare Tapa Whā model of health. (Source: All right? 2013, <https://www.allright.org.nz/articles/spirituality-and-awe>)



Te Whare Tapa Whā was originally developed by Sir Mason Durie, a psychiatrist, in 1982 for use in mental health services (Durie, 1985). Sir Mason Durie noted that most health services followed a biomedical model based on a reductionist worldview, which did not recognise things that cannot be measured and in turn did not acknowledge the importance of spirituality people's wellbeing, particularly Māori (Durie, 1985). Durie (1985), states that to fully appreciate health, cultural understanding is essential, rather than assuming that health principles are equally relevant to all situations. The Te Whare Tapa Whā model is appealing because of its symbolic relevance for Māori, simplicity, and foundation in a Māori worldview (Glover, 2013) and as a result, it has been embraced throughout many sectors of NZ including health and education among many other settings (Durie, 2001). Despite this model being nearly 40 years old, it is widely used and promoted by Manatū Hauora–The Ministry of Health (2017) and the Education Review Office (2016). Although Te Whare Tapa Whā draws on traditional approaches to Māori health and reflects a Māori worldview, this model of health is non-discriminatory covering a variety of issues that impact human health which may not be recognised in biomedical views of health. Therefore, Te Whare Tapa Whā can be seen as a Māori view of health for all people (Durie, 1994; McNeill, 2009). To follow is a description of each of the four concepts of health that represent the walls of the whare in the Te Whare Tapa Whā model.

1. Taha Tinana (physical health and wellbeing)

Taha tinana describes the physical aspects of health and describes the interrelationship between the mind, body, and spirit, recognising these components as are all required to ensure appropriate care for one's body to maintain good physical health (Durie, 1998). Illness can manifest physically because of stress or deterioration in the other three aspects - mind, body, and spirit (Durie, 1998). Maintaining taha tinana includes physical activity, sleeping well, healthy eating, and other healthy lifestyle choices such as not smoking (Manatū Hauora–Ministry of Health, 2017a). Maintaining te taha tinana contributes to a balanced lifestyle enabling focus and clarity to better cope with life's ups and downs (Manatū Hauora–Ministry of Health, 2017a). Our physical self is intrinsically connected to our spiritual self, allowing us to engage in activities that promote spiritual, mental, and emotional health as well as interact with our family and communities that we belong to.

2. Taha Wairua (spiritual health and wellbeing)

Taha wairua is generally translated as the intangible spirit or soul of a person, wairua encompasses a wide range of characteristics and is regarded as the most important component

for Māori health (Durie, 1985; Love, 2004). Described as the capacity for faith and understanding of the relationship we maintain with the environment and our unique heritage (Durie, 1998). Wairua also includes the preservation of cultural integrity and experiences of mutually rewarding encounters between people (Durie & Kingi, 1997). Taha wairua is the spiritual essence of a person that is imbued with mauri (vitality/life force). Manna (2002, p. 3) states, “Mauri assumes that each individual can live a life that maximises wairua (spirit), tinana (body), hinengaro (mind) and mana (personal authority)”. Mauri is also a life principle that enhances tika; that which is right according to the beliefs and values of an individual (Valentine, 2009). Taha wairua acknowledges the balancing of the dimensions to strengthen, tune, and empower an individual’s mauri, mana, and life. Mauri and a feeling of spiritual awareness are important aspects of Māori identity, and if these are weakened, an individual may become more susceptible to illness (Durie, 1998).

3. Taha Whānau (family health and wellbeing)

Taha whānau is the individual’s connection to their family and whakapapa. Whānau is frequently referred to as ‘family’, but from a Māori perspective, it refers to the individual’s connection through whakapapa or shared ancestry. Building on the knowledge of tūpuna (ancestors) links the individual to past connections and creates strong family ties. Weaving these connections together embodies the shape of te pā harakeke (the flax tree) and connects the individual to extended whānau members (Cunningham, et al., 2005; Manatū Hauora–Ministry of Health, 2017a). Whānau are vital to an individual’s wellbeing because whānau can tautoko (support) a person through tough times, offer advice and establish boundaries between work and whānau time. Extended family members are included in the whānau interactions, which may include non-traditional features of whānau life. For example, individuals or groups may be considered whānau members even though they do not have a direct lineage. Whānau are acknowledged as an individual’s major support system, and an individual’s illness can be viewed as a reflection of the whānau as a whole (Durie, 1998). A person’s identity is also affected and defined by the relationships that they maintain, and these relationships influence their mental, emotional, and physical health (Durie, 1998).

4. Taha Hinengaro (mental and emotional health and wellbeing)

Finally, taha hinengaro are the thoughts, feelings and emotions of an individual’s body and soul. Therefore, taha hinengaro is interlinked with the individual’s mental, psychological, and emotional processes which impact on behavioural characteristics (Cherrington, 2009; Durie & Kingi, 1997). Maintaining taha hinengaro involves practices such as focusing the mind and expressing and sharing thoughts and ideas with others, which can sustain the individual’s waiora

(Thorp, 2011). Non-verbal expressions of emotion and feelings, such as gestures, facial expressions, and more overt movements like crying, are regarded similarly to verbal expressions (Thorp, 2011). Taha hinengaro is important for Māori to maintain because it allows them to re-focus, reflect, communicate effectively, and set boundaries between work and personal life activities.

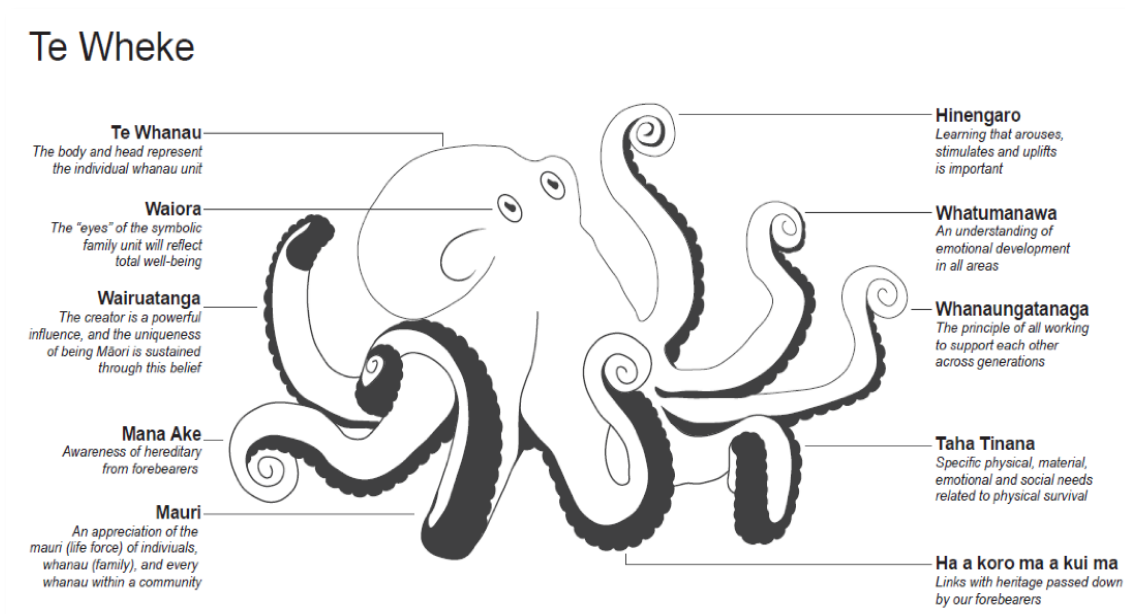
Extensions of Te Whare Tapa Whā

As aforementioned, Te Whare Tapa Whā is the most recognised Māori model of wellbeing. Glover (2013) and Thorp (2011) have applied the four wellbeing dimensions of Te Whare Tapa Whā to Māori health and dance. Both studies explored how Māori develop and implement wellbeing practices from a te ao Māori perspective. For example, Glover (2013) found that Māori who had intentions to quit smoking participated in wellbeing practices such as mirimiri (massage) or tikanga Māori. Thorp (2011) found that dance was holistically healthy embracing spirituality and connection to the environment, the physicality of movement, the expression of emotions and a sense of family and belonging within the dance group. Te taiao (the physical environment), iwi-katoa (social structures) and te ao tūrua (the external environment) are three wellbeing dimensions that have been incorporated into Te Whare Tapa Whā to investigate the impact of the environment on an individual's wellbeing (Glover, 2013; Pitama et al., 2007). Each are important because Māori may draw on other resources to support and maintain wellbeing.

2.7.2 Te Wheke (family health and wellness)

Te Wheke (Figure 2.2) is a model developed by Dr Rose Rangimarie Pere to represent hauora whānau (family health and wellbeing) and uses the imagery of an octopus to explain and "represent different structural components of the total personality within a socio-cultural framework" (McNeill, 2009, p. 99). Each of the long intertwining tentacles symbolises a different aspect of hauora whānau and Māori wellbeing, and this model amplifies concepts integral to being Māori (Cram et al., 2019; McNeill, 2009). This model was first presented at the 1984 Hui Whakaoranga (Durie, 1998). Since then, it has been applied in the areas of health, education, and social services training (McNeill, 2009). Rather than fixing dysfunction, Te Wheke emphasises connectivity, the connection between the past, present and future, a spiritual approach to health and wellbeing and the concept of preserving interconnected dimensions.

Figure 2.2 Te Wheke model of health. (Source: Pere, 1997)



In the Te Wheke model, the eight aspects of hauora whānau and Māori wellbeing include the head and body of te wheke (the octopus) representing whānau, the eyes depict waiora (total health or soundness), four of the eight tentacles align with the four domains of Te Whare Tapa Whā (i.e. tinana, hinengaro, whanaungatanga and wairuatanga) and the other four tentacles represent whātumanawa (emotional health, represented distinctly from mental health), mauri (vitality/life force), mana ake (unique identity or uniqueness) and hā a koro mā, a kui mā (inherited strengths or inspiration from ancestors) (Pere, 1997; McNeill, 2009). The intertwining of the tentacles explicitly refers to the interconnectedness of all the aspects of being (Pere, 1997; McNeill, 2009). This model caters to the holistic needs of Māori and is appropriate for use in interventions and assessments because it is comprehensive in its perspective of te ao Māori (Leaming & Willis, 2016; Love, 2004). Pere (1991), Barlow (1994) and Love and Pere (2004) describe the eight dimensions of wellbeing in-depth; a summary of their descriptions of each of the eight dimensions follows:

1. *Hinengaro (mental and psychological wellbeing)*

Taha hinengaro (mental wellbeing), similar to Te Whare Tapa Whā, refers to the conscious mind as a whole, which encompasses all cognitive processes as well as feelings and intuition. The terms 'Hine' (female) and 'ngaro' (hidden) imply that these internal processes are private. As a result, indirect, metaphorical speech or non-verbal expressions are often used to describe these internal thoughts and sentiments. Taha hinengaro can be maintained through sharing with others and cultivating and sustaining relationships. Connecting with others can help a person's

mental health amid difficult situations and challenges in their life. Te Wheke, according to Love (2004) contradicts modern psychological and counselling paradigms where there is the assumption that all thoughts and feelings can be verbalised and that individuals can think of themselves as separate from their past or environment.

2. Whatumanawa (an individual's emotional wellbeing)

Whatu means 'eye' and manawa means 'heart' or 'seat of affection', (Moorfield, 2022) thus whatumanawa can be translated to mean 'the eye of the emotional heart' although the Te Aka Māori Dictionary by Moorfield (2022) translates whatumanawa to mean the 'seat of emotions, heart, mind'. Although translations may vary, this dimension recognises that individuals sustain their emotional wellbeing through experiencing and expressing their emotions. This aspect appreciates that there is a time and a place for every emotion and that it is necessary to fully express and experience these emotions and value is placed on this process being as it can be a source of energy for creative activities and pursuits. Haka (Māori war dance), waiata (song) and tangihanga (traditional Māori funeral) may all be used to communicate feelings. In acknowledging emotions, an individual can experience openness in their communication with others and healing.

3. Whanaungatanga (the relationships an individual develops and maintains)

Whanaungatanga refers to the relationship among whānau members that form bonds through social connections, and most importantly, whakapapa. Whanaungatanga is a unique dimension in that it recognises that individual and whānau wellbeing may be inextricably linked. Maintaining links with whānau can support the individual's wellbeing and strengthen social relationships.

4. Taha Tinana (physical and developmental growth)

As stated previously, taha tinana emphasises an individual's need for the growth and development of the body to preserve their physical wellbeing. Physical activity and recreation are integral to this, and they promote the growth and strengthening of other dimensions of health. Taha tinana also recognises that we must maintain a healthy diet and seek adequate shelter for our physical selves. Through physical activities and exercise, individuals build balance, agility, rhythm, coordination, stamina, all of which enhance physical interactions and relationships with others and help the individual to experience the sheer joy of being human.

5. Hā a koro mā, a kui mā (breath of life from ancestors or elders)

‘Hā’ literally translates as breath while ‘a koro mā, a kui mā’ means ‘of grandfathers, of grandmothers’. Thus, ‘Hā a koro mā a kui mā’ focuses on how the individual connects to their whakapapa (genealogy, roots). The breath of life shows prior connections and links to kaumatua and kuia influences. Kaumātua (elders such as grandparents) symbolise wisdom passed down through generations, giving guidance, advice, and knowledge to the current generation. This dimension encompasses an individual’s whānau, kaumatua, hapū (subtribe) and tūpuna. The individual’s whakapapa and pepeha (knowledge of heritage and background), are revealed by recognising these linkages, which is supported and maintained by the breath of life. The importance of sharing knowledge and passing it on to the next generation also interlinks with whakapapa.

6. Mauri (vitality/ life force)

As mentioned previously, mauri recognises that all individuals and living things have a life force that is possessed and bestowed upon them by the Atua (Gods) to enable growth towards maturity. Mauri is regarded as an elemental energy that connects the physical and spiritual realms. A person’s mauri begins with the first breath and ends when a person dies, and their spirit leaves their physical self. Everything has mauri and everything is considered to have the same divine right to exist. Birds, trees, rivers, buildings, and mountains all have a unique mauri that should be respected and protected. If a river becomes polluted or a building flooded, its mauri diminishes. Songs also have a mauri such as that which is carried by the rhythm and melody. This can be affected negatively if a person loses their place in a song or positively enhanced with additional instruments or harmonies. Similarly, Pere describes how a child’s mauri rises when they feel respected and accepted within their whānau or wanes when they are chastened or neglected.

7. Mana ake (individual uniqueness, and links to ancestors)

Mana ake defines how a person generates individual and group mana over time and represents the unique identity of individuals and their families. Within mana ake, a person may also draw strength or tautoko from their collective identity and their link to whānau and their tūpuna. Individual mana is about maintaining power, having control, experiencing different situation, or challenges, and having the ability to build the mana of others. However, Pere states that the concept of mana is “beyond translation from the Māori language” (1991, p.14). It is multi-dimensional and commonly translated as authority or charisma but it is important to recognise that the nature of mana is relational. Mana can be enhanced or diminished through nurturing or neglecting relationships with others, with the environment or with the spiritual realm. An

important dimension of mana is mana atua (divine right) which everyone possesses, and which recognises the absolute uniqueness of the individual.

8. Wairuatanga (individual spirituality)

This wellbeing dimension, like wairua in Te Whare Tapa Whā, acknowledges an individual's spiritual essence and their relationship to the divine creator Āīō Mātua (God/Goddess the divine parents). This dimension acknowledges Papatūānuku (the earth mother) as the natural site of contact with Āīō Mātua and te reo Māori (Māori language) as the language that emanates from and connects us to this spiritual realm. Building and maintaining wairuatanga allows an individual to develop their own character and identity, which is supported by their beliefs and values.

Similarities and differences between Te Whare Tapa Whā and Te Wheke

Te Whare Tapa Whā and Te Wheke both view health holistically in that while each dimension is separate, all dimensions interact and impact on the others. Te Whare Tapa Whā is a Māori model of health, it is a widely accepted way to describe how all aspects of our lives are interconnected and these aspects can be found embedded within other models of health or health promotion. Te Whare Tapa Whā is often utilised as a template for various Māori wellbeing models due to these similarities; setting the foundation for other wellbeing models to add additional wellbeing dimensions. The four structural dimensions of Te Whare Tapa Whā align with four of the tentacles of Te Wheke (Cherrington, 2009; Durie, 2006; Glover, 2013; Love & Pere, 2004; McNeill, 2009; Manatū Hauora–Ministry of Health, 2017a; Manatū Hauora–Ministry of Health, 2017b; Palmer, 2004; Rochford, 2004). The eight tentacles of Te Wheke encircle waiora Māori in greater depth than Te Whare Tapa Whā. Te Wheke is concerned with characteristics of wellbeing, as well as cultural influences. Through whakapapa, whānau connections and ancestral ties, Te Wheke informs past relationships, and a strong sense of cultural identity supports waiora. This is unique in that it recognises individual identity and its relationship to overall wellbeing (McNeill, 2009). Further development of these models should include how Te Whare Tapa Whā connects to the whenua, and moana (large bodies of water) because external circumstances may alter an individual's waiora and it is critical to acknowledge the relationships between the whenua and moana and people's wellbeing (Cherrington, 2009; Durie, 2011; Glover, 2013; Palmer, 2004).

2.8 Measuring the Wellbeing of Adolescents

Measuring wellbeing can be challenging as it is an abstract construct, comprising of various domains that include both feeling good (hedonic wellbeing) and functioning well (eudaimonic wellbeing) (Ryan & Deci, 2001). Children and adolescents may not yet be able to fully conceptualize these constructs, which would significantly influence their responses to the measure. Nevertheless, the increased focus on adolescent wellbeing necessitates the use of validated scales, inclusive of positive feelings and functioning indicators to assess wellbeing. Wellbeing instruments that have been validated for adults usually need to be modified for children and adolescents, ensuring that their reading and comprehension have been accommodated (Cummins et al., 2004). However, such instruments may not be appropriate for Indigenous young people as indigenous peoples (including Māori) are often perceived as invisible in universal measures of wellbeing (Cram, 2014). Māori development is built on the foundations of Māori wellbeing; therefore, Māori specific measures are needed that are attuned to Māori realities and Māori worldviews (Durie, 2006). Furthermore, in NZ, ethnic differences exist in skills and proficiency in numeracy and literacy, particularly for Māori and Pacific communities (OECD 2016) meaning a measurement tool would need to be highly accessible and not dependent on literacy and numeracy skills.

The wellbeing of rangatahi is increasingly an area of focus for schools in NZ. The Education Review Office (2016) stated that:

Schools cannot simply rely on their positive culture and respectful relationships to promote wellbeing but need to provide opportunities for students to make decisions about their wellbeing and to be active in leading their learning (p. 18).

Both the Education Review Office and NZ Council for Educational Research (NZCER) have produced useful work for schools focusing on the wellbeing of students. When this material is brought together, it is evident that both organisations call for: a whole-school approach to wellbeing; taking a youth development perspective in wellbeing work; and seeing young people as active agents in their lives. A whole-school approach involves embedding wellbeing into everything to do with school. Ensuring that wellbeing goals are reflected in school policy, curriculum, the physical environment, pastoral care practices, in the staffroom, in the boardroom, and the classroom. It means that wellbeing is monitored for students and staff and that wellbeing strategies and initiatives are designed and evaluated iteratively (Boyd & Barwick,

2011). Taking a youth development perspective involves moving beyond the previous practices of focusing on responding to specific issues as they present (for example, bullying, teen pregnancy, smoking) to promoting wellbeing. Students are actively involved in developing and leading wellbeing programmes, going together with treating young people as agentic (Spencer & Doull, 2015). Young people are experts in their own lives; they have knowledge that deserves respect and offers learning opportunities for adults. Positive youth development occurs when meaningful opportunities are made available to adolescents and when those around them help them in developing their own unique capacities and abilities (Sanders et al., 2015).

2.8.1 Rangatahi Māori wellbeing

A key goal for health promotion in secondary schools is to facilitate the wellbeing of its students. Studies about rangatahi Māori wellbeing have increased in recent decades, including studies that focus on health promotion rather than the absence of illness (Konu & Rimpelä, 2002). Unfortunately, rangatahi Māori continue to show disparities in QoL compared to non-Māori adolescents. In NZ, disparities in mental health between Māori and non-Māori have been noted by a range of authors (Baxter, 2005, 2008; Durie, 1997, 2001; Kingi, 2007) and recorded through measures such as the *Youth2000* survey series (Fleming et al., 2020a). Amongst rangatahi Māori, the rates of depressive symptoms have doubled from 14% to 28% between 2012 and 2019 and the rates of suicide attempts have more than doubled from 6% to 13% within 12 months (Fleming et al., 2020a). Rangatahi Māori experience significantly poorer mental health outcomes compared to non-Māori, including consistently higher rates of unemployment, suicide, hospitalization, conduct and substance disorders and abuse, smoking, obesity, and teenage pregnancy (Baxter et al., 2006; Crengle et al., 2012; Fleming et al., 2020a; Fleming et al., 2014; Mental Health Commission, 2011; Rivas-Drake et al., 2007; Wells et al., 2007). This research highlights the need for relevant health promotion interventions to help improve the wellbeing of rangatahi Māori.

A strong cultural identity is important to the mental health and wellbeing of a young person (Chandler & Lalonde, 1998; De la Sablonnière et al., 2011; Dockery, 2020; Durie, 2001; Durie, 2006; Houkamau & Sibley, 2010; LaFromboise et al., 2006; Stuart & Jose, 2014; Usborne & Taylor, 2010). The research argues that a strong sense of the history of their culture and traditions is said to assist rangatahi in building a positive cultural identity for themselves, providing a sense of belonging, promoting resilience, and supporting overall wellbeing. Access to cultural practices and cultural land/sites can aid in the establishment of identity security (Durie, 2001). Disconnection from one's cultural and geographical origins can lead to identity

fragmentation and vulnerability in an individual's wellbeing development (Stuart & Jose, 2014). As a result, researchers from around the world have highlighted the importance of cultural identity as a concept (Chandler & Lalonde, 1998; Houkamau & Sibley, 2010; LaFromboise et al., 2006). These studies also emphasise the significant relationship between wellbeing and cultural identity. Intervention programmes in NZ have supported the promotion of Māori culture from a 'culture is cure' perspective. The premise of a 'culture is cure' approach is that when Māori have greater access, awareness of, and engagement in Māori cultural traditions, this serves as a protective factor against adverse outcomes encountered by Māori (Muriwai et al., 2015). Therefore, establishing a strong Māori identity is an important protective factor against poor wellbeing (Durie, 1997).

2.9 Self-monitoring and Tracking Wellbeing Changes

According to WHO (2021b), depression is one of the leading causes of illness and disability among adolescents, and suicide is the third leading cause of death in people aged 15-19 years. In addition, avoidable lifestyle risk behaviours are linked to the development of chronic disease (Champion et al. 2017; Patton et al. 2012; Patton et al. 2016; Uddin et al. 2020). These behaviours often emerge during adolescence and include factors such as insufficient physical activity, prolonged sedentary behaviour, poor diet, obesity and alcohol and tobacco abuse. Schools are appropriately placed to support intervention strategies before these lifestyle behaviours become entrenched in adulthood.

In addition to the absence of illness, good functioning incorporates what goes right as well as what goes wrong (Seligman & Csikszentmihalyi, 2014). The integration of the regular monitoring of wellbeing in secondary schools, with the support and guidance of teachers, could help inform future preventative and targeted interventional development (Jacka et al., 2012). This aligns with Grant et al. (2020) who assert that there is a need to move beyond the identification of risk factors and begin to understand the nuances influencing varying individual health outcomes in young people. Furthermore, patterns of adolescent health, social development and wellbeing vary widely across different settings (Azzopardi et al., 2017), therefore indicators and data play an essential role in determining priorities for investments in adolescent health, education, and social development. Many factors have an impact on the wellbeing and mental health of adolescents, and by building socioemotional skills and providing adolescents with psychosocial support in schools and other community settings can help promote good mental health into adulthood.

Self-reflection as a tool to facilitate and promote wellbeing has been acknowledged throughout the ages. Erikson, 1968 (as cited in Chen & Cheng, 2020) stated that identity formation is vital in ensuring a smooth transition from childhood into adulthood. Forrest et al. (2019) explored the use of a tool to monitor wellbeing changes in a tertiary education setting, and the benefits were clearly evidenced through both the student and educator perspectives. However, to date, there have been no studies conducted in secondary schools amongst adolescents.

2.10 The Secondary School Setting

Secondary schools differ considerably from early childhood, primary and intermediate educational institutes. Furthermore, the transition to secondary school is a significant and defining period for adolescents as this stage coincides with the onset of puberty and requires them to adapt to an unfamiliar environment (Education Review Office, 2012, 2015; Higgins, 2015; Killebrew, 2017). In a systematic literature review of international published quantitative studies, Bharara (2020) looked at factors that promoted a positive transition experience in the general school population. Parents, siblings, and peers' perceived social support was found to be positively associated with a successful transition. It was also identified that having strong connections with teachers and school staff, feeling connected to the school, and participating in extracurricular activities was important. The idea and practise of wellbeing in schools can be informed by adolescents' understanding of wellbeing. The perspectives of adolescents may be important in refining or validating researchers' models of wellbeing, as well as improving the precision with which wellbeing is measured (Bourke & Geldens, 2007). Considering the 'contextual fit' and 'precision education' propositions, a greater understanding of adolescent perceptions of wellbeing may also improve the efficacy of school interventions (Cook et al., 2018; Horner et al., 2014). Precision education supports the idea that key components of interventions should be customized to the needs and perceptions of individuals (Cook et al., 2018). Contextual fit, according to Horner et al. (2014) is the match between an intervention's components and the needs and perceptions of those who experience it. Being able to track these changes would assist favourably, especially during times of transition.

2.10.1 School and wellbeing

Before the 1970s there was very little interest in what a school's role in wellbeing was. However, there have now been longitudinal studies that show wellbeing differences among schools and their pupils that can only be accounted for by differences in the schools themselves (Rutter & Maughan, 2002). Many studies show a positive link between academic achievement, wellbeing, and mental health (Cushman et al., 2011; Stafford et al., 2007; Weare & Gray, 2003; Zubrick et

al., 2000). The school environment not only supports student wellbeing through academic competence but on closer inspection can enhance socialisation (Isherwood & Ahola, 1981), motivation and creativity (Besancon et al., 2015), mental and physical health (Jones & Harrison, 2014). There is a growing body of interest in the role of the school environment in determining mental health, socialisation, behaviour, and the ethical values of students (Jones & Harrison, 2014). It appears that the school environment contributes to wellbeing in numerous ways and is not limited to the improvement of wellbeing through academic attainment.

Many researchers have argued that one of the fundamental purposes of schools should be to promote long term wellbeing (Bonell, et al., 2014; Konu & Rimpelä, 2002). In adolescents, wellbeing research indicates a decline in life satisfaction (Goldbeck et al., 2007). Some have hypothesised this is due to differences in the school environment, boredom in school and uncertainty of the future. A correlation with personal wellbeing is indicated in school-based wellbeing research (Tomyn et al., 2011). However, there is a need to further elaborate school-based wellbeing research theories and models and what the school context can provide to better meet the wellbeing needs of its students, particularly for rangatahi in NZ who are at risk of school disenfranchisement.

2.10.2 Ngā Tikanga Matatika, Ngā Paerewa/Our Code, Our standards

Ngā Tikanga Matatika, Ngā Paerewa/Our Code, Our Standards guides the practice of all registered teachers in NZ and it outlines professional responsibility, sets the aspirations for ethical behaviour, and describes the expectations of what effective teaching practice looks like (Education Council, 2017). Embedded throughout *Our Code Our Standards* is Te Titiri o Waitangi (The Treaty of Waitangi), which requires teachers to be committed to honouring through the quality of their practice. In addition, Section 2.1 of the Code refers to teachers practising a commitment to their learners, and states [that teachers] “will work in the best interests of learners by promoting the wellbeing of learners and protecting them from harm” (Education Council, 2017, p. 10).

2.10.3 The conceptualization of wellbeing in educational settings

Today, education is seen as a key factor in developing capacities not only for work but also for experiencing a flourishing life. Thus, an important agenda in the current educational context is the promotion of student wellbeing (Chapman, 2015; Soutter et al., 2014). In secondary schools, students’ wellbeing is influenced by the different layers of school life. In recent years, the definition and measurement of young people’s wellbeing have become an issue of widespread

interest and importance (Ben-Arieh & Frønes, 2011; Benson & Scales, 2009; Diener & Seligman, 2004; Ereaut & Whiting, 2008; Fraillon, 2004; Frønes, 2007).

There is a need to develop positively framed youth wellbeing indicators that involve more than current health status or future earning potential to monitor the wellbeing of (Soutter et al., 2014). Chapman (2015) states that schools provide a “captive audience” for social interventions to address the issue of youth wellbeing, so they are ideal places for young people to work on their wellbeing with the guidance of their parents/caregivers, teachers, guidance counsellors and other support networks. Connectedness to school during adolescence has emerged as a key area for building protective factors for positive educational outcomes and lower rates of health-risk behaviours (Blum & Libbey, 2004; Glover et al., 1998; Libbey, 2004; Resnick et al., 1993; Resnick, 2000).

2.10.4 The NZ health education curriculum in secondary schools

Health education is a subject that is often expected to address many adolescent health issues and reduce health-related expenditures. There is provision for teaching about mental health within the NZ Curriculum (Te Tāhuhu o te Mātauranga–The Ministry of Education, 2007, 2015), however, anecdotal evidence and press reports imply that this is not currently being realised in programmes. Mental health is a key learning area in the NZ Curriculum’s Health and Physical Education learning area, and recent youth health research suggests that such learning is urgently needed (Clark et al., 2014). This is not to suggest that schools can ‘fix’ mental health concerns alone; but the educational environment and what students learn can have a significant impact (Fitzpatrick et al., 2018). Health education can enhance social connectedness at school and is currently the only subject that explicitly addresses health and wellbeing (Bond et al., 2007).

2.10.5 Measuring subjective wellbeing in secondary schools

Work around to measuring and monitoring the wellbeing of adolescents has gained popularity over recent years. According to García-Moya et al. (2015), teacher connectedness is an important factor in adolescent wellbeing. In addition, existing evidence shows that positive school attachment, greater school engagement, and higher levels of academic achievement are associated with higher levels of student wellbeing (Allen & Bowles, 2012; Poulou & Norwich, 2019; Resnick, et al., 1993). Research has examined characteristics in adolescents that act as a catalyst for mental health issues. One NZ based survey found that lower socioeconomic groups have greater rates of depression and suicide attempts (Fleming et al., 2020a). This over-representation could be attributed to early life obstacles such as financial hardship and familial

adversity, as well as the effects of discrimination and colonisation on indigenous communities (Gillies et al., 2017; Lawson-Te Aho & Liu, 2010).

A common belief that providing too much mental health information to young people may lead to mental health issues has, over the years, been debunked. Bale, Grové, and Costello (2020) advocated for students to have access to mental health information both at school and online. The research emphasised the need for this information to be easy to use and age-appropriate. In the study, many of the participants highlighted the importance of young people understanding how physical symptoms might arise from a place of stress or anxiety.

Unfortunately, many people postpone or reject the idea of seeking help for their mental health due to a lack of knowledge and awareness in the general public as well as the stigma associated with mental health (WHO, 2018). Bale, Grové and Costello's (2020) study on mental health literacy in young people identified some issues around help-seeking. Their study highlighted that building positive health-seeking attitudes is critical for youth because it normalises asking for help for mental issues. Stating that it is essential that children not only know who to go to for help, but also how to articulate the issues they are having (Bale, Grové, & Costello, 2020).

In NZ, routine psychosocial screening of secondary school students is undertaken using the HEEADSSS assessment tool. The tool provides a guide to assessing the context of a young person's life and how psychosocial issues related to their individual health. HEEADSSS stands for: home, education/employment, eating, activities, drugs and alcohol, sexuality, suicidality, and safety, which are all important aspects of adolescent health (Goldenring & Rosen, 2004; Klein, Goldenring, & Adelman, 2014). Examination questions are shown in Appendix A. Due to financial constraints; the tool is restricted to Year 9 students in low decile schools and is administered by a school nurse. In a typical high school, one or two school nurses take 6-12 months to complete their assessments (Thabrew et al., 2019). Completion rates are reported to Manatū Hauora – the Ministry of Health, however, outcomes of these assessments are neither reported nor published.

YouthCHAT (Youth version, Case-finding, and Help Assessment Tool) is another psychosocial screener that is available for use with young people aged between 13 and 25 years (Goodyear-Smith et al., 2008; Goodyear-Smith et al., 2013). The screener is based on the adult screener CHAT and its electronic version, eCHAT (Goodyear-Smith et al., 2008; Goodyear-Smith et al., 2013). YouthCHAT comprises of 13 modules designed to align with the HEEADSSS interview and includes three validated screeners, for anxiety [the GAD-7 (7-item instrument for Generalized

Anxiety Disorder)] (Spitzer et al., 2006); depression [PHQ-A (Patient Health Questionnaire-Adolescents)] (Spitzer, et al., 1999); and substance misuse, such as smoking, drinking, and recreational drug use [SACS (Substances and Choices Scale)] (Christie et al., 2007). YouthCHAT also covered other domains including problematic gambling, general stresses, behaviour problems, eating problems, exposure to abuse, sexual health, anger management problems, and physical activity (Goodyear-Smith et al., 2013). Due to the self-administered platform incorporating digital technology, it can offer a help question box for every positive screen within each domain. This provides an opportunity for young people and their health providers to further discuss any issues that young people may want to address, thereby enhancing mutual decision making. Once completed, a summary report is generated for the health provider to review (Thabrew et al., 2019).

Health screening tools certainly have their place in the education setting; however, screening tools are designed to identify problems and it has been well documented that the absence of mental illness does not indubitably imply the presence of high levels of positive mental health and vice versa (Csikszentmihalyi, 2000; Konu & Rimpelä, 2002; Seligman & Csikszentmihalyi, 2014; WHO, 1948). Wellbeing is an important student outcome and decades of research have found that a student who has high levels of wellbeing is also likely to have better physical health, better social relationships, more optimism for the future and higher academic performance. Having high wellbeing at school also has a positive impact on a person's life beyond school into adulthood. Longitudinal research shows that wellbeing in the teenage years impacts employment, earning capacity and relationship satisfaction (Immordino-Yang & Damasio, 2007; Seligman & Csikszentmihalyi, 2014; Waters, 2015; WHO, 2013). An advantage to tracking positive change over a period is the potential to promote positive emotions thereby enhancing the wellbeing of adolescents.

2.11 Summary

The developmental and wellbeing needs of rangatahi need to be addressed from a holistic, integrative, and cultural approach to support them in all areas of their life. As noted in the introduction, the focus of this chapter was to view current literature that investigates wellbeing constructs to understand how this may be relevant to rangatahi. This thesis draws on models of wellbeing such as Te Whare Tapa Whā (Durie, 1985) and Te Wheke (Pere, 1982) to explore and assess the use of self-administered instruments to measure, track and monitor rangatahi wellbeing. Presently, there are multidimensional Western instruments, however, Māori theories of wellbeing are considerably more inclusive and acknowledge cultural aspects of rangatahi life.

Western constructs of wellbeing can also be informative, although they have limitations. This thesis acknowledges the current strengths of Kaupapa Māori theories as has been identified by research in NZ. A holistic approach must be employed to meet the wellbeing needs of rangatahi. A holistic approach acknowledges the importance of cultural, spiritual, psychological, and physical contributors to wellbeing, and the view of rangatahi embedded within their whānau system. Therefore, a holistic approach is best able to encapsulate how rangatahi wellbeing needs are perceived.

Chapter 3

Case Studies – Use of the Meke Meter in Two NZ Secondary School Education Settings

Poipoia te kākano kia puawai

Nurture the seed, and it will flourish/bloom

3.1 Introduction

The whakataukī introducing this chapter brings to the fore the importance of nurturing our rangatahi. The purpose of this research study is to inquire into rangatahi wellbeing and the potential for the Meke Meter™ to be used in the classroom to better understand this in the context of NZ secondary schools. Recent research has documented a significant decline in adolescent academic engagement, especially as students transition to and move through secondary school (Burns, Martin, & Collie, 2019; Evans et al. 2018). This poses significant problems for student wellbeing, particularly due to the vast psychological, psychosocial, and physical development that occurs during adolescence (Özdemir, Utkualp, & Palloş 2016). Rangatahi wellbeing is important because the issues associated with poor wellbeing in adolescence can manifest into adulthood (Department of the Prime Minister and Cabinet, 2019; Soutter et al. 2012).

In NZ, schooling is compulsory from the age of 6 years until 16 years (Te Tāhuhu o te Mātauranga–The Ministry of Education, 2021a). Therefore, secondary schools are well placed for equipping adolescents to be more aware of their wellbeing through self-reflection and self-monitoring. Additionally, to teach in NZ, teachers must be registered and hold a current practising teaching certificate issued by the Teaching Council of Aotearoa NZ as part of section 387 (6) of the Education Act (Teaching Council of Aotearoa NZ, 2021). This ensures that quality standards are maintained across the teaching profession (Education Council, 2017). Teachers are guided by the document, *Our Code, Our Standards* to maintain registration (Education Council, 2017). In this document, the code of professional responsibility requires a commitment to the teaching profession, learners, families and whānau, and to society (Education Council, 2017). Within the commitment to learners, first and foremost it is stated that teachers are to “...work in the best interest of learners by 1. promoting the wellbeing of learners and protecting them from harm” (Education Council, 2017, p. 10). Time constraints in the secondary school

setting can make this incredibly challenging to meet the expectations and responsibilities placed on teachers regarding students' wellbeing (Hargreaves, 2013) which can also negatively impact on the teacher wellbeing. Effective, time-efficient resources are therefore paramount to ensure the wellbeing of both students and teachers alike. Kāhui Ako (Communities of Learning) are Government funded groups of education and training providers working toward collaborative practice to help students achieve their full potential (Te Tāhuhu o te Mātauranga—The Ministry of Education, 2022).

As mentioned in Chapter 1, the Meke Meter™ is an indigenous, image-based, holistic self-reflection tool that requires the user to score themselves for various aspects that contribute to their overall health and wellbeing, allowing identification of areas for improvement to facilitate goal setting and track progress (Forrest et al., 2019). The Meke Meter™ can, therefore, potentially be used to promote the wellbeing of learners in line with the commitment NZ teachers make to learners. The Meke Meter™ has been trialled in the tertiary setting and was found to be a quick, easy, useful tool by both the students and the educators administering it (Forrest et al., 2019). The Meke Meter™ has also been used in health (Harvey et al., 2019) and fitness settings (Forrest et al., 2016a) but has not been trialled in secondary schools before this research.

In the following sections, the research aims addressed by the case studies are highlighted and an outline of the theoretical position and research paradigm underpinning the research study's approach is provided. Ethical considerations and issues relating to rigour and trustworthiness are also addressed. Subsequently, the methods describe the research setting and participants, along with the data collection. Two forms of analysis were undertaken: an inductive thematic analysis and a critical analysis using the appreciative inquiry approach. The latter facilitates the interpretation and discussion of the findings in a constructive manner. The chapter concludes with a summary, and conclusions are drawn from the study with regards to the use of the Meke Meter™ in NZ secondary school education settings.

3.2 Research Aims

As outlined in Chapter 1, the research aimed to explore the appropriateness of the online and paper-based versions of the Meke Meter™ as a tool for use in secondary schools to capture the self-evaluated wellbeing of rangatahi. The case studies presented in this chapter sought to answer two of the three research sub-questions, which were:

1. Is the online or paper version of the Meke Meter™ a suitable and user-friendly interface for rangatahi to use to self-evaluate their wellbeing?
2. Do classroom teachers feel that the Meke Meter™ can be effectively applied in the curriculum around wellbeing?

3.3 Methodology

Methodology is crucial as it shapes research questions, establishes methods, and frames analysis (Starks & Brown Trinidad, 2007). Examining the stories of personal experiences (pūrākau) told by rangatahi and their teachers (ngā kaiako) about their use of the Meke Meter™ required an approach that located these experiences as central to the research. Therefore, this research is qualitative, as it is characterised by an interpretative paradigm which involves the study of the lived experiences of people in their normal settings (Fossey et al. 2002). This research was also informed by Kaupapa Māori principles. A crucial aspect of Kaupapa Māori research is the prioritising of the Indigenous voice in every aspect of the research, including the design, method, and analysis. Māori approaches locate Māori people, worldviews, and historical, cultural, and social experiences as central to the research (Pihama, 2010; Smith, 1999). The Meke Meter™ was created by Māori to set goals and track change for Māori people (Forrest et al., 2019). Collecting pūrākau and using a thematic narrative analysis aligns well with Kaupapa Māori principles because in indigenous culture, pūrākau are a common repository of knowledge and facilitate the process of knowing (Ware et al., 2018).

According to Yin (2009), case studies are in-depth investigations of a phenomenon within its real-life context. An exploratory multiple case study methodology involving the purposeful sampling of students and staff was adopted in this research because it enabled the researcher to answer not only the 'what' but also the 'how' and 'why' type questions, while taking into consideration how a phenomenon was affected by the context within which it was situated (Baxter & Jack, 2008). For one of the case studies, rangatahi and ngā kaiako within a mainstream secondary school setting were recruited to examine the suitability of the paper-based version of the Meke Meter™ from the perspective of the user (rangatahi) and the facilitator (kaiako). The second case study recruited rangatahi from an alternative education establishment to examine the suitability of the online version of the Meke Meter™.

In this research study, the data on the subjects' experiences were collected through a Google Form questionnaire, questionnaires being widely accepted methods of collecting qualitative data (Crowe et al., 2011; Stake, 1995; Stake et al., 2000; Yin, 2009). The data obtained through

the Google Form questionnaire were examined using an inductive thematic analysis. Thematic analysis allows relevant themes and subthemes to be identified, which can then be used as units of analysis (Braun & Clarke, 2006; Fereday & Muir-Cochrane, 2006). The central operation of thematic analysis, therefore, is thematization, which is achieved by subsequent detailed re-reading of a data set (Braun & Clarke, 2006; Rice & Ezzy, 1999). Repeated readings of a data set are necessary for the identification of the most significant meanings in the collected materials (Braun & Clarke, 2006; Labra et al., 2020).

This research study also employed an appreciative inquiry approach (Coghlan et al., 2003; Cram, 2010). Appreciative inquiry as applied to this research (the use of the Meke Meter™ in education to promote student wellbeing) assumes the solution to improving the school community's wellbeing lies within home-grown initiatives designed by the people for the people. It seeks to illuminate the positives of the Meke Meter™ and identify where refinement and adaptation would better serve the community promoting even better wellbeing outcomes. This method reinforces a positive approach to finding pro-equity solutions and is mindful not to perpetuate existing inequities. Appreciative inquiry therefore presents an alternative to the problem-solving approach underpinning action research and offers an affirmative approach for evaluating and envisioning future initiatives based on best practice (Coghlan et al., 2003; Cram, 2010).

3.4 Ethical Considerations

Ethical approval was obtained for the project from the EIT Research and Ethics Approvals Committee (REAC 20/12; Appendix B). The incorporation of the Meke Meter™ into standard classroom practice in the secondary school setting was approved by the principal of the school. The Lead Facilitator and Founder of the HBAEP approved the use of the Meke Meter™ for their rangatahi and kaiako.

3.5 Setting and Participants

3.5.1 Case study boundaries

Case studies are a useful research method in education because a holistic view within a bounded context brings about rich detail enhancing understanding (Erickson, 2020; Yin, 2014). Defining boundaries within a case study refers to selecting the relevant social group, organisation, area, and type of data to be collected (Erickson, 2020).

For this research, two cases are examined.

1. A Hawke's Bay co-educational secondary school where the paper-based Meke Meter™ (Figure 3.1) was embedded school-wide in 24 Whānau groups.
2. A Hawke's Bay Alternative Education Programme (HBAEP) where the programme co-ordinator embedded the online Meke Meter™ (Figure 3.2) into their teaching practice.

3.5.2 The Hawke's Bay mainstream co-educational secondary school

The mainstream co-educational secondary school was comprised of rangatahi aged between 12 to 18 years of age. The school's ethnic composition was approximately 55 % Māori, 34 % European, 6 % Asian and 5 % Pasifika (XXX¹ High School, 2021). Whānau groups are fundamental to the school's pastoral system and are held daily for 15 minutes, it is a time for pupils (ākonga) to meet with their Whānau Group kaiako and their peers to build relationships and create a 'family' external from their subject classes. Each Whānau Group has around 12 ākonga all from different year levels, students remain part of the same Whānau group throughout their time at the school. Ākonga get to know their Whānau Group kaiako well over the course of their five years at high school. The Whānau Group kaiako regularly communicates with parents and caregivers as well as their wider support network including year level Deans, School Counsellor, Restorative Leader, School Kuia and Senior Leadership Team.

Participants in the study were recruited via purposive networking and used the paper-version of the Meke Meter™. An invitation was given to all 24 Whānau Groups kaiako at the school to participate with their Whānau Group students. Of which, 12 kaiako responded and agreed to offer the Meke Meter™ to their Whānau group students to participate in the study. A total of 85 out of 97 (87.6 %) enrolled rangatahi gave consent to participate by completing their Meke Meter™. To improve the familiarity with the Meke Meter™, rangatahi were encouraged to complete the Meke Meter™ once a week over a 4-week period. Ngā kaiako were given the autonomy to decide for themselves, which day of the week they administered the Meke Meter™ to their students. For this study, the Meke Meter™ was adapted so there was space to insert Whānau group and Year level.

¹ De-identified to maintain the anonymity of the participating school

Figure 3.1 The paper based Meke Meter™. Adapted for use in a mainstream co-education secondary school's Whānau groups.

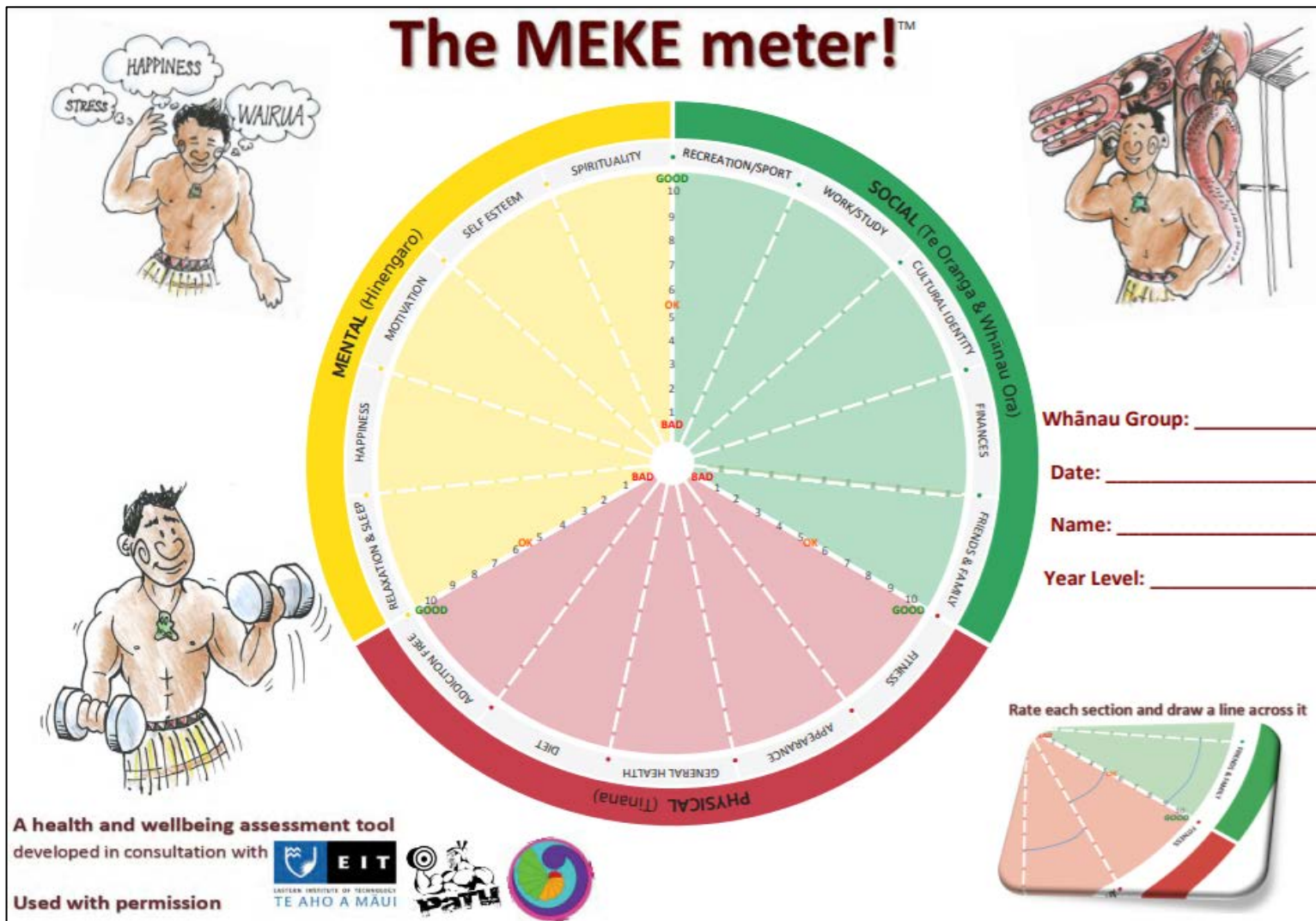
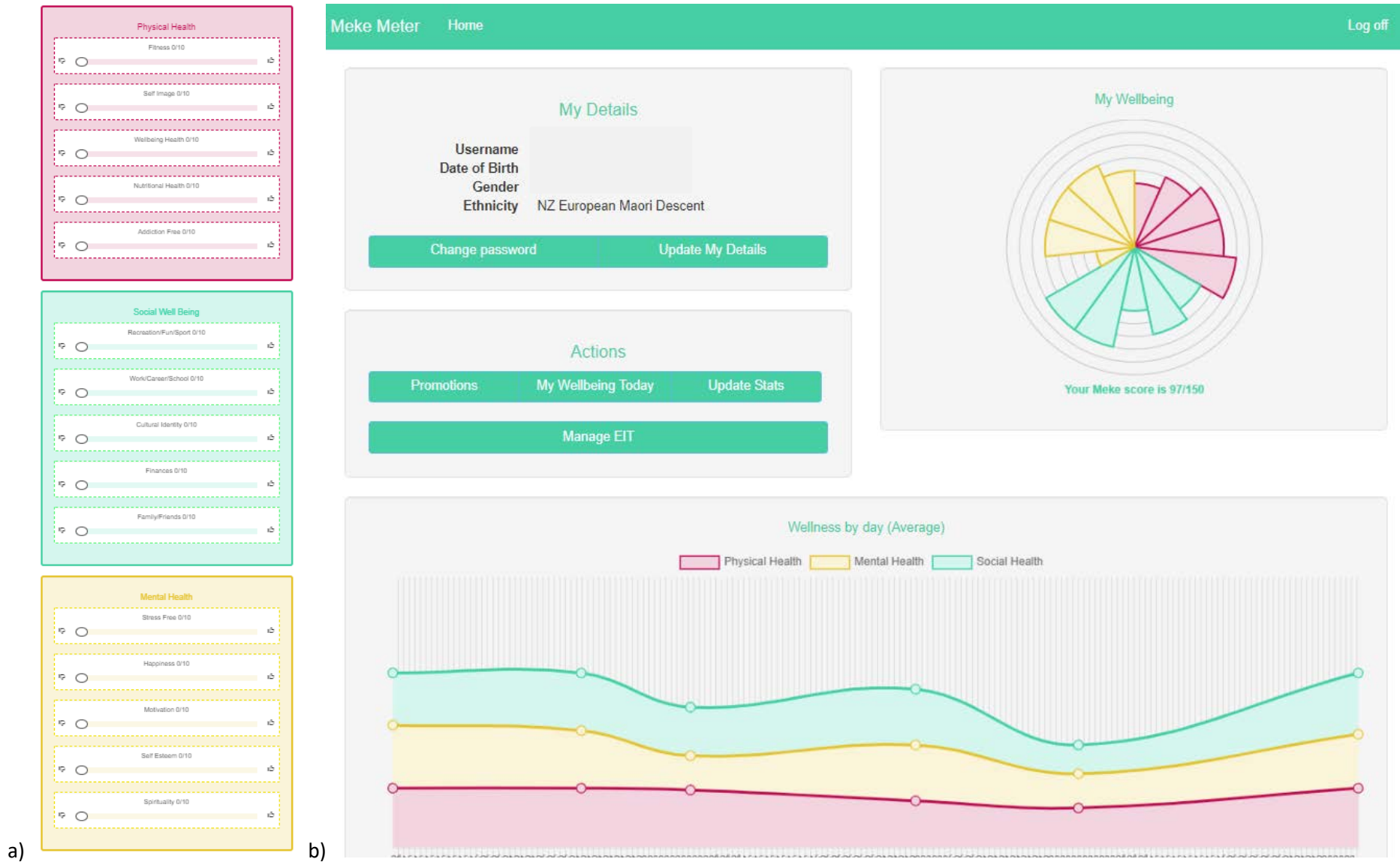


Figure 3.2 The online Meke Meter™. The sub sections are rated using a sliding scale shown in a) and b) shows how the results are displayed.



3.5.3 The Hawke's Bay Alternative Education Programme

The HBAEP works with the regions most disadvantaged rangatahi, many of which have not attended a mainstream educational setting for over 12 months. The HBAEP supports rangatahi by equipping them with skills to successfully enter the workforce. They network with employers and service providers to create a much needed and job-led 'wrap-a-round' approach that provides pathways for rangatahi into sustainable employment or entrepreneurship. The Lead Facilitator of the HBAEP used the digital format of the Meke Meter™ because they were looking for a holistic, culturally appropriate, self-reflection tool that was independent of literacy skills to give to their rangatahi and kaiako to self-reflect and set meaningful goals. At the time this case study took place, there were five rangatahi enrolled at the HBAEP, of which four agreed to participate.

3.6 Data Collection

An email was sent to the principal and senior leaders of each secondary school to invite them to participate in the study (Appendix C). During a professional learning session developed and run by the researcher in Term 3, 2020, all teachers were introduced to the research study and use of the Meke Meter™. The researcher gave a presentation (Appendix D), and teachers were given copies of the Meke Meter™ to look over to become familiar with. An opportunity was given for teachers to ask questions about the purpose of both the study and the Meke Meter™ and what would be required of them if they chose to participate. It was clarified during the presentation that teachers and students would be able to withdraw from the study at any time without repercussions. A follow-up email was sent in Term 4 to arrange a time to administer the Meke Meter™ to teachers willing to embed it within their classroom practice and to answer any questions that had arisen since the presentation in Term 3. It was clarified again that teachers and students would be able to withdraw from the study at any time without repercussions.

3.6.1 The Hawke's Bay co-educational secondary school case study: Students' experiences of the paper-based Meke Meter™ (Study One)

A box of printed Meke Meter™ sheets were placed in the staffroom for teachers to take enough copies to deliver to their Whānau Group students. Teachers collected the completed Meke Meter™ sheets and filed them in a locked filing cabinet in their classrooms until the end of the study. Students had access to their own Meke Meter™ results on request throughout the study. The researcher did not have access to the Meke Meter™ results. After four weeks of the Meke Meter™ having been embedded into standard classroom practice, a Google Form questionnaire was administered to the students by the researcher during class time. A teacher was present to

get maximum engagement and to offer literacy support and an alternative, digital-based activity for those students who chose not to participate in the research. The data collected was stored in password-protected files in an anonymised form; no personal data was asked for or recorded on the forms.

A Google Form approach was chosen over a class focus group or interviews so that students could answer the questions anonymously, and it would not be obvious who had chosen to be part of the research. The questions were read out by the teacher as well as on the Google Form for the students to read (See Appendix E). The teacher also had access to additional prompt questions to help guide students think about responses. The researcher was also present to provide any clarification about the questions and use further related prompt questions to assist the students in their response. The student survey consisted of the questions which have been previously used to gain feedback from students in the *Patu™ Meke Meter: Use in the classroom* study (Forrest et al., 2019; Table 3.1).

Table 3.1 Student questions for the paper-based version of the Meke Meter™

Number	Main question	Prompt questions
1	How did you find the Meke Meter™ to use?	How did you find it to understand? How did you find it to fill out?
2	What do you think about the presentation of the Meke Meter™?	What did you think about the colours, layout, use of words and language, pictures etc?
3	How well do you think the Meke Meter™ reflected your wellbeing?	How well do you think the Meke Meter™ showed how you were feeling about life?
4	Did you find using the Meke Meter™ useful? – If so, how? – If not, why not?	What did you get out of it by filling in the Meke Meter™? Would you do it if it was not part of the class activities?
5	How could the Meke Meter™ be improved?	If you were re-designing a Meke Meter™ would there be any sections you would put in or take out? Would you make it look different or change the way it is filled out?

3.6.2 The Hawke’s Bay Alternative Education Programme case study: Students’ experiences of the online Meke Meter™ (Study Two)

The lead facilitator of the HBAEP had been using the online Meke Meter™ in their standard practice before the study began. Because of this, they were approached and invited to participate in the research. The programme co-ordinator agreed that it would be best to administer the Google Form questionnaire (Appendix E) without the researcher being present

due to the small number (n = 5) of rangatahi attending the programme at the time, as this could have impacted on anonymity. A link to the Google Form survey was sent to the programme co-ordinator for distribution to the rangatahi.

3.6.3 Teachers' feelings about the Meke Meter™ (Study Three)

Consenting teachers were invited to provide feedback about the use of the Meke Meter™ as part of their classroom teaching practice. Feedback was collected using a Google Form questionnaire designed by the researcher (Appendix F) and included the questions shown in Table 3.2. Qualitative data from kaiako who administered the paper-based version of the Meke Meter™ to their rangatahi during Whānau Group time was obtained from 10 of the 11 kaiako who embedded the use of the Meke Meter™ into their classroom practice. The teacher of the HBAEP class also completed the Google Form questionnaire.

Table 3.2 Questions for participating teachers about use of the Meke Meter™ in their classroom practice.

Number	Question
1	How did you find administering the Meke Meter™?
2	How did it fit in with the rest of the curriculum?
3	How much explanation did the Meke Meter™ require for the students to be able to fill it out?
4	While your students were completing the Meke Meter™, do you think they understood what each section meant?
5	What questions did your students have while they were filling it out?
6	How could the Meke Meter™ be improved?

3.7 Inductive Thematic Analysis and Findings

Thomas' (2006) general inductive approach to thematic analysis was used to evaluate the multi-perspective data set, to derive meanings, concepts, themes or a model to interpret the qualitative data. It is consistent with the approach described by Strauss and Corbin (1998) "The researcher begins with an area of study and allows the theory to emerge from the data" (p.12).

Thomas' (2006) inductive thematic analysis involved the following phases:

1. Condensing extensive and variable raw text data into a brief summary
2. Establish clear links between the research objectives and the summary findings
3. Develop a model or theory about the underlying structure of experiences or processes that are evident in the text data

This systematic approach was undertaken to analyse the qualitative data from the questionnaires to identify emergent and themes that were subsequently organised into categories. These are then discussed alongside the appreciative inquiry findings in Section 4 of this chapter.

3.7.1 Findings from Study One – Students’ experiences of the paper-based Meke Meter™

A total of 85 rangatahi used the paper based Meke Meter tool of which, 14 rangatahi agreed to fill in the questionnaire. Not all the rangatahi gave feedback on all the questions asked. The transcripts were read several times to identify themes and categories. A coding frame was developed, and themes and categories were identified (Table 3.3): Appeal (themes: Ease of use, Aesthetics), Self-Reflection (themes: Self-awareness, Tracking progress, Goal setting), and Development (themes: Potential improvements, Needed teacher input). The consensus was captured by one participant that the Meke Meter™ was “quite easy to fill out”, “creative”, “good for reflecting” and “useful as it showed what categories I needed to work on the most, and what were good” (R4).

Within the category of Appeal, in general the students found the paper based Meke Meter™ aesthetically pleasing with comments such as “Good pictures, good colours” (R4) and “I liked it” (R8) being typical. Comments regarding the Ease of Use of the Meke Meter™ ranged from “it was pretty self-explanatory and simple to understand” (R10) and “fairly easy to use” (R13, R14) to “confusing at the start” (R7) and “once I knew how to do it, it was simple” (R5). Many of the comments could be summed up by one participant who said, “it was confusing at the start, but the teacher explained, and I understood pretty well” (R8).

Within the category Self-reflection, the feedback about the use of the Meke Meter™ as a self-reflection tool were positive. Self-awareness emerged as a theme, as participants commented about the fact that they can “see how they feel” (R8) and “It was useful, I like to check in with myself to see how I'm feeling” (R14). Some of the comments highlighted the potential for Goal setting, for example, “it showed me areas that I needed to fix and get better at” (R10). The final theme to emerge within Self-reflection was Tracking progress, it was felt that using the Meke Meter™ was “... like having a little reflection on how your week has been and how connected you are to your family and to your culture” (R6) and that “it would be useful if you wanted to know where you’re at and see where you could improve on” (R2). The cultural relevance of the Meke Meter™ was captured by one student who said it helped them to reflect on “... how connected I am to my family and my culture” (R6).

3.7.2 Findings from Study Two – Students’ experiences of the online Meke Meter™

Four (n = 4) rangatahi provided feedback. Like Study One, the thematic analysis revealed three main categories, namely Appeal, Self-reflection, and Development (Table 3.4). The themes contributing to these categories were slightly different. The Goal setting and Needed teacher input themes identified in Study One did not emerge. Whereas Administration was an emergent theme which contributed to the category of Development.

The consensus from the feedback provided was constructive and could be captured by the comments from one participant which included “... straightforward” “simple” and “... gives us an excuse to stop for 5 minutes and focus on ourselves and check in” (RO3). The comments regarding the presentation of the online platform were all positive, “looks good” (RO1) and two comments were given about liking the graph after the user had completed their entry “I liked how I got a graph at the end” (RO4) and “the circle was pretty cool” (RO3) and one also stated that they liked “how you can easily compare the different sections of your wellbeing” (RO3). Suggestions for improvement included “it would be good to have suggestions on where I could go if I wanted to improve an area” (RO1) and “gamification” (RO3, RO4).

3.7.3 Findings from Study Three–Teachers’ feelings about the Meke Meter™

The feedback provided by teachers was mostly positive. Themes that formed three categories were identified (Table 3.5), namely: Appeal (themes: Ease of use, Minimal instruction required, Presentation, Reflection); Fit (themes: pastoral, Kāhui Ako focus, curriculum); and Development (themes: Developing educator resources, Developing student resources).

Of the 10 kaiako that provided feedback, 80% (n = 8) commented that the Meke Meter™ was straight forward and easy to use. Comments that supported this observation included “The Meke Meter was quite straight forward once the students knew how to complete it” (K1), “Quite straight forward, once instructions were given, it was easy to use” (K2), “Easy to use and straight forward” (K5) and “pretty easy to administer ... once they got it” (K2), “...not a lot of explanation was required” (K9), and “Minimal explanation was required” (K10). Most kaiako provided instructions when introducing the Meke Meter™ and there was no need to provide further directions for the subsequent distributions. Whānau Groups consist of rangatahi from multiple year levels, and two kaiako responses reflected the user-friendly nature of the Meke Meter™ being supportive of different literacy levels as “[the Meke Meter™] was simple and straight forward for any level of student” (K5) and “Even the more literacy challenged students got it once they had the dimensions explained to them” (K8).

Comments about the presentation of the paper-version of the Meke Meter™ were overall positive. The colours, ease of understanding and collecting data were mentioned as pleasing characteristics. There were constructive comments regarding the presentation of the Meke Meter™ that could assist in improving the tool. Including “The Meke Meter™ itself is too small relative to everything else on the page” (K3), “the graphics on the bottom right logo etc should be bottom right with the Meke Meter™ rate on the left as you read left to right and this information is important to complete the circle graph” (K4) and “... if you took out one of the pictures and put a simple explanation of spirituality (and perhaps cultural identity?) It is always one they struggle with” (K8).

The Meke Meter™ appeared to allow kaiako to gain insight into the lived experiences of rangatahi, which could enable them to alter their teaching pedagogy to better cater pastorally to their students’ needs. Comments such as “I realised some things about my students that I needed to address like [student name] and [gender] very low self-esteem. I kind of knew it in the back of my mind but this was evidence from [gender] that [gender] could be better and brought it to the fore” (K8) and “... I knew some of my students were troubled, but it gave me a measure of how troubled they were relative to others of their age or gender” (K3). Comments that aligned to tracking progress over time included “if it were to be used consistently, you could see if there are patterns in days, weeks, months ... you can also feel good about those things that are good” (K2) and “interesting to see how students rated themselves and the variation between weeks” (K5).

One of the goals of the Kāhui Ako was to focus on student wellbeing and three kaiako commented that the Meke Meter™ “fits in with our focus on wellbeing” (K1); “school wellbeing focus” (K3) and “links with our wellbeing focus” (K8). Links were made to the curriculum also, which were reflected in the comments that the Meke Meter™ was “Particularly appropriate for Health” (K5) and “We could relate it back to Te Whare Tapa Whā” (K1), and three kaiako highlighted how the Meke Meter™ could support all curriculum areas, saying “Wellbeing is in all parts of the curriculum” (K2), “...can relate to all areas” (K7) and “...it fits well as it over arches everything” (K6).

The comments from some kaiako suggested that the development of student and teacher resources would support the use of the Meke Meter™ in the classroom. Comments that aligned with this included “Some needed clarification on 'spirituality', 'finances', 'addiction'” (K6) and that more “in-depth pre-learning would be beneficial” (K8).

Table 3.3 Inductive thematic analysis of student feedback regarding the use of the Meke Meter™ in a Whānau Group environment (n = 14)

Category	Theme	Quotes
Appeal	Ease of use	<p>“It was pretty easy because it's pretty simple” R7</p> <p>“I found it pretty easy to use and to understand” R9; “The Meke Meter was easy to use and to understand” R12</p> <p>“Fairly easy to use” R13; “easy to use” R14</p> <p>“Yes, once I knew how to do it, it was simple” R5</p> <p>“Easy when my teacher explained it” R8</p> <p>“I understood it well, the patai were explained well enough for me to answer ... I knew what I needed to do” R10</p> <p>“It was pretty self-explanatory and simple to understand, I didn't find it confusing” R12</p> <p>“Very easy to understand, the Meke Meter wasn't complicated, and the instructions given were clear” R13</p> <p>“It was easy to understand and pretty straight forward ... didn't take much time at all” R14</p> <p>“Easy R2, R5, R8 ... to fill out, no complaints about the format of the Meke Meter” R13</p> <p>“Quite easy to fill out R4, R6 ... because of how it was laid out” R12</p>
	Aesthetics	<p>“Creative” R1, R3</p> <p>“Good” R2, R7, R9</p> <p>“Creative, colourful” R3, R4 “... pictures are good because they explain some of the categories” R4</p> <p>“Amazing” R5, R6</p> <p>“Well-presented” R6, R10; “Presentation was good” R13, R14; “... you can understand and see where things are and how it works” R10</p> <p>“I like it” R8</p> <p>“Bright and interesting” R3</p> <p>“Good pictures, good colours” R4</p> <p>“The colours could probably match each third”. “They're all primary colours, the images work well, there are physical images, mental images, etc”. “The images represent parts of the Meke Meter” R10</p> <p>“I like the colours, it's very bright and colourful which makes it cool to look at and easy to focus on” R13</p> <p>“I liked how there were different colours for each category and how there was an example at the bottom to help explain how we were supposed to use it”. “I liked the images that were used as well” R12</p> <p>“It's colourful, simple to use once you understand it” R11</p> <p>“The colours help to keep the sections together” R7</p>
Self-reflection	Self-awareness	<p>“I found it useful to help understand people's mental and physical health and to look at it and hopefully improve” R1</p> <p>“Useful if you wanted to know where you're at and see where you could improve on” R3</p> <p>“Useful as it showed what categories I needed to work on the most, and what were good” R4</p>

		<p>"It was good for reflecting" R4</p> <p>"It was very helpful to view my life at the time I was filling it out". "I didn't generally look at my life from a view point but now I think to myself, "How am I doing?" R5</p> <p>"... It was like having a little reflection on how your week has been and how connected I am to my family and my culture" R6</p> <p>"... made me realise that there are things I need to change" R7</p> <p>"I can see how I feel" R8</p> <p>"I found it helpful because I could see for myself on paper how I was in certain areas" R12</p> <p>"It was useful, I like to check in with myself to see how I'm feeling" R14</p> <p>"I did find the Meke meter useful as it made me think about how I felt and made me more aware of my health" R13</p>
	Goal setting	<p>"It would be useful if you wanted to know where you're at and see where you could improve on" R2</p> <p>"I found that it was useful and that I was able to identify what I needed to work on" R10</p> <p>"It showed me areas that I needed to fix and get better at" R10</p>
	Tracking progress	<p>"... like having a little reflection on how your week has been and how connected you are to your family and to your culture" R6</p> <p>"It lets people track how they are going" R9</p>
Development	Potential improvements	<p>"Be more easier to understand, like using graphs or writing the instructions on the side" R3</p> <p>"Be clearer about how and where to draw the lines, maybe include what the different sections are and relate to" R4</p> <p>"Maybe having an area where you can write about your bad feelings if you wanted to" R6</p> <p>"Giving rewards for using it?" "There was a section on finances, we do not learn about finances in school, it would be good to, what about a section on goal setting?" R14</p>
	Needed teacher input	<p>"Once I knew how to do it, it was simple" R5</p> <p>"It was confusing at the start, but the teacher explained and I understood pretty well" R7</p> <p>"Easy when my teacher explained it" R8</p> <p>"The patai were explained well enough for me to answer" R10</p> <p>"A few instructions were needed" R3</p>

Table 3.4 Inductive thematic analysis of student feedback regarding the use of the online Meke Meter™ (n = 4)

Category	Theme	Quotes
Appeal	Ease of use	<p>“It was easy” RO1 “pretty straightforward”, RO3, “I found it easy to fill out”, RO4 “Good” RO2 “The slider made it easy” RO1, “I liked the slider” RO4 “Simple to fill out” RO3</p>
	Aesthetics	<p>“Looks good” RO1 “Pretty basic really” RO2 “I liked how I got a graph at the end”, RO4 “... the circle was pretty cool”, RO3</p>
Self-reflection	Tracking progress	<p>“I like how you can easily compare the different sections of your wellbeing” RO3</p>
	Self-awareness	<p>“... very useful, I liked checking in with myself to see how I was doing, especially when I have a lot of things going on at home” RO1 “... it gives us an excuse to stop for 5 minutes and focus on ourselves and check in” RO3, “I liked having time to check in with myself and really think about how I was feeling in each of the areas”, RO4 and “try to see why I’m feeling certain ways” RO2 “It provides a tool that shows you where you might need to focus for a little bit” RO3 “It gave me the opportunity to reflect on how things were for me without feeling like anyone was going to judge me” RO4</p>
Development	Potential improvement	<p>“It would be good to have suggestions on where I could go if I wanted to improve and area” RO1 “... where can we go if we want to improve certain areas”, RO4 “Give us a reason to continue to use it” RO2 “I would like to see some rewards for using it. Like vouchers or discounts or food or something like that”, RO3 “... gamification” RO3, RO4 “... more information outlining the benefits of filling out the Meke Meter to motivate people to use it regularly” RO3 “I would like to see some rewards for using it. Like vouchers, or discounts or food or something like that” RO4 “Have more pictures and different fonts etc” RO1, “Could have pictures and use different font styles” RO2 “Have moving gifs” RO2</p>
	Administration	<p>“Signing up took a bit of time” RO3; “It took a while to sign up” RO4</p>

Table 3.5 Inductive thematic analysis of the Whānau Group teachers regarding the use of the Meke Meter™ in the classroom environment (n = 10)

Category	Theme	Quotes
Appeal	Ease of use	<p>“Quite straight forward once the students knew how to complete it” K1, “Quite straight forward, once instructions were given, it was easy to use” K2; “Easy to use and straight forward” K5</p> <p>“It was pretty easy to administer ... once they got it, it was easy after that” K2</p> <p>“It was easy to use” K3, K7, K8, K9, K10</p> <p>“It was simple and straight forward for any level of student” K5</p> <p>“Very good and easy” K7</p> <p>“Easy to follow and fill out” K7</p> <p>“Easy to administer” K8</p>
	Minimal instructions required	<p>“Students only had to be shown once and they were on to it” K1</p> <p>“Very little explanation needed” K2; “... I explained the first time and they were right” K5</p> <p>“Not a lot of explanation was required” K9; “Minimal explanation was required” K10</p> <p>“Even the more literacy challenged students got it once they had the dimensions explained to them” K8</p> <p>“... in some ways, caters to all communication styles” K10</p>
	Presentation	<p>“I like the overall presentation” K1</p> <p>“Good presentation” K2</p> <p>“Good, colourful and clear ... not too busy” K5</p> <p>“Spot on” K7</p> <p>“Really good, the students love the colours and the ease of inputting data” K8</p> <p>“Looks great” K9</p> <p>“Very clear and easy to understand” K10</p> <p>“Colours are good” K2</p>
	Reflection	<p>“Good for students to self-assess and reflect on the different aspects of their lives, which impacts on all of their subjects, extra-curricular activities and interactions with others” K5</p> <p>“It is useful to have a think about how you are feeling and maybe reflect on why you are feeling that way” K2</p> <p>“Students can see what areas they need to spend more time on” K7</p>
Fit	Pastoral	<p>“More of a general pastoral tool than an educator tool” K4</p> <p>“Great fit during whanau group time where checking in on students and their wellbeing is part of the kaupapa” K9</p>

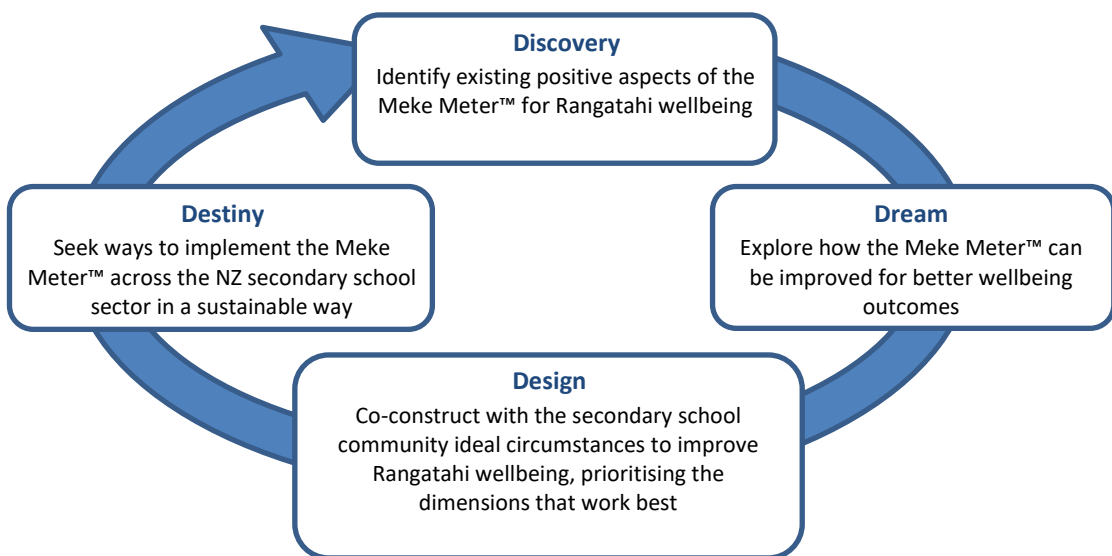
		<p>"I realised some things about my students that I needed to address like [student name] and [gender] very low self-esteem. I kind of knew it in the back of my mind, but this was evidence from [gender] that [gender] could be better and brought it to the fore" K8</p> <p>"It was useful to see how students rated themselves, which allowed for follow up conversations" K1</p> <p>"If it were to be used consistently, you could see if there are patterns in days, weeks, months ... you can also feel good about those things that are good" K2</p> <p>"... I knew some of my students were troubled, but it gave me a measure of how troubled they were relative to others of their age or gender" K3</p> <p>"Interesting to see how students rated themselves and the variation between weeks" K5</p> <p>"Generated the opportunity to have one on one chats" K6</p>
	Kāhui Ako* focus	"Fits in with our focus on wellbeing" K1; "School wellbeing focus" K3; "Links with our wellbeing focus" K8
	Curriculum	<p>"Particularly appropriate for Health" K5</p> <p>"Wellbeing is in all parts of the curriculum K2 ... can relate to all areas" K7</p> <p>"Fits in beautifully with Health" K8</p> <p>"It fits well as it over arches everything" K6</p> <p>"Aligns with Te Whare Tapa Whā" K8</p> <p>"We could relate it back to Te Whare Tapa Whā" K1</p>
Development	Developing educator resources	<p>"Spiritual confused with religious beliefs ... addiction being limited to drinking, smoking, or drugs etc" K4</p> <p>"Some needed clarification on 'spirituality', 'finances', 'addiction' etc" K6; "... we had discussions about 'addictions' and 'spirituality' K9</p> <p>"More in depth pre-learning would've been beneficial" K8</p>
	Developing student resources	<p>"It really has such huge possibilities for our students. Training up the teachers is key. If wellbeing is going to continue to be a schoolwide focus, then this will be great for schools BUT it has to have a good 'why' and 'how'" K8</p> <p>"... it would be neat if there was some way for [students] to track their own results in a journal type thing where they can set goals and comment on their enablers and barriers and how they would work to overcome them" K8</p> <p>"The Meke meter itself is too small relative to everything else on the page" K3</p> <p>"The graphics on the bottom right logo etc should be bottom right with the Meke Meter rate on the left as you read left to right and this information is important to complete the circle graph" K4</p> <p>"... if you took out one of the pictures and put a simple explanation of spirituality (and perhaps cultural identity?) It is always the one they struggle with" K8</p> <p>"... it would have been good for them to have seen their results in a way that perhaps showed the that they were more troubled than others (without me telling them) so that we could discuss this all a bit more without me being the 'know all'" K3</p>

*Kāhui Ako (Community of Learning) is a group of education and training providers which aim to help students to achieve their full potential (<https://www.education.govt.nz/communities-of-learning/about/>).

3.8 Appreciative Inquiry – A Critical Analysis

In a second analysis, the data was interrogated using the four core principles of appreciative inquiry. Figure 3.3 shows the appreciative inquiry 4-D relational cycle employed in this type of analysis. Appreciative inquiry takes a strengths-based approach, rather than focusing on deficits, and is therefore compatible with a Kaupapa Māori commitment to finding solutions and recommending change to facilitate better pathways and outcomes for Māori (Cram, 2010). By focusing on the data from an appreciative inquiry perspective, the strengths, and successes of the use of the Meke Meter™ in the secondary school were explored alongside other lines of evidence. This approach blurs the lines between findings and discussion which by convention are reported in separate sections, but in doing the appreciative inquiry approach acknowledges the interconnectedness of all things present, past, and future, thus aligns with te ao Māori and Mātauranga Māori.

*Figure 3.3 An appreciative inquiry relational 4-D cycle.
(Source: Adapted from Stavros & Torres, 2005; Truschel, 2007)*



3.8.1 Discovery phase

Mā te kimi ka kite, Mā te kite ka mōhio, Mā te mōhio ka mārama

Seek and discover, discover, and know, know, and become enlightened

The inductive thematic analysis of rangatahi use of the Meke Meter™ as shown in Tables 3.3 and 3.4, revealed the following themes: Ease of use, Self-awareness, Appeal, Goal setting, Tracking progress. For kaiako in Table 3.5, the themes were: ease of use, minimal instructions required, presentation, reflection, pastoral, Kāhui Ako focus, curriculum, and the development of resources. These themes were investigated through an appreciative inquiry lens to explore the potential of the Meke Meter™ in secondary school education.

In general, the Meke Meter™ had a good appeal for students and teachers alike. The administration of the Meke Meter™ was quick and easy in the context of the classroom, therefore could occur regularly, providing the teacher with a snapshot of the hauora of the students in their class, and students with a self-evaluated record. There is growing evidence to suggest that health, wellbeing, and educational attainment are synergistic goals in schools (Bradley & Greene, 2013; Littlecott et al, 2018). Traditionally, schools have relied on large scale surveys and teacher observations to manage student wellbeing to inform policymaking. Typically, routine psychosocial screening data is collected using HEEADSSS by a school nurse over several months in Year 9 and reporting back to students about the findings is rarely done and the students' voice is often excluded from the decision-making process (Thabrew et al., 2019). Furthermore, it is recognised that student wellbeing can change radically from day-to-day and week-to-week on minor and major issues, which is not captured by once off psychosocial screening. However, tracking wellbeing in the secondary school setting where students can see up to six different teachers in a typical school day is difficult as each teacher has limited time to support the wellbeing needs of their students (Hargreaves, 1994). The Meke Meter™ provides kaiako with an opportunity to identify avenues for extra support; an ethical responsibility for all teachers in NZ and is an avenue for future research to explore. Pastoral support is essential in secondary schools because learning can be a vulnerable process, where mistakes should be encouraged. To learn, the individual needs to extend beyond their comfort zone. If a student has low self-esteem, is troubled, or has poor health, their ability to take risks and allow themselves to be vulnerable is limited. Additionally, the relationships that students have with their peers and teachers in the school community are predictive of other wellbeing aspects (Littlecott et al. 2018; Moore et al. 2017). Furthermore, the health behaviours of adolescents such as physical activity, diet, and substance use, as well as other outcomes such as mental

health and subjective wellbeing are patterned by social and economic characteristics that track throughout the life course (Boreham, et al, 2004; Park, 2004; Moore & Littlecott, 2015; Moore et al., 2015).

This study identified that the colour, presentation, limited time requirements and ease of use made the Meke Meter™ appealing and engaging for rangatahi to use which contributed to the successful integration of this wellbeing tool into teaching practice. Combining these factors into an easy to administer tool allowed kaiako to more easily access and utilise student voice about their wellbeing to inform their teaching pedagogy. Student voice positions alongside their teachers, working in partnership with each other to co-construct learning content and thus, increase learning outcomes (Cook-Sather, 2020; Robertson, 2017). Cook-Sather, (2020) and Robertson, (2017) state that student voice and student agency are closely related, the prior fostering the development of the latter. Utilising students' voice requires a power-sharing relationship between ākonga and kaiako (Cook-Sather, 2006; Mayes et al., 2017). For many kaiako, a mindset shift is required to recognise ākonga as being central to having essential perspectives on their own learning. Thus, establishing conditions under which the power and responsibility for educational practice and research are shared. In support, Berryman, Eley, and Copeland (2017) explain that

By altering the power relationships and pedagogies within classrooms, teachers found that the students' cultural values could enhance cognitive engagement and subsequent achievement (p. 483).

Embedding the frequent collection of students' voice into teaching practise involves training and positioning students to be able to "identify and analyze issues related to their schools and their learning that they see significant" (Fielding & Bragg, 2003, p.4). Thus, empowering them to "speak and act alongside credentialed educators as critics and creators of educational practice" (Cook-Sather, 2018, p. 17). In this study the Meke™ Meter allowed students to do this in a way that required minimal training and explanation and did not rely on a high level of literacy or numeracy. These were important aspects of the Meke Meter™ also highlighted in the study by Forrest et al (2019) which explored the use of the Meke Meter™ in the tertiary education setting. While not in the scope of this study, the promotion of students' voice in secondary schools should be supported. Greater emphasis and training are needed for adults to become better supporters of student voice efforts, to guide and empower without getting in the way (Mitra, 2003).

Filling in the Meke Meter™ regularly, allowed participants to better understand their wellbeing, through self-reflection and becoming more self-aware. Travers et al. (2015) highlighted the importance of self-awareness and regular self-reflection to ensure that growth goals were relevant and specific. In addition, Travers et al. (2015) noted the importance of identifying psychological factors such as a lack of self-confidence or low self-esteem that may undermine a student achieving their goals. Copland (2003) suggested that using an inquiry-based process sets up norms that allow for continual change by empowering students to inquire, identify, solve, and continually revisit their wellbeing goals. Using the Meke Meter™ in the classroom has the potential to integrate an inquiry-based process, enabling students to identify how the various aspects of their lives impact on hauora and develop strategies to enhance their wellbeing. Thus, bringing the topic of wellbeing to the fore so that rangatahi, with the support of their kaiako, can make changes and track outcomes over the duration of the year.

Te Kete Ipurangi encourages reflective practice, stating that “when students become reflective about the teaching and learning process, they are strengthening their own capacity to learn” (Te Tāhuhu o te Mātauranga–The Ministry of Education, n.d. para. 1). Rusche and Jason (2011) stated that:

Critical self-reflection not only improves students’ critical thinking skills but also helps students develop self-knowledge...[It] compels students to interrogate their beliefs and perspectives on reality by acknowledging how they influence, and are influenced by, their social realities. (pp. 339-340).

Self-monitoring can facilitate insight for personal growth and goal setting and can potentially identify the need to ask for help (Rickard et al. 2016). Travers et al. (2015) state that setting and working towards goals is found to increase self-esteem and self-efficacy, and provides self-insight about thoughts and habits, including study habits. Reflective goal setting enables individuals to identify growth-goal behaviours in practice and match them to outcomes. In this study, kaiako commented that using the Meke Meter™ allowed their students to self-assess and reflect on the different aspects of their lives. These aspects have an impact on not only their subjects but extra-curricular activities, interactions with others, essentially, their entire school experience. Self-reflection allows people to identify areas where they might need to spend more or less of their time.

Self-reflection and goal setting contributes to an improvement in learner autonomy through holistic development. This can lead to self-directed learning and self-actualization through

learning and improved emotion regulation (Naude et al. 2014). Being able to regulate emotions is an important life skill in adolescence is an opportunistic time to develop this skill as most rangatahi have the guidance of their parents and teachers. Emotion regulation promotes psychological flexibility, resilience, and wellbeing and is central to psychosocial functioning and mental health (Gross & Thompson, 2007; Lennarz et al. 2019). According to Ingleton (1999) the recognition of the central role of emotion in the learning process is rising. Emotion shapes and is shaped by social relations, self-esteem, and identity. Emotion can permeate the educational experience in a variety of ways and, therefore, plays a complex and dynamic role in shaping the learning experience. Using a tool such as the Meke Meter™ to guide and inform teaching and learning could assist students in their emotion regulation as it offers an opportunity for them to recognise their strengths and set goals to improve other areas.

In summary, student wellbeing is strongly linked to learning. Both NZ and international research show that student wellbeing, or a lack of it, has a clear influence on student mental health and learning. The Meke Meter™ enables students to identify how the various aspects of their lives impacted on their overall health and wellbeing. The benefit of a user-friendly, visually appealing, self-reflection tool that can allow the user to monitor wellbeing in a culturally considered manner is evidenced from both the student and educator perspectives and the literature presented in his section. The cultural relevance of the Meke Meter™ was not specifically examined in this research and is a limitation of the present study.

3.8.2 Dream phase

The Dream phase of appreciative inquiry involves “the creation of a vision that brings to light the collective aspirations of stakeholders” that emerged in the Discovery stage (Sullivan, 2004, p. 224). Thematic analysis of rangatahi and kaiako feedback revealed that the Meke Meter™ has the potential in secondary schools to assist rangatahi to overcome the many challenges they face as they navigate through adolescence. Given the positive feedback from both case studies, the ‘Dream’ is to respond to the feedback provide to further develop the Meke Meter™ so that it is tool that is not just fit for purpose but builds capacity by facilitating better resourcing around wellbeing and to embed the Meke Meter™ in all secondary schools nationally. In this, various stakeholder aspects contributing to this vision will be considered.

At the national level, the Meke Meter™ has the potential to align the six outcomes described in NZ Government’s Child and Youth Wellbeing Strategy which envisions NZ being the best place in the world for children and young people in which education plays a key role (Department of the Prime Minister and Cabinet, 2019; Te Tāhuhu o te Mātauranga–The Ministry of Education,

2021c). The six outcomes of this strategy reflect what children and young people said what was important to them, signposting the social, economic, and environmental factors needed for child and youth wellbeing. The outcomes highlight that NZ children and young people desire to be:

- loved, safe and nurtured
- able to have what they need
- happy and healthy
- learning and developing
- accepted, respected, and connected
- involved and empowered

in addition to the national, this strategy, Te Tāhuhu o te Mātauranga–The Ministry of Education (2020) National Education and Learning Priorities (NELP) highlight the obligation for schools to place learners and their whānau at the centre of their education by ensuring learning places are “safe, inclusive and free from racism, discrimination and bullying” (p. 1) and that schools,

have high aspirations for every learner/ākonga, and support these by partnering with their whānau and communities to design and deliver education that responds to their needs, and sustains their identities, language, and cultures. (p. 1)

Education is, therefore, a key construct through which wellbeing should be promoted in effective and sustainable ways. Schooling should be about preparing students to be able to shape change in the desirable direction (Sterling, 2001). Hence, the promotion of student wellbeing in schools is not only a means of enhancing academic achievement or reducing the burden and costs of ill-health but more importantly, enabling students to lead fulfilling and flourishing lives. Being well is a way of life that can be learned in schools. Schools, therefore, represent an important site for promoting wellbeing. The Meke Meter™ implemented from a whole-school perspective, has the potential to enable student wellbeing to become an integral component of the school’s curriculum, culture, structure, relationships, and services. In addition, the Meke Meter™ can bring to the fore student perspective as opposed to the long-standing tradition of drawing from the adult perspective (Mitra, 2018). Hence, emphasising student competence, abilities, and aspirations.

From an NZ secondary school educator’s perspective, many of the themes identified in this study specifically align with *Our Code, Our Standards* (Teaching Council of Aotearoa NZ, 2017). In

particular, the results from the thematic analysis highlighted that the Meke Meter™ has the potential and possibilities for monitoring adolescent wellbeing in secondary schools so that kaiako can “... work in the best interests of learners by promoting the wellbeing of learners and protecting them from harm” (Education Council, 2017, p. 10). Teachers found the Meke Meter™ was useful as a pastoral tool and it gave them insight into the wellbeing of individuals, groups, and provided a useful conversation starter. It was also noted that “if it were used consistently, you could see if there are patterns in days, weeks, months” (K2). Teachers found that the Meke Meter™ was a good fit for the curriculum as both embraced Te Whare Tapa Whā. From the thematic analysis it was clear that by having insight into how rangatahi are scoring aspects of their lives, teachers were better placed to provide guidance, offer support, and make connections with their lives to their learning. Furthermore, as mentioned previously, Te Kete Ipurangi encourages reflective practice. Typically, written reflections are encouraged in the education setting yet there is limited literature reporting the use of non-written forms of reflection (Forrest et al, 2019). This study contributes to the research that shows that non-written reflection can have positive outcomes for students without further exacerbating literacy disparities and supports the use of the Meke Meter™ in the secondary school setting.

A feature of the Meke Meter™ is that it allows an adolescent to self-reflect and set goals that align with their aspirations. From the student perspective, the Meke Meter™ has the potential to become a vehicle to capture and track progress of socio-emotional skills, assisting in the development of positive identity. For individuals, knowing how to recognise when aspects of hauora are unbalanced is a skill that requires practice, and one which regular use of the Meke Meter™ in the secondary school setting can help develop. In NZ secondary schools, students practice many skills in preparation for performing tasks in the workforce, however, priority is given to literacy and numeracy, science and technology and physical activity and these essential ‘learning areas’ are considered by Te Tāhuhu o te Mātauranga–The Ministry of Education to be components of a balanced curriculum (Te Tāhuhu o te Mātauranga–The Ministry of Education, 2015). Socio-emotional skills are included in the NZ curriculum in the form of ‘key competencies’ and are designed to prepare youth for lifelong learning by equipping them with the skills necessary to adapt to a changing world. In the NZ Curriculum, these competencies are thinking, relating to others, understanding text, managing self and participating (Figure 3.4).

Figure 3.4 The New Zealand Curriculum. (Te Tāhuhu o te Mātauranga–Ministry of Education, 2015 p.7)



The purpose of key competencies is to give a focus for learning and to facilitate learning that is critical to all young people's future lives and engagement in communities and society (Gillespie et al., 2013). Exemplars from the Effective Pedagogy section of the Te Kete Ipurangi website have shown that when the key competencies are placed at the heart of learning, the depth and richness available to students is evidenced (Te Tāhuhu o te Mātauranga–The Ministry of Education, 2018). Discussions of, and exemplars of practice have also been produced by Hipkins et al. (2014), by Davis et al. in their work on learning stories (2013), and by Gillespie et al. (2013) in their research on Key Competencies in Physical Education. However, their work predominantly focuses on ways to integrate and develop key competencies with academic learning. Even so, the socio-emotional component of the key competencies remains subsumed in classroom-based teaching, as though discipline specific learning is the only kind that happens in schools. Less focus is placed on key competency development as learners progress through their education with subject-specific disciplines taking priority as students begin to specialise in their chosen career pathways. As a result, key competency growth is measured less formally by teachers even though they are a fundamental contributor to learning and success beyond schooling, more vital perhaps than essential learning areas. Integration of the Meke Meter™ into the national curriculum would shift focus onto important key competencies and could contribute to a more holistic assessment of student success. This notion is consistent with the findings of Forrest et al (2019) who stated that “the use of the Meke Meter in classrooms was able to record positive changes in the health of students creating a measure of success beyond that of traditional mainstream measures” (p.16).

In summary, this section provides evidence that use of the Meke Meter™ within the secondary school setting can facilitate the promoting of rangatahi wellbeing and contribute to meeting the collective aspirations of several key stakeholders involved, namely the NZ Government, Te Tāhuhu o te Mātauranga–The Ministry of Education, NZ secondary school educators and NZ secondary school students. This inquiry has not explored the voice of the parents or wider community in which the student lives, and while a limitation of this study it highlights an area that requires research in the future.

3.8.3 Design phase

This study employed two versions of the Meke Meter™ (the paper-based and online versions) in two different settings with two different population sizes. Common feedback from the users of both versions included providing somewhere to set goals. The online users also noted that gamification would make the Meke Meter™ more engaging. These results are similar to those of

Armstrong (2022) whose adult participants also suggested gamification and the capacity for goal setting, along with regular notifications would enhance the usability of the online Meke Meter™. In the current study, the educators noted the need to explain what some of the subsections meant and expressed a desire for more supporting resources to accompany the Meke Meter™. While the students using the paper based Meke Meter enjoyed its aesthetics (which differs to the online platform), the paper based Meke Meter™ also had the disadvantage of the data requiring manual inputting in order for an educator to track change.

The online platform offers development opportunities that the paper-based version cannot, for example, pop out explanations could be provided for each of the sub-section. However, the low literacy requirement of this tool has been noted as an advantage so any explanations should be accessible to both those with good and poor literacy. The online platform could also provide a goal-setting section and provide notifications to prompt regular use and self-assessment. Today, mobile gadgets are ubiquitous, continuously connected to modern technology. “Mobile computing represents a fundamental change in how wellness can be tracked and managed” (Consolvo et al. 2014, p. 170). Furthermore, digital platforms have an advantage over paper platforms, particularly among adolescents, as they can provide an interactive, social, and personalized touch. Since devices accompany users at almost all times of the day, users can seamlessly integrate health wellbeing monitoring into their schedules. In addition to this, apps can be widely disseminated across socio-demographic groups, addressing barriers that may have historically impeded health change among adolescents, such as time constraints, convenience, social factors, motivation, and care access, thus filling gaps in addressing disadvantage or diversity (Dute et al. 2016; Madden et al. 2013). Mobile devices provide an opportunity for adolescents to track the changes in their wellbeing status in real-time. Furthermore, Kohl et al (2013) found that web-based interventions embedded into existing structures, such as health care or schools, are more effective compared with web-based interventions alone. Future research and development of the Meke Meter™ focus on the development of a rangatahi-specific mobile app, as opposed to the further development of the current web-based application, with notifications, goal-setting capacity, and gamification, that allows secure data storage and educator access to the backend that is specific to their students only. National administration of the app, for example by Te Tāhuhu o te Mātauranga–The Ministry of Education, would also allow valuable data to be collected and analysed to better inform wellbeing policies and interventions.

Teachers are bound by law to provide a duty of care to their students and are required to consider sharing information if it may help protect a student from harm. In secondary schools, students move in and out of vulnerability frequently, therefore tracking changes can be useful in detecting and managing triggers. However, this has implications when administering the Meke Meter™ in the classroom when a child scores themselves low in a category and for deciding when reporting is appropriate as the credibility of evidence can be challenged if it is revealed through a self-reflection wellbeing instrument. For example, two students may score themselves the same low grade in self-image, however, one is pessimistically minded, and the other is at risk of self-harm. Thus, this highlights important areas for further research 1) the need to couple the Meke Meter™ data from an individual with information about their personality type and 2) the creation of appropriate teaching resources and support material to assist teachers in administering the Meke Meter™ into their classroom practise and in providing the appropriate support to students. There is also scope for research to develop or connect students to resources to facilitate autonomy and empower them to meet any goals they set for themselves in response to using the Meke Meter™.

In the Design phase, any future development will require research that involves not only consultation with rangatahi and educators as in this study, but also consultation with whānau, the wider community, Te Tāhuhu o te Mātauranga–The Ministry of Education, health professional and Iwi to ensure the tool is holistic, appropriately resources, and culturally safe.

3.8.4 Destiny phase

Internationally, learning, wellbeing and socio-emotional capacities have been researched extensively (for example Biggeri & Santi, 2012; Cahill & Dadvand, 2020; Collie et al., 2017). The NZ Curriculum’s vision statement aspires to promote “young people who will be confident, connected, actively involved, lifelong learners” (Te Tāhuhu o te Mātauranga–The Ministry of Education, 2007, p.7), with the key competencies being the “key to learning in every learning area” (p.12). The Education Review Office *Wellbeing for Success* resource emphasises the role and responsibilities schools have in promoting student wellbeing (Education Review Office, 2016). But unfortunately, while the socio-emotional component of the key competencies has been documented and researched (Brudevold-Iversen et al., 2013; Hamilton et al., 2013; Peterson et al., 2013), this component has generally remained under-explored in literature coming from Te Kete Ipurangi or NZCER. Although the key competencies are stated in the NZ Curriculum, they remain predominantly implicit aspirations rather than explicit components of holistic education for the lives and wellbeing of young people.

Further co-design and development of the Meke Meter™ into a rangatahi-specific mobile app with an educator accessible backend and embedding the Meke Meter™ within the NZ curriculum would help to bring key competencies to the fore and provide a way to measure these. Given the key competencies are “developed over time and shaped by interactions with people, places, ideas, and things” (p.12) it makes sense for schools to promote and facilitate students to measure, reflect and track their key competency development progress. This also aligns with the NZ Government’s Child and Youth Wellbeing Strategy (Department of the Prime Minister and Cabinet, 2019). Providing access to the Meke Meter and wrap-around resources for teachers and students would begin to address some of the growing mental health concerns with regards to NZ rangatahi and help to equip our young people to develop resilience and coping strategies which in turn will alleviate pressure on mental health services. This will shift away from the 'ambulance at the bottom of the hill' scenario and place wellbeing education 'at the top of the hill' as the primary prevention (Appendix D). To achieve this investment will be required into further research and development of the rangatahi-specific Meke Meter™ app along with partnerships being established with Te Tāhuhu o te Mātauranga–The Ministry of Education to roll out its use to secondary schools by providing professional development for teachers and partnership with other Government Departments such as the Manatū Hauora–The Ministry of Health and Te Manatū Whakahiato Ora- the Ministry of Social Development to facilitate the development of appropriate resources and monitor the back end data about rangatahi wellbeing to inform Government policy.

3.9 Limitations of the Study Method

Notably, negative feedback about the Meke Meter™ was limited, thus kaiako and rangatahi might have perceived the researcher as someone who was invested in the development of the tool and therefore, they might have been hesitant to be perceived as critical. All care was taken to ensure the anonymity of the respondents, however, due to the low sample size, participants may have been cautious with the feedback they provided.

The Google Form surveys were administered to rangatahi in the school computer suite. Care was taken to guarantee that rangatahi had adequate time to complete their answers, however, the survey time was restricted to an hour due to timetabling. Therefore, some rangatahi may have felt obliged to complete their surveys before they had included all of the feedback they wanted to give.

Another limitation was that the instructions given from kaiako when introducing the Meke Meter™ to their Whānau Groups may have differed between kaiako. To address this, kaiako could make contact with the researcher during school hours to answer any questions they may have had in a timely manner. An example of discrepancies was the addiction section, as some kaiako interpreted that to mean harmful substances (alcohol, smoking) only, whereas other kaiako were including other examples in addition to harmful substances (social media use, cell phone/gaming addictions).

3.10 Summary

This research study has begun to explore the applications of the Meke Meter™ in the secondary education sector. More specifically by using a case study approach to collect student and teacher perspectives, the benefits of a visually appealing, easy to understand, self-reflection tool that fits with teacher's professional practice expectations and some aspects of the school curricula were highlighted along with areas for improvement. The latter will necessitate a continued journey of co-design that engages with Government, communities, whānau and rangatahi to ensure that the Meke Meter™ is not only a tool for promoting self-reflection and set goals to enhance wellbeing but instead an entire wrap-around system of monitoring and resources to equip and empower rangatahi to live their best possible lives.

Chapter 4

Existing Quality of Life or Wellbeing Tools Suitable for use in New Zealand Secondary Schools: A Systematic Literature Review

Nā to rourou, nā taku rourou, ka ora ai te iwi

With your food basket and my food basket, the people will flourish/thrive.

4.1 Introduction

The above whakataukī speaks to the importance of bringing together knowledge from many sources congruent with the purpose of a systematic review.

Adolescence is a phase of human development that stands out as a time of significant change in a multitude of life domains (Crockett & Petersen, 1993; Petersen, 1987). It is a period when significant physical, psychological, and behavioural changes occur and when young people develop many of the habits, behavioural patterns, and relationships they will carry into their adult lives (National Research Council, 2008).

There have been many studies conducted and scholars have written about adolescents for centuries (Petersen, 1988; Petersen et al., 2020) and guaranteeing a good QoL for adolescents is a widespread concern for many (Shin, 2015; Tian et al., 2015). Frequently, adolescent mental health measures have assessed issues that relate to psychological dysfunction (Keyes, 2007), focusing on the lower levels of illness symptoms as being representative of wellbeing (Huppert & Whittington, 2003). But there are very few instruments specifically designed for the assessment of adolescents' QoL, and even fewer that assess from a flourishing perspective rather than from a deficit and/or a health-related perspective (Procter et al., 2009; Townsend-White et al., 2012).

In 1947, the World Health Organization (WHO) made changes to their definition of health shifting away from the biomedical model, where health was defined by the body's ability to function, and onto a biopsychosocial model of health asserting that health is "a state of complete physical, mental and social wellbeing and not merely the absence of disease or infirmity" (WHO, 1948, p1). A more recent definition defines health to be "a state of wellbeing in which the individual realises his or her own abilities, can cope with the normal stresses of life, can work productively and fruitfully, and can contribute to his or her

community” (WHO, 2001, p1). Evidence is accumulating in support that positive mental states can encompass more than the absence of symptoms (Becker et al., 1993; Huppert & Whittington, 2003). While there are a vast number of child report measures that can be used to determine a range of psychological and medical problems (Emery et al., 2016), there remains a growing capacity for the development of tools that measure QoL from a flourishing viewpoint instead of a symptom-focussed perspective, particularly for adolescents (Diener et al., 1985; Keyes, 1998; 2002; 2005; Ryff, 1989).

Numerous Māori researchers have written about principles that they believe should underpin quality health research, rangatahi wellbeing included (Durie, 1996; Mead, 1996; Ruwhiu, 1994; Smith, 1995; Tuhiwai-Smith, 1999). Māori models of health developed over the last three decades acknowledge the importance of holistic and collective wellbeing. Two of these, Te Whare Tapa Whā and Te Wheke, are described in detail in section 2.7 *Māori Models of Health*. These holistic models of health and wellbeing ensure that all facets of a person’s lifestyle are acknowledged as determinants of health, including those that are culturally significant. For Māori, these might include a connection to the environment, or a shared sense of identity and an ideal condition of health and wellbeing is reflected in a state of equilibrium. Although Te Wheke is more complex, there are clear parallels between Te Whare Tapa Whā and Te Wheke with both acknowledging that spirituality is integral to hauora. Both models of hauora strongly advocate a holistic approach in which a range of dimensions or capacities interact to produce an overall picture of health as opposed to only identifying where there are deficits. In this systematic review, a te ao Māori perspective will be used to assess QoL and wellbeing instruments used for adolescents from a positive rather than a deficit perspective.

4.1.1 Fit for purpose and suitability for teachers

Teachers are well placed to support the health and wellbeing of adolescents in their classrooms and within the school community. However, in secondary schools, time is often limited to address the wellbeing of students, particularly in contemporary classrooms, where students spend an hour in each subject before moving to the next (Hargreaves, 2013). One of the mindsets that pervade secondary school teachers is the belief that they are subject teachers and experts on the content that resides within their subject area and expertise. In other words, teachers believe that their roles are more concerned with their subject curriculum delivery, and less about student wellbeing as they lacked the experience and training to support this (Reinke et al., 2011). This is consistent with an NZ study that

captures the voice of secondary school students and found “that educational experiences did not play a prominent role in their visual or verbal communication about wellbeing” (Soutter, 2011, p. 15). Therefore, when assessing whether QoL and wellbeing instruments are appropriate for use in the secondary school setting in NZ, whether they are fit for purpose from an adolescent’s point of view and whether they are suitable for teachers to administer in-class time and whether they provide useful information were also take into consideration.

4.2 Research Aim and Questions

This systematic literature review aimed to answer the third research question posed in this thesis which was: Are there any existing QoL or wellbeing tools suitable for use in the NZ secondary school context? This question was further broken down into sub-questions that this systematic literature review aimed to answer are:

1. What are the instruments used for assessing adolescents’ QoL or wellbeing?
2. What aspects of QoL or wellbeing do the tools measure?
3. What are the tool’s potentialities and limitations?
4. Are the identified tools suitable for teachers to administer in a secondary school classroom setting?

4.3 Research Objectives

The principal objectives of this systematic literature review were:

1. To perform a systematic literature search to identify national and international primary research studies about QoL or wellbeing tools.
2. To find effective QoL or wellbeing tools that assess the wellbeing status of adolescents that are suitable for use in the NZ secondary school context and can be administered by teachers.

4.4 Research Design and Methodology

A systematic literature review of quantitative studies about QoL or wellbeing measurement tools that are suitable to use in a secondary school setting was undertaken that used a systematic and explicit methodology to identify, select, and critically appraise relevant studies in a transparent, reproducible, and unambiguous manner (Holly et al., 2016). This approach facilitates the identification of gaps in the literature and provides information for further primary studies and health interventions. In addition, provide evidence for

planning, implementing, and evaluation intervention studies (Holly et al., 2016). The findings from this research may help education practitioners to identify a suitable tool to measure subjective wellbeing and QoL of the rangatahi they work with.

This systematic literature review was comprised of four stages. Foremost, the Consensus-based Standards for the selection of health Measurement INstruments (COSMIN) tool (Terwee et al., 2009) was used to identify and structure the search term relevant to the study. Secondly, the Preferred Reporting Items for Systematic review and Meta-Analysis (PRISMA) flowchart was followed to search, screen, include and exclude studies for the subsequent analysis (Moher et al., 2015). Thirdly, a quality assessment of the studies was undertaken to determine the strength of the findings. Fourthly, the characteristics of the eligible QoL and or wellbeing instruments were determined and the instruments were assessed for suitability in the NZ secondary school classroom setting. Finally, the findings of the studies were presented and discussed.

4.5 Methods

This systematic literature review used a comprehensive approach to search through the literature. The main characteristics of a systematic literature review are searching for primary studies in a reproducible and comprehensive way, an exhaustive search of studies was performed. This review uses a comparative analysis of data extracted from the primary studies to assess the most effective QoL or wellbeing assessment tool for the adolescent population in the NZ secondary school context.

4.5.1 Search criteria

Developing a search strategy is an iterative process, involving continual assessment and refinement. Many instruments have been developed to measure the QoL and wellbeing constructs and this study used the COSMIN search strategy to facilitate the selection of articles with appropriate instruments. This strategy was used as it is a highly sensitive search filter for finding studies on measurement instruments (Terwee et al., 2009). The (a) construct, (b) population, (c) type of instrument and (d) measurement properties were used to define key elements (Table 4.1). The key elements and their meanings were combined to form the keywords and phrases for the literature search, to identify the primary articles published in the last ten years that evaluated the effective QoL or wellbeing assessment tools of the adolescent population in different settings. A ten-year range of July

1, 2011, to August 31, 2021, was selected because the focus on measuring adolescent QoL or wellbeing status became a global focus during this time.

Table 4.1 Application of the COSMIN search strategy¹.

COSMIN Element	Key words and phrases
Construct	“Quality of life” OR “Life quality” OR “Life satisfaction” OR Wellbeing OR Well-being OR “Well being” OR “Level of living” OR Flourishing OR Happiness
Population	Adolescen* OR Youth OR Teenage* OR Juvenile OR “Young person”
Type of instrument	“Assessment tools” OR Questionnaires OR Tool OR Instrument OR Scale OR Assessment OR Measurement OR Evaluate OR Psychometrics OR Reliability OR Validity OR Screening
Measurement properties	“Physical wellbeing” OR “Physical well-being” OR “Physical well being” OR “Mental wellbeing” OR “Mental well-being” OR “Mental well being” OR “Emotional wellbeing” OR “Emotional well-being” OR “Emotional well being” OR “Social wellbeing” OR “Social well-being” OR “Social well being” OR “Spiritual wellbeing” OR “Spiritual well-being” OR “Spiritual well being”

¹ Identification of keywords and key phrases used to find literature relevant to the research question: Are there any existing QoL or wellbeing tools suitable for use in the NZ secondary school context?

4.5.2 Identification and screening for relevance

The search was completed on 31 August 2021. The process of study selection was as follows:

1. Articles were accessed from academic databases. Databases searched included The Cumulative Index to Nursing & Allied Health Literature (CINAHL), PubMed, Scopus, and ProQuest.
2. Duplicate data from multiple reports were excluded.
3. All titles, abstracts and the full text were examined for eligibility based on inclusion criteria described below.

For the current study, adolescence was defined to include ages 12-18. Searches were conducted in the fields of education, psychology, and sociology. Studies that focussed on the family, childhood, adulthood, or older ages, disorder, or symptom specific studies were excluded. Case studies and review articles were also excluded. In addition, limiting filters

were also applied to each database. The filters were: years 2011 to 2021; the language was restricted to English only; and abstract available. It should be noted that this search strategy introduces a language bias as the searches excluded studies that were written in other languages. The Endnote software was used to manage references.

4.5.3 Assessing eligibility: inclusion and exclusion criteria

In this systematic literature review, peer-reviewed primary research studies which addressed the details of the validated QoL, or wellbeing assessment tools developed specifically for the adolescent population, and the findings of the effectiveness of those developed tools were considered relevant. A preliminary search identified numerous studies which included the use of validated QoL or wellbeing assessment tools amongst the adolescent population in schools, families, hospitals, and community settings. Therefore, it was appropriate to include primary studies, which used the validated tools in a single setting. In addition, the preliminary search identified numerous studies which included adolescent populations who had underlying health issues. Therefore, all studies that involved adolescents with chronic conditions were excluded. After ruling out records that were not relevant to the review, the article selection was further refined based on the characteristics of the QoL or wellbeing instrument/assessment tool or tools used in the primary research study. That study had to use at least one tool that meet the criteria. The inclusion and exclusion criteria are detailed in Table 4.2. Further, primary research studies which had poor or inconclusive data about the QoL, or wellbeing assessment tools were excluded.

Table 4.2 The inclusion and exclusion criteria. These criteria were applied to primary research retrieved to address the research question: Are there any existing QoL or wellbeing tools suitable for use in the NZ secondary school context?

Element	Inclusion Criteria	Exclusion Criteria
<i>Date</i>	July 1, 2011, to August 31, 2021	Before July 1, 2011, after August 31, 2021
<i>Type of participants</i>	General adolescent population between the ages of 12-18 who had no underlying health issues.	Individuals that were not between the ages of 12-18 or adolescent participants that had underlying health issues, developmental delays, neurological impairments, intellectual disabilities, learning disorders or situational stress/trauma.
<i>Type of outcome</i>	Holistic QoL or wellbeing measurement measuring more than one element of QoL or wellbeing – for the purpose of this review, a minimum of two wellbeing factors from the following may be included: <ul style="list-style-type: none"> – physical wellbeing, including physical activity, nutrition, self-image and appearance, fitness, and being addiction free. – social wellbeing, including relationships with others, social support, role functioning, school, recreation, finances, friends and family, and home environment. – mental as well as psychological wellbeing, including autonomy, relaxation and sleep, happiness, motivation, self-esteem, and spirituality. 	Health specific/related (physical) QoL or wellbeing measurement Non-holistic QoL or wellbeing measurement – only contained one element of wellbeing (physical, social, or mental)
<i>Type of studies</i>	Studies developing or validating questionnaires were considered	studies with the use of a QoL or wellbeing scale as an outcome in intervention studies such as randomised trials, conference abstracts, reviews, and commentaries.
<i>Type of instruments</i>	Instruments that were self-administered and assessed QoL or wellbeing.	Instruments that were not self-administered Instruments that screen for disease, or only measure one dimension of QoL or wellbeing.
<i>Instrument Characteristics (at least one tool used in the study must meet these criteria)</i>	<ul style="list-style-type: none"> – At least 50% positively worded items – Positively worded items were scored to reflect wellbeing (not reverse scored) – Included at least one item that assessed feeling (i.e., emotional wellbeing, happiness) and one item that assessed functioning (i.e., participation in recreational activities, role functioning). 	<ul style="list-style-type: none"> – They had a measure with less than 50% positively worded items. – Positive items were reversed scored solely to indicate a negative wellbeing outcome. – They included areas of wellbeing that were not the focus of this review (e.g., material wellbeing).

4.5.4 Search results, data evaluation and quality appraisal

As a result of a comprehensive search, the titles and abstracts of 6,613 articles were screened to determine eligibility. Preliminary screening excluded 6,524 articles. After the initial screening, 89 articles were selected from the following databases: Scopus (n = 32), CINAHL (n = 18), PubMed (n = 23) ProQuest (n =16). These articles were retrieved for full-text screening and imported into an EndNote library. After the full-text screening, eight articles (n = 8) were included in the study (Figure 4.3). The methodological quality of each study was then appraised using a checklist was developed based on those from Caldwell et al. (2011), Coughlan et al. (2007) and the Critical Appraisal Skills Programme (CASP) (Table 4.3). Although the inclusion and exclusion criteria were rigorous, due to the existence of many predatory journals, a quality appraisal was still necessary (Caldwell et al., 2011; Coughlan et al., 2007; Teixeira da Silva et al., 2021). For each of the ten checklist items, the articles were scored 1 point for yes this was evident and 0 points for no this was not evident. For studies where the element was not clear a '-' was used (Table 4.4). Each article scored either a nine or 10, indicating studies are of high academic quality. The characteristics of the articles are provided in Table 4.5. The number of participants in the studies included in this systematic review varied from between 357 and 3,360. Studies were conducted in seven different countries: Iran, Serbia, Switzerland, Australia, China, Italy and two studies were conducted in Brazil. The instruments identified in the eligible articles that meet the criteria outlined in Table 4.2 included the following:

- Brief Multidimensional Student's Life Satisfaction Scale (BMSLSS)
- Multidimensional Students' Life Satisfaction Scale (MSLSS)
- The Flourishing Scale (FS)
- The Personal Well-being Index – School Children (PWI-SC)
- Satisfaction with Life Scale (SWLS)

These instruments can be viewed in Appendices G through K.

Table 4.3 Article quality appraisal questionnaire/checklist.*

No.	Questions (<i>Sub questions to take into consideration</i>)
I	Is there a clear statement of the aims of the research? Y/N <i>Is the purpose of the study/research problem clearly identified?</i> <i>Have the aims and objectives, a research question or hypothesis been identified?</i> <i>If so, are they clearly stated?</i>
II	Is a quantitative methodology appropriate? Y/N <i>Is the research design clearly identified?</i>
III	Was the research design appropriate to address the aims of the research? Y/N <i>Has a conceptual or theoretical framework been identified?</i> <i>Is the framework adequately described?</i> <i>Is the framework appropriate?</i>
IV	Was the sampling (recruitment) strategy appropriate to the aims of the research? Y/N <i>How were the sample selected? Was it a probability or non-probability sample?</i> <i>Is it of adequate size?</i> <i>Does the sample represent the population and large enough to eliminate bias?</i>
V	Is the population identified? Y/N <i>Has the target population been clearly identified?</i>
VI	Have ethical issues been taken into consideration? Y/N <i>Were the participants fully informed about the nature of the research?</i> <i>Was the autonomy/ confidentiality of the participants guaranteed?</i> <i>Was ethical permission granted for the study?</i>
VII	Was the data collected in a way that addressed the research issue? Y/N <i>Is it clear which instruments will measure which concepts?</i> <i>Is the rationale for instrument selection acceptable?</i> <i>Is the reliability for the/each instrument described and acceptable?</i> <i>Is the validity for each instrument described and acceptable?</i>
VIII	Was the data analysis sufficiently rigorous? Y/N <i>What type of data and statistical analysis was undertaken? Was it appropriate?</i> <i>How many of the sample participated?</i> <i>Was the significance of the findings clearly articulated?</i> <i>Are justifications offered for the author's conclusions?</i> <i>Are study limitations provided?</i>
IX	Does the researcher discuss the contribution the study makes to existing knowledge? Y/N <i>Does the discussion place the study's findings in context with what is already known?</i>
X	Does the researcher discuss further research needed in the field? Y/N <i>Are implications for practice and future research delineated?</i>

*This checklist was adapted from those presented in:

- Caldwell et al. (2011). Developing a framework for critiquing health research: an early evaluation. *Nurse education today*, 31(8), e1-e7.
- Coughlan et al. (2007). Step-by-step guide to critiquing research. Part 1: quantitative research. *British journal of nursing*, 16(11), 658-663.
- Critical Appraisal Skills Programme (2019). CASP Qualitative Studies Checklist. [online] Retrieved September 28, 2021, from <https://casp-uk.net/casp-tools-checklists/>.

Table 4.4 QoL or wellbeing assessment tools with measurement domains

Question	Is there a clear statement of the aims of the research?	Is a quantitative methodology appropriate?	Was the research design appropriate to address the aims of the research?	Was the sampling (recruitment) strategy appropriate to the aims of the research?	Is the population identified?	Have ethical issues been taken into consideration?	Was the data collected in a way that addressed the research issue?	Was the data analysis sufficiently rigorous?	Does the researcher discuss the contribution the study makes to existing knowledge?	Does the researcher discuss further research needed in the field?	
Author/s Year	I	II	III	IV	V	VI	VII	VIII	IX	X	Total score
Câmara & Strelhow 2018	1	1	1	1	1	1	1	1	1	1	10
Heizomi et al. 2015	1	1	1	1	1	1	1	1	1	0	9
Jovanović 2016	1	1	1	0	1	1	1	1	1	1	9
Marcionetti & Rossier 2021	1	1	1	0	1	1	1	1	1	1	9
Singh et al. 2014	1	1	1	1	1	1	1	1	1	1	10
Strelhow et al. 2020	1	1	1	-	1	1	1	1	1	1	9
Ye et al. 2014	1	1	1	1	1	1	1	1	1	1	10
Zappulla et al. 2014	1	1	1	1	1	1	1	1	1	1	10

Figure 4.1 PRISMA flowchart: steps for identifying, screening, and including studies

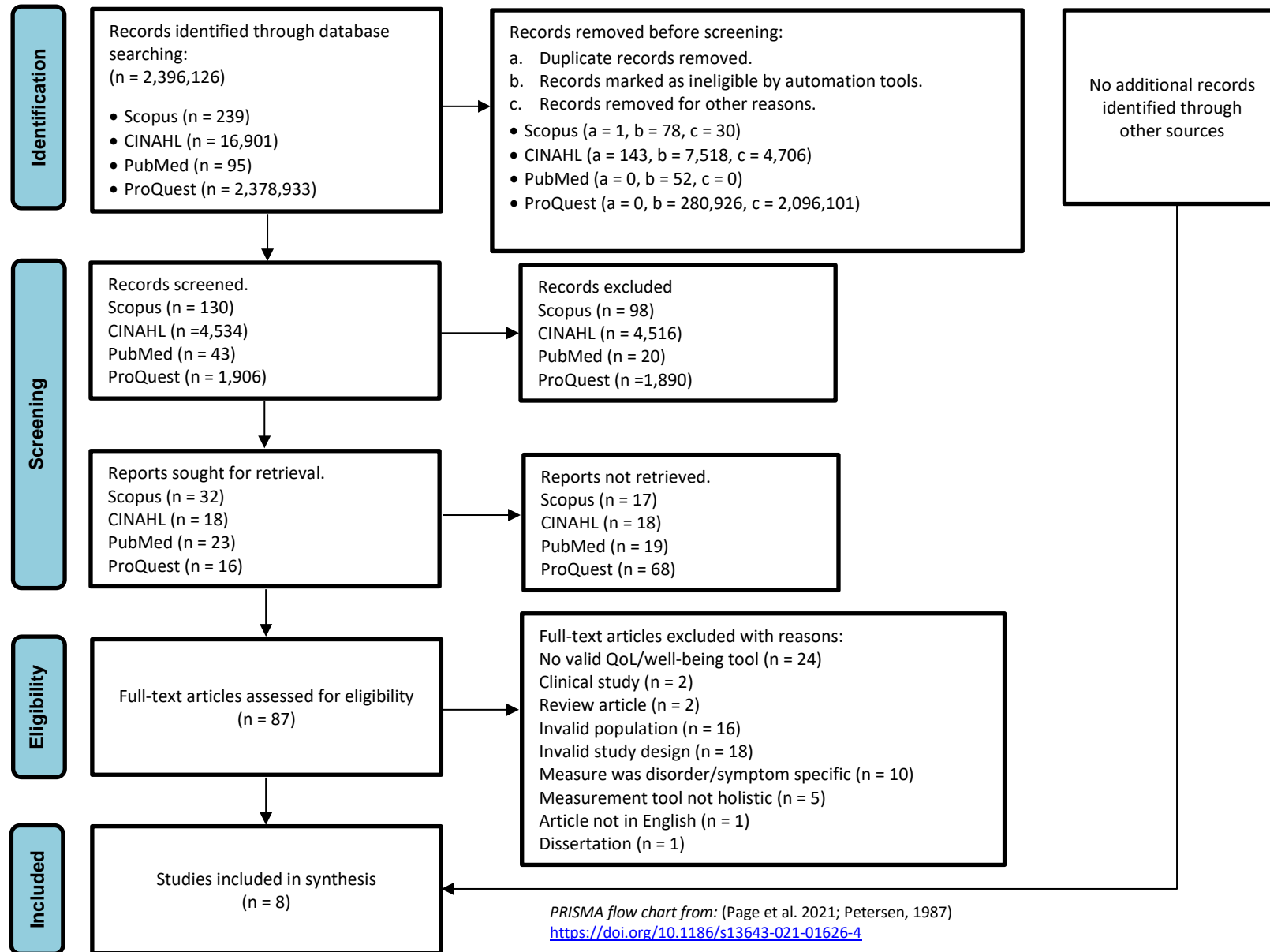


Table 4.5 Characteristics of the eligible articles

Study No	Author/s, year published	QoL/Wellbeing instrument used*	No of participants	Age range, Mean age (\bar{x})	Setting	Country	Quality appraisal (grade out of 10)
1	Câmara & Strelhow, 2018	BMSLSS	$n = 3,360$	12-19 years $\bar{x} = 14.4$	Secondary School	Brazil	10
2	Heizomi et al., 2015	SWLS	$n = 403$	15-19 years $\bar{x} = 16.66$	High School	Iran	9
3	Jovanović, 2016	SWLS	$n = 481$ $n = 283$ $n = 220$	16-18 years $\bar{x} = 17.01$ $\bar{x} = 17.34$ $\bar{x} = 16.73$	High School	Serbia	9
4	Marcionetti & Rossier, 2021	SWLS	$n = 357$	12-16 years $\bar{x} = 13.32$	High School	Switzerland	9
5	Singh et al., 2015	PWI-SC FS BMSLSS	$n = 1,301$	13-18 years $\bar{x} = 15.40$	High School	India	10
6	Strelhow et al., 2020	BMSLSS	$n = 1,248$	12-18 years $\bar{x} = 15.09$	Community	Brazil	9
7	Ye et al., 2014	BMSLSS	$n = 2,406$	$\bar{x} = 14.44$	Junior Middle School	China	10
8	Zappulla et al., 2014	MSLSS	$n = 996$ $n = 380$	14-18 years $\bar{x} = 16.06$	Secondary School	Italy	10

* BMSLSS: Brief Multidimensional Students' Life Satisfaction Scale, MSLSS; Multidimensional Students' Life Satisfaction Scale, FS: The Flourishing Scale, PWI-SC: The Personal Well-being Index – School Children, SWLS: Satisfaction with Life Scale

4.5.5 Criteria to assess the instruments identified in the eligible articles for measuring QoL or wellbeing in the NZ secondary school setting

For each instrument identified in the eight eligible articles, their general characteristics were researched and documented before evaluating the practicality and suitability of these instruments for the NZ secondary school context. In order to complete this evaluation a checklist with three sections was developed that assessed how holistic the tool was against Te Whare Tapa Whā and Te Wheke models of health, assessed whether it was fit for purpose (personal-use, goal setting, progress tracking) and whether it was suitable for administration in the classroom setting (Figure 4.2). The checklist criteria were designed to allow for a comparison between the QoL or wellbeing measurement tools to determine which tool is the most suitable for adolescents and to assess whether or not the tools were suitable for teachers in the NZ secondary school context to use. An explanation of each section follows:

Section A: Is the tool holistic?

To measure QoL and or wellbeing outcomes over a range of functions, and to link outcomes with both cultural and social realities, it was useful to consider the Māori perspective of health. For Māori, the values underpinning the concept of health differ significantly from a Western medical understanding. In Western medicine, the term hauora is commonly translated as 'health'. However, for Māori, hauora is considerably different in that it is holistic and focuses on wellbeing instead of illness. Kaupapa Māori provided the genesis of Māori health models, with the movement developing two common culturally relevant models of health: Te Wheke (Pere, 1997) and Te Whare Tapa Whā (Durie, 1985). Despite their evolution and a well-established literature base, these models have been underutilised in education and health settings (McNeill, 2009; Muriwai et al, 2015). For Māori, mauri ora and a secure cultural identity are two indicators of wellbeing for Māori that have been highlighted as essential to wellbeing (McLachlan, et al. 2021). These models possess the knowledge to the pillars of Māori health and provide culturally appropriate sociological understandings required to conceptualise health from a te ao Māori perspective. Therefore, these models were employed to assess the holistic approach of the instruments and the presence of hauora Māori element determined.

This approach meant it was necessary to identify hauora Māori elements within the tools analysed, it is acknowledged by this researcher that in doing so, a cultural checklist was applied and as a result, key Māori beliefs, values and experiences may have become 'de-Māorified'. This researcher needs to make clear that no disrespect was intended.

Section B: Is the tool adolescent focused?

Adolescence is a unique stage of physical, social, and emotional development. The settings and contexts in which adolescents spend most of their time are different to childhood and adulthood. Therefore, the language used in the questionnaire needs to be suitable and representative of this phase of life. In addition to language use, other aspects of adolescent life should be considered. As identified in the findings of Chapter 3, the capacity, or the potential to accommodate goal setting and tracking progress are also important aspects of the instrument that need to be considered.

Section C: Is the tool suitable for teachers to administer during class time?

Adolescents spend and have spent a large proportion of their lives in school. Teachers have a responsibility to support student health and wellbeing, notice if something is wrong and address the issue (Education Council, 2017). Having access to a suitable QoL or wellbeing measurement tool that fulfil the criteria in Section A and B will facilitate teachers to do this, however the tool needs to be efficient and effective and accessible to students of varying literacy levels. Therefore, in Section C the need for a short in-class time require is assessed along with the ability to track change.

For Sections B and C, the instrument was given a grade of 2 for yes, a 0 for no or a 1 if the instrument had the potential to be developed to measure that aspect. Each instrument was then given a score out of 22.

Figure 4.2 Criteria to assess the instruments identified in the eligible articles for measuring QoL or wellbeing in the NZ secondary school setting

Instrument name:			
Instrument construct (number of items, type of scale):			
Hauora Māori elements		Present	Not Present
Section A – Is the tool holistic?			
Te Wheke	Te whānau		
	Hinengaro		
	Taha tinana		
	Whanaungatanga		
	Wairuatanga		
	Mauri		
	Mana ake		
	Hā a koro ma, a kui ma		
	Whatumanawa		
Te Whare Tapa Whā	Taha tinana		
	Taha hinengaro		
	Taha whānau		
	Taha wairua		
	Whenua		

Fit for purpose		Yes (2pts)	No (0pts)	Has the potential to be adapted (1pt)
Section B – Is the tool adolescent focused?				
1a	Was the tool designed specifically for adolescents and their stage of development? If yes go to Q2			
1b	Was the tool adapted for use with adolescents but designed for another life stage?			
2	Is the tool designed for personal use (as opposed to third-party data collection)?			
3	Do the results of the measurement tool allow the user to set goals?			
4	Does the user have access to their data so that they are able to track progress?			
Section C – Is the tool suitable for teachers to administer during class time?				
5	Does the tool require minimal explanation for its use?			
6	Is the tool able to be administered in a short amount of time (under 10 minutes)?			
7	Can the teacher use the tool to track overall QoL or wellbeing changes amongst their class?			
Total				/14

4.6 Findings

4.6.1 Summaries of the eight eligible articles

Table 4.6 provides a summary of the eight eligible articles reviewed. For each study, the aim, method, outcomes, and limitations are provided.

4.6.2 A comparison of the eight eligible articles

The eligible studies reviewed employed wellbeing instruments to achieve different outcomes relating to adolescent wellbeing. Heizomi et al. (2015); Marcionetti and Rossier, (2021) and Singh et al. (2014) used the SWLS, BMSLSS and the FS instruments (alongside other instruments) to test the relationships between wellbeing and other variables. Câmara and Strelhow, (2018) used the BMSLSS and other instruments to investigate predictors of self-perceived health among school adolescents. Jovanović, (2016); Ye et al. (2014) and Zapulla et al. (2014) conducted studies to conduct validation studies on the SWLS, BMSLSS and the MSLSS instruments among adolescent populations. Strelhow et al. (2019) evaluated wellbeing in adolescence using the BMSLSS alongside other instruments.

Despite the search criteria for this review being self-administered instruments, there were no studies retrieved that utilised the instrument for participant self-reflection or awareness. Instead these studies used the data extracted from the instruments to inform the school or community policies (Câmara & Strelhow, 2018; Heizomi et al. 2015; Marcionetti & Rossier, 2021; Singh et al. 2014), determine causality (Heizomi et al. 2015;), validate instruments for use within the adolescent population (Jovanović, 2016; Ye et al. 2014; Zapulla et al. 2014) or to better understand predictors of adolescent health (Câmara & Strelhow, 2018; Heizomi et al. 2015; Marcionetti & Rossier, 2021; Singh et al. 2014).

The aims of each article, although different, sought to contribute to statistics in the field of adolescent wellbeing either through instrument validation, data collection or to inform policies. As opposed to the key purpose being an individual using the instrument to self-reflect or to become more self-aware and track changes in their own wellbeing for themselves.

Table 4.6 Summary table of the studies in the eight eligible articles

Article	Aim*	Method	Outcome	Limitations
Câmara, S. G., & Strelhow, M. R. W. (2019). Self-perceived health among school-aged adolescents: a school-based study in Southern Brazil. <i>Applied Research in Quality of Life</i> , 14(3), 603-615.	The aim of the study was to identify which aspects of QoL (body image, relationships with family and friends, rest and free time, school, wellbeing, and lifestyles) predicted self-perceived health amongst school adolescents in the southern Brazil.	The BMSLSS tool was used alongside other instruments: Health Behaviour in School Children; Happiness Overall Life; Positive and Negative Affect Scale; General Health Questionnaire, and Subscale of Cohesion of the Family Environment Scale. A multiple linear regression analysis was conducted to identify the predictors of perceived health.	Predictors of greater self-perceived health among school adolescents in southern Brazil included physical, behavioural, relational, and psychological aspects.	Final data was collected in 2013, which may not reflect health perceptions of adolescents nowadays. Results represent recall bias and are part of a cross-sectional design, making it impossible to determine the causality among evaluated variables.
Heizomi, H., Allahverdipour, H., Jafarabadi, M. A., & Safaian, A. (2015). Happiness and its relation to the psychological well-being of adolescents. <i>Asian Journal of Psychiatry</i> , 16, 55-60.	This study aimed to assess the happiness and psychological well-being status of Iranian high school students and to identify factors that affect mental health and happiness in this cohort.	Used the Persian version of the SWLS to measure life satisfaction in a cross-sectional study as part of a large-scale research project, conducted among high school students in Tabriz, Iran during 2013-2014.	Happiness and psychological wellbeing were moderately correlated ($r = 0.480$). Better mental health status was associated with good relationships and being socially active. Increasing happiness score was associated with better school performance	The possibility of recall bias is due to the self-reported data some being based on memory. The non-experimental design meant no causal conclusion could be made.
Jovanović, V. (2016). The validity of the Satisfaction with Life Scale in adolescents and a comparison with single-item life satisfaction measures: a preliminary study. <i>Quality of Life Research</i> , 25(12), 3173-3180.	This study had two aims: to assess the structural validity of the SWLS among Serbian adolescents, testing measurement invariance across genders and to compare the criterion and convergent validity of the SWLS and single-item life satisfaction measures among these adolescents.	Used the SWLS in three studies to (1) evaluate the structural validity of the SWLS and measure invariance across gender among adolescents aged 16-18 years. Studies (2) and (3) investigated the criterion and convergent validity between the SWLS, single-item life satisfaction, the Depression, Anxiety and Stress Scale and the Positive and Negative Affect Schedule among different cohorts of the same age group.	The use of the SWLS among Serbian adolescents was validated and the result indicated that single-item life satisfaction measures perform as well as the SWLS the adolescent sampled.	Samples consisted only of late adolescents aged 16-18 years from a single country (Serbia). Due to convenience sampling, it may not be possible to generalize findings to the Serbian adolescent population. Cross-sectional design did not allow for test-retest reliability of life satisfaction measures and to evaluate the longitudinal measurement invariance of the SWLS. Convergent validity was investigated by examining correlations with measures of mental health, well-being, and school success, excluding other important correlates of life satisfaction among adolescents.

<p>Marcionetti, J., & Rossier, J. (2021). A longitudinal study of relations among adolescents' self-esteem, general self-efficacy, career adaptability, and life satisfaction. <i>Journal of Career Development, 48</i>(4), 475-490.</p>	<p>This study aimed to investigate how self-esteem, general self-efficacy, and career adaptability (which include career concern, control, curiosity, and confidence) codevelop over time and their impact on life satisfaction.</p>	<p>Used the SWLS in addition three other scales to analyse how the interplay between self-esteem, general self-efficacy, and career adaptability, influences life satisfaction in Swiss adolescents during compulsory schooling.</p>	<p>Findings highlighted an interrelationship between career adaptability and general self-efficacy and self-esteem. In terms of life satisfaction, results highlighted a constant and unidirectional effect of self-esteem on life satisfaction, suggesting that to enhance the life satisfaction of adolescents', fostering situations in which they can improve or maintain adequate levels of self-esteem is important.</p>	<p>Further studies are required to answer pending questions such as investigating the relationships between career adaptability and self-efficacy on life satisfaction, and possible mediators of these relationships, or consider more career-related outcomes such as level of satisfaction with the selected training pathway. A larger sample of adolescents may permit more reliable multigroup analysis. A longitudinal study that followed adolescents over a longer time period would permit a deeper understanding of the relationships among the variables in the study. Additionally, the time lag used in this study may have been too short or too long to reveal evolving relationships. The adolescent population used in this study were from a specific region in Switzerland, which has a specific educational system, comparative longitudinal studies involving adolescents in different countries might be useful to assess the generalization of findings.</p>
<p>Singh, K., Ruch, W., & Junnarkar, M. (2015). Effect of the demographic variables and psychometric properties of the personal well-being index for school children in India. <i>Child Indicators Research, 8</i>(3), 571-585.</p>	<p>The main aim was to examine the psychometric properties of the Hindi translated version of the PWI-SC and to further validate the English version. The second and third aims were to explore the correlation of personal wellbeing with other related measures and explore the effects of various demographic categories such as age, gender, place of residence, and schooling had on PWI-SC.</p>	<p>BMSLSS in conjunction with the FS were used to establish psychometric properties and explore the correlation of personal wellbeing and other related measures for the PWI-SC</p>	<p>The study showed that the PWI-SC had good reliability and factorial validity in an Indian sample. Positive correlations with life satisfaction (BMSLSS) and flourishing scale (FS) were also found, establishing convergent validity. In the Northern Indian sample of adolescents surveyed, it was observed that adolescents who attended private schools possessed a higher level of wellbeing, reinforcing the advantages of private schools.</p>	<p>The study did not interrogate or examine other causes that may contribute to personal wellbeing, for example, family income, living conditions, access to resources or environmental factors. Other limitations of this study related to unsubstantiated contributions of demographic variables to wellbeing, it was noted that this was due to vast diversity amongst different states in India and the sample was a convenience sample.</p>

<p>Strelhow, M. R. W., Sarriera, J. C., & Casas, F. (2020). Evaluation of well-being in adolescence: Proposal of an integrative model with hedonic and eudemonic aspects. <i>Child Indicators Research</i>, 13(4), 1439-1452.</p>	<p>The aim of the study was to test three hypothetical models of wellbeing in Brazilian adolescents. They sought to assess the dimensional structures of wellbeing, with the hedonic (subjective) and eudemonic (psychological) wellbeing perspectives.</p>	<p>Used the BMSLSS in conjunction with the Psychological Wellbeing Scale and the Core Affects Scale as instruments. The dimensional structure of wellbeing was analysed with the AMOS statistical program and tested the hypothetical models of relationships between the hedonic and eudemonic perspectives using structural equation modelling.</p>	<p>The results showed that more complex, integrated models had a better fit and that this reflects the complexity of wellbeing and that it is dependent on many dimensions</p>	<p>One limitation of the study refers to the measure of Autonomy, which theoretically composes the Psychological Wellbeing, but its use was not possible in this study, since the subscale of the instrument did not obtain a good functioning with the adolescent sample. Another limitation is the convenience sample, which meant that only adolescents with access to the internet participated.</p>
<p>Ye, M., Li, L., Li, Y., Shen, R., Wen, S., & Zhang, J. (2014). Life satisfaction of adolescents in Hunan, China: Reliability and validity of Chinese brief multidimensional students' life satisfaction scale (BMSLSS). <i>Social Indicators Research</i>, 118(2), 515-522.</p>	<p>This studied aimed to assess the Chinese version of the Brief Multidimensional Students' Life Satisfaction Scale (BMSLSS) for reliability and validity.</p>	<p>Internal consistency reliability and test-retest reliability was determined</p>	<p>The Chinese version of the BMSLSS was found to be reliable and valid for Chinese adolescents. Gender differences existed for the domains of friends, school, and self and for overall life satisfaction.</p>	<p>The sample only included adolescents attending junior middle schools, which did not cover adolescents who are not enrolled in school. Reliability and validity of the BMSLSS and the MSLSS in the same survey were not compared, therefore the superiority of the BMSLSS to the MSLSS cannot be concluded, aside from having fewer items.</p>
<p>Zappulla, C., Pace, U., Lo Cascio, V., Guzzo, G., & Huebner, E. S. (2014). Factor structure and convergent validity of the long and abbreviated versions of the multidimensional students' life satisfaction scale in an Italian sample. <i>Social Indicators Research</i>, 118(1), 57-69.</p>	<p>This study aimed to examine the psychometric characteristics of the long and abbreviated versions of the MSLSS in an Italian context in two studies.</p>	<p>Factorial validity and reliability were assessed through confirmatory factor analysis in study 1 and the convergent validity of an abbreviated (30 item) Italian version was assessed in study 2 with a different cohort of adolescents by examining the associations between life satisfaction and well-established measures of adjustment. Additionally, the effect of gender and age on life satisfaction were explored.</p>	<p>Both the long and abbreviated versions of the MSLSS were found to be valid and reliable in the Italian context. The results showed an age effect with older having higher levels of satisfaction on most of the domains</p>	<p>All the information obtained was collected using self-report measures, further sources of information could be useful for this topic. All data was collected at a single point in time: further research could highlight the stability of results through the test-retest procedure.</p>

* QoL: Quality of Life, BMSLSS: Brief Multidimensional Students' Life Satisfaction Scale, MSLSS; Multidimensional Students' Life Satisfaction Scale, FS: The Flourishing Scale, PWI-SC: The Personal Well-being Index – School Children, SWLS: Satisfaction with Life Scale

4.6.3 General characteristics of the instruments identified

From the eight eligible articles, five instruments (Appendices G-K) were identified that meet the criteria outlined in Table 4.2 included:

- BMSLSS: 5 scored items
- MSLSS: 40 scored items
- FS: 8 scored items
- PWI-SC: 7 scored items
- SWLS: 5 scored items

Other instruments that were used in the studies but did not meet the instrument criteria outlined in Table 4.2 included:

- Core Affects Scale
- Depression, Anxiety and Stress Scale (DASS-21)
- Family Environment Scale (FES)
- General Health Questionnaire (GHQ-12),
- Happiness Overall Life
- Health Behaviour in School Children
- Positive and Negative Affect Scale
- Positive and Negative Affect Schedule (PANAS)
- Psychological Wellbeing Scale

In this section, the research about the general characteristics of each of the instruments that were identified within the eligible articles is presented.

Brief Multidimensional Students' Life Satisfaction Scale (BMSLSS)

The BMSLSS (Appendix G) is used to measure life satisfaction among children and adolescents and was developed by Seligson et al. (2003) for use with students aged 8-18. The scale comprises of one item that assesses satisfaction with life as a whole and five items that measure satisfaction in specific life domains: family life, friendship, school experience, self, and where the youth reside. The sum of the respondents' results provides a score of general satisfaction with life. A Likert scale is used to answer each item, ranging from terrible (0) to excellent (10). Originally, a 0.68 Cronbach's α was reported (Seligson et al., 2003). In Casas, Sarriera et al (2012) the 1-7 scale was changed to a 0-10 scale to make it more sensitive and the reported Cronbach's α was 0.74. The BMSLSS was devised in English (Seligson et al., 2003), and also has versions in Turkish (Siyez & Kaya, 2008), Indian (Hashim & Areepattamanni, 2017), Chinese (Tian et al., 2015; Ye et al., 2014).

Multidimensional Students' Life Satisfaction Scale (MSLSS)

The MSLSS (Appendix H) is a survey instrument designed to provide a holistic assessment of adolescent life satisfaction across five domains believed to be important in youth's lives. The MSLSS was originally developed by Huebner (1994) to provide a multidimensional profile of adolescents' life satisfaction. The scale is a self-report instrument consisting of 40 multiple-choice questions in a four or six-point Likert scale. The four-point Likert scale tool requires the user to self-report their answers to the questions ranging from 1 (never) to 4 (almost always). For the six-point Likert scale tool, the user rates their agreement level of each statement as 1 (strongly disagree), 2 (moderately disagree), 3 (slightly disagree), 4 (slightly agree), 5 (moderately agree), and 6 (strongly agree). There are 10 negatively worded items (4 items in the Living Environment domain and 3 items each in the Friends and School domains). Negatively worded items are reverse-keyed so that a higher score is indicative of higher levels of satisfaction with respect to the domain in question. The questions involve the user to make judgements for the following five domains: Family (7 questions), Friends (9 questions), Self (7 questions), Living Environment (9 questions), and School (8 questions). Scores for each domain are obtained by summing the individual items and dividing by the total number of items within the domain. Similarly, a general satisfaction score is calculated by summing all 40 item scores and dividing by 40.

The MSLSS was originally devised in English for the age group of 8 to 18 years old. A general assessment of QoL is calculated using the combination of all choices with each other. In addition to English, the scale has versions in Persian (Hatami et al., 2010) and was used in a study with a sample of Palestinian primary school children in a study by Veronese and Pepe (2020).

The Flourishing Scale (FS)

The FS (Appendix I) was developed by Diener et al. (2010) to measure flourishing. The scale is a brief summary measure of the respondent's self-perceived success in important areas for psychological flourishing including relationships, self-esteem, meaning and purpose, and optimism. The Likert scale utilizes a seven-point rating scale ranging from 1 (strongly disagree) to 7 (strongly agree). Scores range from 8 to 56. A high score on the scale indicates respondents have a positive self-image in important areas of functioning (Diener et al., 2010).

The FS was first introduced as the Psychological Flourishing Scale in a 12-item format (Diener & Biswas-Diener, 2008) but has since been refined to eight items. The scale is designed to

complement existing measures of wellbeing, acknowledging that the traditional method of measuring subjective via the Satisfaction with Life Scale (Diener et al., 1985) gave an incomplete depiction of wellbeing (Diener et al., 2010). The eight-item scale captures eudaimonic dimensions of wellbeing that Ryff (1989) and Ryan and Deci (2001) suggest are important for positive functioning, such as competence, self-acceptance, meaning and relatedness, as well as optimism, giving, and engagement, which studies have shown to contribute to wellbeing (Brown et al., 2003; Seligman, 2006).

The FS was devised in English and has been used in studies with adolescent samples in India (Singh et al., 2016), Chinese (Tong & Wang, 2017), Canadian (Romano et al., 2020), Portuguese (Silva & Caetano, 2013), and Greek (Kyriazos et al., 2018).

The Personal Wellbeing Index – School Children (PWI-SC)

The PWI-SC (Appendix J) was developed by Cummins and Lau (2005) and is designed for use with school-age children and adolescents (12-18 years old). This scale differs from the original PWI-A, (which was designed for adult use) as some language features have been altered to suit the cognitive abilities of children and adolescents. The PWI-SC includes seven items of satisfaction each of which concern a domain of QoL, plus an extra question that assess QoL in general. The questions are scored on a Likert Scale ranging from 0 to 10. The instrument has been translated into and validated in different languages, and acceptable psychometric properties were reported in various cross-cultural studies involving Chinese and Australian adolescents (Lau et al, 2005; Rato & Davey, 2012; Tomy & Cummins, 2011).

Satisfaction with Life Scale (SWLS)

The SWLS (Appendix K) was originally developed by Diener et al. (1985) to measure global life satisfaction. The SWLS contains five items to be answered according to a 7-point Likert scale (1=Strongly Disagree, 2=Disagree, 3=Slightly Disagree, 4=Neither Agree nor Disagree, 5=Slightly Agree, 6=Agree, 7=Strongly Agree). The scores on the SWLS range from a low of 5 to a high of 35, with higher scores representing higher satisfaction with life. Unlike the other tools, the SWLS tool is not designed to help people to understand satisfaction in any one specific domain of life but much rather satisfaction with overall life, making it difficult for a person to identify individual problem areas. The SWLS was devised in English (Diener et al., 1985) and also has versions in, Arab (Abdallah, 1998), Brazilian (Gouveia et al., 2009; Zanon et al., 2014), Chilean (Vera-Villaruel et al., 2012), Chinese (Bai et al., 2011), Dutch (Arrindell et al., 1999), German (Glaesmer et al., 2011), Malay (Swami & Chamorro-Premuzic, 2009) and Swedish (Hultell & Gustavsson, 2008).

4.6.4 Instruments for measuring QoL or wellbeing in the NZ secondary school setting

The results from the assessment using the criteria in Figure 4.2 are shown in Table 4.7. While all the tools did not have many (less than four) of the eight elements of Te Wheke, most were somewhat holistic when using Te Whare Tapa Whā, with one fulfilling all of the four criteria. Of the instruments assessed both the BMSLSS and PWI-SC have the potential for use in the NZ secondary school setting.

Table 4.7 Assessment of instruments for measuring QoL or wellbeing in the NZ secondary school setting

Section	Model*	Domain	SWLS	MSLSS	BMSLSS	FS	PWI-SC
A	Te Wheke	Tinana	x	x	x		x
		Hinengaro	x	x	x	x	x
		Whanaungatanga		x	x	x	x
		Wairuatanga	x			x	x
		Mauri					
		Mana ake					
		Hā a koro ma, a kui ma					
		Whatumanawa					
		Totals		3/8	3/8	3/8	3/8
	Te Whare Tapa Whā	Taha tinana	x	x	x		x
		Taha hinengaro	x	x	x	x	x
		Taha whānau		x	x	x	x
		Taha wairua	x			x	x
		Whenua					
Totals			3/4	3/4	3/4	3/4	4/4
Is the tool holistic?			no	somewhat	somewhat	somewhat	yes
B	Is the tool adolescent focused?	1a	0	2	2	0	2
		1b	0	-	-	0	-
		2	1	1	1	1	1
		3	1	1	1	1	1
		4	1	1	1	1	1
C	Is the tool suitable for teacher use?	5	0	0	2	1	2
		6	2	0	2	1	0
		7	1	1	1	1	1
Fit for purpose score			6/14	6/14	10/14	6/14	8/14

* Those domains coloured the same in Section A encompass similar or the same aspects of wellbeing.

4.7 Discussion

The purpose of this study was to identify and systematically retrieve articles containing instruments that collect self-reported measures of QoL and wellbeing for an adolescent population and to determine whether the eligible instruments can be used by rangatahi and administered by teachers in the NZ secondary school context. A comprehensive, systematic search strategy retrieved eight studies that used five different holistic measurement tools that met the inclusion criteria for assessment to determine the practicality and suitability of these instruments for the NZ secondary school setting. Of the instruments identified, the findings suggest that the BMSLSS (Seligson, et al. 2003) and PWI-SC (Singh, et al., 2015) would be the most appropriate instrument for teachers to administer in their NZ classrooms. However, for these instruments to be better suited for rangatahi self-reflection, goal setting and progress tracking, the data from the instrument would need to be collected, collated, and stored over time. This could be done through data collection platforms, such as Google Forms, Survey Monkey, and Power BI however for both access to individual data and collective data a web-based or mobile application may be more appropriate.

Although the instruments identified have been validated in a range of ways (see, for example, Diener et al., 2010; Huebner, 1994, 1998; Seligson et al., 2003; Tomyn & Cummins, 2011), there have been no studies conducted that validate the instruments with Indigenous populations, specifically rangatahi Māori. Rangatahi Māori are unique and continue to face the ongoing impacts of colonisation, racism, and inequality (Berryman, Eley, & Copeland, 2017; Kearns et al., 2009; Reid et al., 2014). In addition, the questions asked may not align well with Māori values such as humility (whakaiti) which is considered characteristic of a strong leader (Roche, 2019; Tapiata et al., 2020). The type of statements in some instruments, such as those in the MSLSS, required that “humility and self-effacement be cast aside to answer them” (Harvey et al., 2021, p. 14). In the MSLSS, for statements related to self (for example, I think I am good looking; I am fun to be around; I am a nice person; most people like me; there are lots of things I can do well; I like myself), a humble person might rate themselves lower, negatively influencing their overall wellbeing score.

From a Māori perspective, it would be appropriate to include rangatahi Māori in the co-design of an adapted or new instrument to align with the tikanga of Kaupapa Māori (Durie, 1996; Mead, 1996; Smith, 1995; Tuhiwai Smith, 1999). There is a need for rangatahi Māori wellbeing indicators to be more culturally responsive (Durie, 2006; Expert Advisory Group on Solutions to Child Poverty, 2016). As evidence from this research existing measurement tools

do not capture the holistic essence of Hauora Māori as represented in Te Wheke. Furthermore, Kaupapa Māori health perspectives conceptualise health and wellbeing from a Māori worldview, providing the “necessary framework within which a semblance of ownership over health can be entertained” (Durie, 1998, p. 73). Erroneous reflections may be reported if rangatahi record their wellbeing status using a Western quantitative reporting measure. This is because Māori constructs are not able to be wholly represented within Western wellbeing models. It is simply impossible and somewhat insulting, to convert many of the Māori health principles into the English language. Translating, for example, “wairua” to “spirituality”, might allow for conceptual assimilation, however, such concepts are not entirely translatable into Western frameworks. This is particularly true for wairua, because wairua pervades all things for Māori, both living and inanimate (Rolleston et al., 2020).

4.7.1 Alignment with Hauora Māori elements

Wellbeing is a personal experience that encompasses both intrinsic and extrinsic aspects. For Māori, wellbeing is closely linked with aspects pertaining to the whenua and culture (Durie & Kingi, 1997; Love, 2004). For rangatahi, connectedness and belonging are important contributors to wellbeing given their unique stage of development (Greaves et al. 2021). This research has highlighted that it is challenging to align Hauora Māori dimensions with western measures of wellbeing theory and practice. For Māori, and other indigenous peoples, health and wellbeing are holistic and should recognise the interconnections between all things seen and unseen (Harmsworth & Awatere, 2013). In te ao Māori, to separate mental and emotional health from physical health and social functioning is untenable and introduces an unnatural divide (Durie & Kingi, 1997; Love, 2004). In addition, fundamental to the wellbeing of the individual is that it is inseparable from the health of the whānau; the health of the whānau is inseparable from that of the hapū, and the health and wellbeing of the hapū is indivisible from that of the iwi (Love, 2004).

Indigenous methodologies make what is meaningful and logical in indigenous peoples’ knowledge of themselves and the world visible (Porsanger, 2011). These approaches include the use of a variety of methods (including Western), but the focus is on interrogating and adapting these methods to meet the needs of indigenous participants and communities in terms of cultural sensitivity, cross-cultural reliability, outcome utility, and other measures (Rigney, 1999; Moreton-Robinson & Walter, 2006). In order to measure Māori wellbeing, it is important to understand Māori wellbeing from the perspective of Māori, in terms of their traditional and cultural beliefs (Durie, 1998; 1999). Part of this study sought to determine

the extent to which the BMSLSS, MSLSS, SWLS, PWI-SC and the FS instruments encompassed hauora Māori elements. Of note, five hauora Māori elements integral to in either Te wheke and or Te Whare Tapa Whā were not evident in these instruments any capacity, namely: Mauri; Hā a koro ma, a kui ma; mana ake; Whatumanawa, and Whenua). These elements are interconnected, and work in collaboration with, all the other aspects of wellbeing to support hauora and contribute to the waiora of a person (Durie, 1998; Pere, 1984, Pere, 1997; McNeill, 2009). Discussion of these six elements and why Western frameworks are insufficient in capturing their follows.

Mauri

Mauri Tū, Mauri Ora

Stand together in life and wellness

The above whakataukī reflects the importance of mauri to the wellbeing of both the individual and the collective. Everything has mauri and everything is considered to have the same divine right to exist (Love & Pere, 2004). According to Barlow and Wineti (1991), every living entity, including plants, animals, and people has an existence. For Māori, this existence is referred to as mauri and for humans this is considered by Durie (2017 p. 61) to be “the inner human force that shapes the spirit, balances the mind, contextualises the body and is reflected in the ways individuals are perceived by themselves and others”. Mauri is important for health, wellness, the acquisition of knowledge, whānau success, and effective leadership. While human mauri is always present, it is fluid and ever-changing. Mauri is the essence of a person’s character and being, and it lends a degree of uniqueness that makes up the whole person (Barlow & Wineti, 1991; Durie; 2001, 2017). It is also believed that mauri is the binding force between the physical and the spiritual (Durie, 1998). Mauri is a concept that permeates all Māori thinking and is a significant component of Mauri ora (complete wellbeing or flourishing). Mauri ora can be reached through balancing hauora (health and wellbeing) by maintaining a robust taha wairua (spiritual wellbeing - being optimistic, having vitality and energy and/or engaging in one’s culture), taha hinengaro (mental and emotional wellbeing - being mindful and having control over one’s emotions, and/or positive thinking), taha tinana (physical wellbeing - regularly exercising and consuming nourishing kai), and taha whānau (family wellbeing - having rewarding relationships, and a readiness to engage with others)(Durie 2004). In his later work, Durie (2004) examines Māori and indigenous health promotion in which, drawing on the work of Mihi Ratima (2001), situates mauri ora as an integral element stating that:

It is now accepted that good health depends on many factors, but among indigenous peoples the world over, cultural identity is considered to be a critical prerequisite; deculturation has been associated with poor health whereas acculturation has been linked to good health. A health promotional goal must therefore be to promote security of identity. (p. 10).

For humans, it is difficult to measure mauri directly, however, monitoring overall wellbeing over time could identify clues to when mauri is languishing (mauri noho). Given that suicide is a growing epidemic that is most prominent in Indigenous groups worldwide, including in NZ, it is vital that mauri is monitored and that rangatahi are given adequate support to promote and build their mauri ora because according to Durie (2017, p. 61) “suicide almost always reflects a weakened mauri with a loss of spirit and a loss of the will to live”. Thus, monitoring the mauri of rangatahi in NZ is important so that appropriate interventions can be instigated.

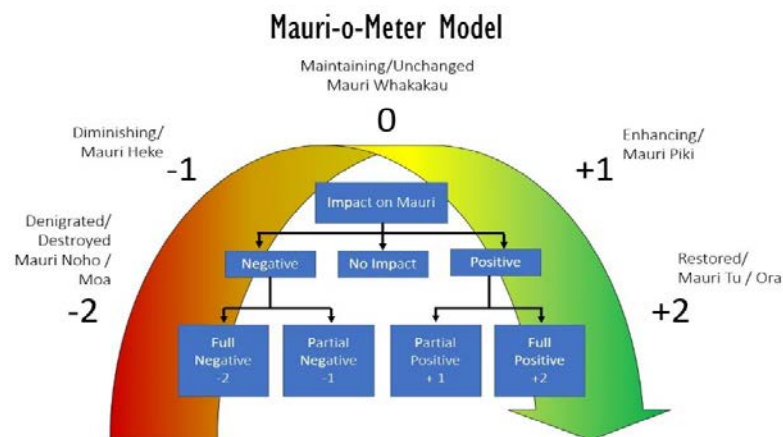
The compulsory school context provides an ideal; setting for monitoring mauri due to its the significant amount of time rangatahi spend there. Schools can promote mauri ora or wellbeing within a Māori worldview through the application of cultural beliefs and practices, including whakapapa (genealogy), tikanga (protocols), wairua (spirituality), tapu (sacredness) and mana (intrinsic dignity) (Moeke-Maxwell et al., 2014; O’Hagan et al., 2012). Activities that include social cohesion, reflecting, learning, sharing, and talking about iwi (tribe/s), hapū (subtribe/s) and its history; pūrākau (stories), immersion in whakapapa (genealogy), and re-visiting significant landmarks are ways that schools can enhance mauri ora for rangatahi (Love, 2004; Mark & Lyons, 2010; Pohatu, 2011).

It could be inferred that all the QoL and wellbeing instruments evaluated in this study in fact, measured the ‘mauri spectrum’ from mauri ora (complete wellbeing or flourishing) to mauri noho (languishing mauri – poor wellbeing). However, the essence of mauri cannot truly be measured within a Western framework which is evident from the absence of some of hauora Māori elements in the instruments. The PWI-SC came the closest to measuring mauri ora, but only once all statements had been rated. A high score in the PWI-SC represents a person with many psychological resources and strengths, which could infer mauri ora and a low score could likely represent mauri noho.

Although research into the measurement of mauri is limited, tracking changes in other areas of wellbeing could be helpful to protect mauri ora from becoming weakened, enabling the individual to implement strategies or seek help. Love (2004) states that people can gain sustenance from the mauri of other people and things, which is why being with an appropriate person (eg kaumatua or counsellor) or with supportive people (eg whānau or in group therapy) or at an appropriate place, in particular, a place of cultural significance such as a marae, awa (river), moana (sea), or maunga (mountain) can be healing. Durie (2017) states that noticing a range of changes in energy levels, emotional distress, optimism or pessimism, physical appearance, physical wellbeing, and relationships is the key to identifying a weakened mauri ora, thus all these elements would need to be in an instrument designed for rangatahi.

Measuring Mauri is not a new concept and has been used in environmental projects for over a decade. An example of an application of this was in a study conducted by Fa’au and Morgan (2014) when he used the Mauri-o-Meter (Figure 4.3) to measure the impact to the environment caused by the grounding of the MV Rena in 2011. Mauri is the central concept used in the Mauri Model to identify tangata whenua perceptions. The Mauri-o-Meter (Morgan, 2008) assessment is software that evaluates projects from a holistic point of view considering four equally weighted mauri dimensions: environmental, cultural, social, and economic wellbeing. The software weighs each indicator (which is customised by the user) to produce an overall project rating, but users can change the weighting scheme (mauriometer.org). A similar approach could potentially be adapted to measure the mauri of rangatahi.

Figure 4.3 Mauri-o-Meter Scale. (Source: Galoustian, 2013)



He tina ki runga, he tāmōre ki raro

The growth above is strong when the roots below are secure

The whakataukī that introduces this section highlights that those with a strong grounding in their own culture will find satisfaction in life. This concept is also evident in the hauora Māori element from the Te Wheke model of health – ‘Hā a koro mā, a kui mā’, which refers to cultural legacy, and specifies the inheritance of the Māori cultural past from the ancestors (McNeill, 2009). Described by Pere (1997) as the practices and beliefs of Māori ancestors, the phrase ‘Hā a koro mā, a kui mā’ is used to refer to inherited strengths – literally ‘the breath of life that comes from our ancestors’ but interpreted to mean that good health is closely linked to a positive awareness of one’s ancestors and cultural identity. Learning, experiencing, and revisiting aspects of a person’s heritage, and te reo Māori would be an example of this. This is another element of te ao Māori that is not measured in the tools analysed. Inherent to this concept is the idea that ‘Hā a koro mā, a kui mā’ is sustained through “learning about, experiencing and revisiting aspects of one’s heritage” (Love, 2004, p.77). This observation was also noted in a study by Bennett et al (2014) who adapted a cognitive behavioural therapy (CBT) treatment programme for Māori living with depression that incorporated traditional techniques of engagement, spirituality, family involvement, and metaphor. The programme resulted in a reduction in mean scores for depressive symptoms and negative cognition were observed (Bennett et al., 2014). Because there was no control group in this study, it should not be inferred that this programme is any better or worse than mainstream treatment, although it did positively affect participants. More research is needed to determine if and how culturally tailored programmes based on traditional practices is beneficial to hauora Māori.

In the classroom setting, teachers could provide sustenance from ‘Hā a koro mā, a kui mā’b into their teaching pedagogy through utilising pūrākau (stories) into their lessons or pulling resources from the cultural background that each child brings with them to class. Given the interconnectedness of each of the elements that contribute to hauora Maori, it could also be argued that by addressing these particular dimensions of a person’s health needs, other dimensions are also being addressed in particular, Wairuatanga thereby strengthening mauri. Evidence is growing to support the belief that kinship-based relationships and cultural identity factors are protective for Māori wellbeing (Crengle et al., 2013; Lawson-Te Aho & Liu, 2010; Williams et al., 2018).

Mana ake

E kore au e ngaro He kākano I ruia mai I Rangīātea

I will never be lost for I am the seed that has been scattered from Rangīātea

This whakataukī is a reminder to Māori of our historical, cultural, and spiritual links to the past, affirming that, no matter what happens, our identity as a people will remain strong because we know who we are and where we are from. According to Pere (1991), mana ake refers to the unique qualities of each individual and family to create a positive identity (Pere, 1991). Pertaining to an individual's uniqueness, their mana ake is comprised of genetic inherited traits, in addition to cultural shaping. Mana is particularly vulnerable during adolescence; adolescence is an important time for identity development (Erikson, 1968), and rangatahi Māori may experience difficulties in forming a cohesive identity due to at least two competing ways of navigating and understanding the world (Māori and Pākehā) and to the common negative portrayal of being Māori (Fox et al., 2018). Furthermore, Marsden and Royal (2003) along with Mead (2016), highlight that the suppression of Māori language and culture through colonisation has resulted in the reduction of the intergenerational transmission of cultural beliefs and practices. Haenga-Collins and Gibbs, (2015) and Webber, (2015) state that this has caused Māori to believe and internalise Pākehā perceptions of what it means to be Māori.

Arguably, mana ake was the element least represented in the instruments reviewed. This was unexpected because identity is beneficial in promoting adolescent wellbeing so being aware of factors that contribute to identity formation is an essential element to measure (Rata, 2012, 2015; Webber, 2012; Webber et al., 2020). Both Hā a koro mā, a kui mā and Mana Ake speak to cultural identity being paramount to health and wellbeing and therefore this should be captured by any QoL or wellbeing instrument designed for use with rangatahi in NZ.

Whatumanawa

He oranga ngākau, he pikinga waiora

Positive feelings within you enhances wellbeing

This whakataukī emphasises the power of feeling positive for supporting our emotional, spiritual, physical, psychological and whānau wellbeing. Whatumanawa recognises that individuals maintain their emotional wellbeing by experiencing and constructively expressing their emotions, typically through creative means such as dance and song (Love, 2004; Thorp,

2011). Emotional wellbeing as a general concept was measured in each of the instruments analysed, however, from a te ao Māori perspective, the extent to which whatumanawa (the eye of the emotional heart) was captured was deficient and reference to the source of the emotions and how emotions are expressed within a cultural context was lacking. Incorporation of these should be considered when designing a QoL or wellbeing instrument for use in NZ secondary schools.

Whenua

Hokia ki ō maunga kia purea ai koe e ngā hau a Tāwhirimātea

Return to your mountains so that you can be cleansed by the winds of Tāwhirimātea

The intimate connections we have to the land and its importance to our wellbeing are recognised in this whakataukī. In Māori culture, tūrangawaewae, or a place of belonging where one can stand or put one's feet is critical to one's their identity and tūrangawaewae is therefore extremely essential for Māori and provides the foundation for hauora (Groot, et al. 2010; Mead, 2003). Rangatahi who feel a strong connection to their culture are less likely to report feeling isolated (Russell, 2018). None of the instruments analysed measured the extent to which rangatahi felt connected to the land and how that related to their identity, culture, and language, however, these could loosely be encompassed in the living environment questions. However, these questions could also easily be interpreted to measure 'materialistic' possessions when referring to 'living environment', 'standard of living' or 'life satisfaction'. For example, the MSLSS measures living environment in the statements "I like where I live", "I like my neighbourhood", "I like my neighbours", "my family's house is nice", "there are lots of fun things to do where I live" (Appendix H). The BMSLSS includes a statement that refers to the satisfaction one has with their family life and where they live; "satisfaction with my family life", and "satisfaction with where I live" (Appendix G). While the PWI-SC, SWLS and the FS make no specific reference to culture, language, or land, they do include a statement in each that could be interpreted to represent whenua. The first statement in the PWI-SC is "How happy are you with your life as a whole" (Appendix J), which is optional. The instrument also includes a statement that refers to the 'standard of living' domain, which asks the individual to rate how happy they are about the things they have, including examples about the money they have and the things they own. The SWLS, for example includes "In most ways, my life is close to my ideal" and "The conditions of my life are excellent" (Appendix K). The FS includes one statement; "I lead a purposeful and meaningful life" (Appendix I). Explicit assessment of how connected one feels

to the whenua would be a useful dimension in any indigenous wellbeing instrument for use in NZ.

4.7.2 Other instruments and relevant models of health

Article inclusion and exclusion criteria, while necessary, meant that some tools were not captured by search criteria. Examples of these tools include the Youth19 questionnaire, the Positive and Negative Affect Schedule (PANAS), the Positive and Negative Affect Schedule for Children (PANAS-C), the Scale of Positive and Negative Experience (SPANE), The Meke Meter™ and the Whiti te Rā model of health and identity. Each of these will be discussed below.

Youth19 questionnaire

The Youth19 questionnaire comprises of 285 questions across 11 key areas: ethnicity and culture; home life; identity; school; health; emotions; injury and violence; sport, work, and online time; sex and sexuality; addictive behaviours; and neighbourhood and spirituality (Fleming et al. 2020a). Many of the questions in this survey were based on questions from previous surveys administered in 2001, 2007 and 2012 and utilised items from other validated measures including the Short Form of the Reynolds Adolescent Depression Scale and the WHO's wellbeing index WHO-5 (Fleming et al. 2020a). It is a tool that is used to collect data every five to seven years and the data contributes to a wide variety of studies conducted on adolescents in NZ (Fleming et al. 2020a). The Youth19 questionnaire is comprehensive and takes a long time to complete. It is for these reason that the Youth19 questionnaire would not be suitable as an instrument to administer in a secondary school classroom setting to promote self-awareness of wellbeing and to track and monitor progress.

PANAS/PANAS-C

The PANAS, and the PANAS-C, in addition to the SPANE, were three instruments that were identified in the articles screened for the review but were excluded due to not meeting the inclusion and exclusion criteria. The PANAS and the PANAS-C, are self-reported adjective checklists designed to measure positive (PA) and negative (NA) affect. They each differ slightly in that the PANAS-C was developed from the PANAS and allows more accurate measurements in children and adolescents (Laurent et al., 1999). Both instruments consist of mood adjectives that describe various affective states (Laurent et al. 1999; Watson et al. 1988). Young people rate the extent to which they experienced each feeling over the past two weeks using a 5-point Likert-type scale ranging from 'very slightly or not at all' to 'extremely'. A disadvantage to using this instrument in the school setting is that the tool only

assesses positive and negative emotions and does not assess the triggers for these emotions as it is designed to show the relationship between positive and negative affect as an individual engages in their everyday life (Magyar-Moe, 2009).

SPANE

The SPANE instrument was designed to assess subjective feelings of wellbeing and ill-being (Diener et al. 2010). The SPANE differs from the PANAS versions in that it reflects the full range of emotions that a respondent might feel, both bad and good, without inquiring about specific feelings (Jovanović, 2015). Thus, capturing positive and negative feelings regardless of their provenance, arousal level, or ubiquity in western cultures where most scales have been created (Diener et al., 2010). Furthermore, the SPANE requires the individual to reflect on feelings experienced over the past four weeks. Thus, encouraging respondents to focus less on the feelings they are experiencing at the time of the evaluation and more on sentiments connected to their self-concept concerning their regular emotional state.

Memory bias could contribute to inaccuracies particularly for those who have depression. Mathews and MacLeod, (2005) state that there is strong evidence for biased memory processes in depression. Memory for past emotions is susceptible to bias, and studies have shown that depression may exacerbate this bias (Gaddy & Ingram, 2014; Mathews & MacLeod, 1994, 2005; Matt et al. 1992). Requiring the adolescent to recall emotions and feelings from up to four weeks prior, could inaccurately represent their wellbeing state, particularly if an adolescent is more pessimistically or optimistically orientated in their views.

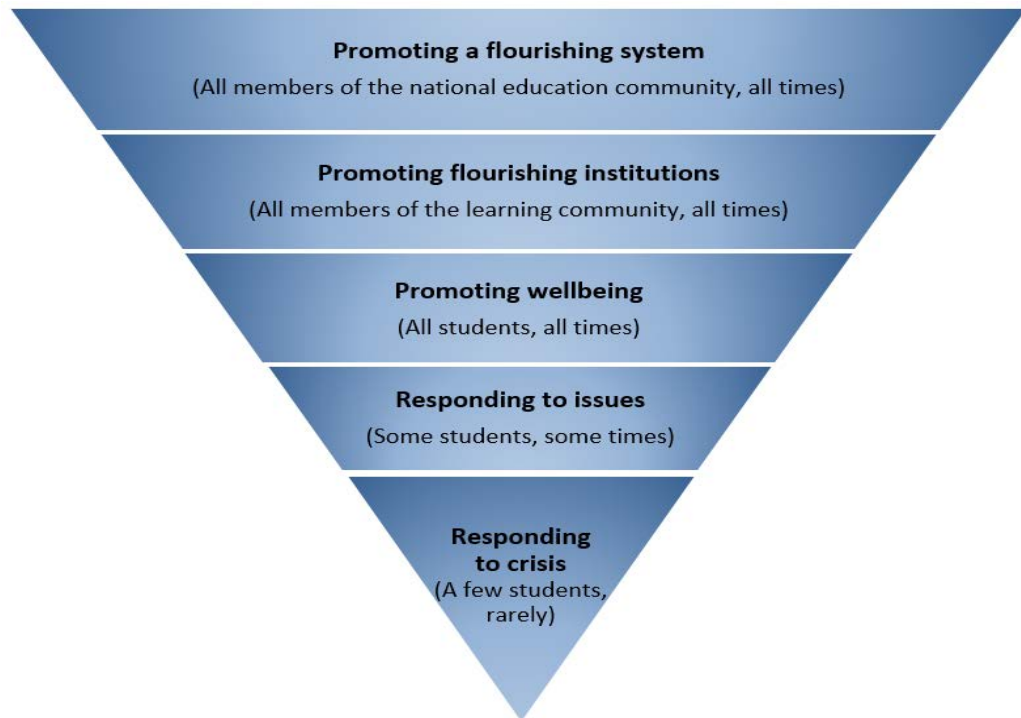
The Meke Meter™

The Meke Meter™ was not identified in this systematic review as part of the criteria was the secondary school setting and, previous to the research reported in this thesis, the Meke Meter™ has only been used in the fitness (Forrest et al. 2016b), healthcare (Harvey et al., 2019) and tertiary classroom (Forrest et al., 2019) settings. The Meke Meter™ is an indigenous, image-based, holistic self-reflection tool that has minimal text, designed to capture an individual's perception of their wellbeing (Forrest et al. 2016b). The instrument measures social, mental, and physical wellness across a range of activities using a scale of 1 (very poor) to 10 (very well). The Meke Meter™ aligns with Kaupapa Māori theory where self-determination and culturally acceptable care is important (Forrest et al., 2016a; Jackson, 2015). If assessed using the same criteria as the eligible instruments in this study, the Meke Meter captures aspects of Mana ake, Hā a koru, a kui ma and Whatumanawa with the subsection of Cultural Identity, Self Esteem, Happiness, Motivation, and Family and Friends,

therefore, does better than the other instrument that were evaluated from a te ao Maori perspective which is not surprising given the Meke Meter™ was made by Māori for Māori, however it was developed with adults and therefore would benefit by being co-designed with rangatahi.

As a framework, the Meke Meter™ has potential in the classroom setting for a kaiako to administer to their ākonga for them to use to track their wellbeing and set goals relating to building on their strengths and improving various aspects of their wellbeing. It can be administered easily with minimal instruction, and it can be completed in less than 10-minutes requiring minimal literary skills. Digitising a co-designed rangatahi-focused version of the tool would reduce the administration time and allow progress to be tracked and the setting of specific, measurable, attainable, realistic, and time-bound (SMART) goals (MacLeod, 2012). A mobile app would allow for innovation through notifications, suggestions, or links to appropriate support people, agencies, or resources. However, this researcher believes that education policy and curricula would need to be reframed and restructured with collective wellbeing at the core. This view is consistent with that of Higgins and Goodall (2021, p. 1) who state that “... that current education policy does not interpret wellbeing as relational, complex, or contextual.” Higgins and Goodall (2021) highlight that understanding the holistic, multidimensional, and complex nature of wellbeing is pivotal to generating a strengths-based policy to promote wellbeing in the education setting. Figure 4.4 views wellbeing as a transformation tool “in which wellbeing is relevant to all members of the learning community at all times, which includes but is not limited to teachers, leaders, whānau (family), iwi, institutions, and their wider communities” (Higgins & Goodall, 2021, p. 9).

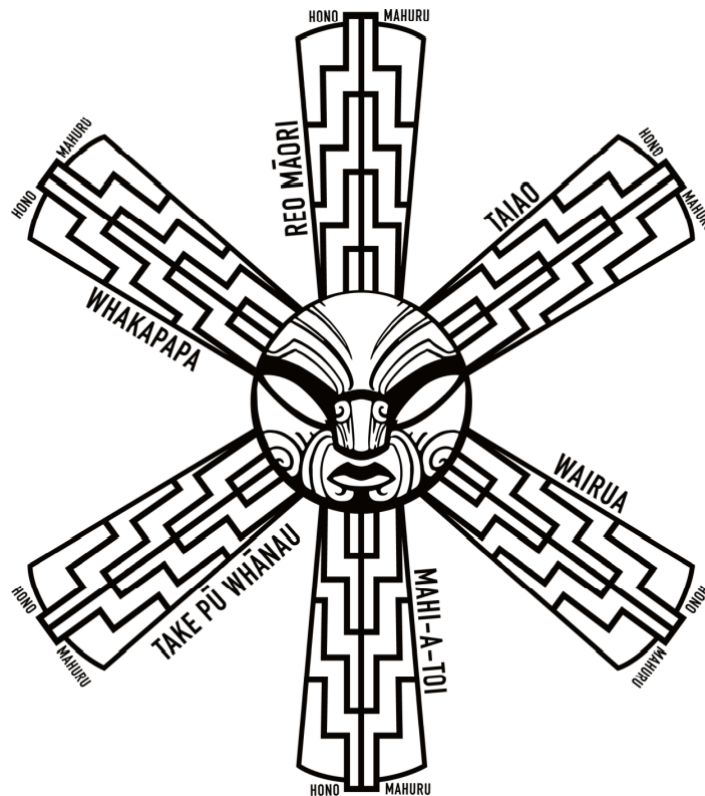
Figure 4.4 The transformational triangle. (Adapted from: Higgins & Goodall, 2021)



The Whiti Te Rā model

The Whiti Te Rā model (Figure 4.5) intrinsically links Māori cultural identity to health and wellbeing outcomes (McLachlan et al., 2021). McLachlan et al. (2021) developed the model in response to what they believed was a lack of deep understanding of Māori cultural concepts in Māori health models and treatment modalities, with current frameworks inadequately capturing the complex interactions of Māori wellbeing and identity. McLachlan et al. (2021) believes that the Whiti Te Rā model is an optimal framework for analysing mātauranga Māori (Māori knowledge) in health by positioning identity and health as being synonymous with one another. According to the framework, strengthening an individual's cultural identity, will also strengthen the pathway to optimal health and wellbeing.

Figure 4.5 The Whiti Te Rā Model
(Source: McLachlan et al., 2021)



The Whiti Te Rā incorporates six Māori cultural concepts to highlight activities that individuals and families could use to shift from a state of kahupō (to be in darkness/dimness) or mauri moe (to be unconscious), to mauri oho (come alive, awaken), and mauri ora (complete health and wellbeing) (McLachlan et al., 2021). Wellbeing is represented as Tamanuiterā (the sun) and contains six hihi (sunbeams) that depict the six key cultural ara (pathways), termed ngā āhutanga or dimensions of the Māori identity, namely: Ngā ara whakapapa (intergenerational relationships), Ngā ara wairua (Māori spiritual beliefs and practices), Ngā ara mahi-a-toi (Māori expressive art forms), Ngā ara reo Māori (Māori language), Nga ara te taiao (Connection with the environment), Ngā ara take pū whānau (Māori relational values) (McLachlan et al., 2021). Each hihi of identity burns brighter or is strengthened through the increase in mahuru (knowledge and comfort) and hono (active engagement) of that specific ara and the strengthening of each ara leads to the strengthening of the wellbeing of the person (McLachlan et al., 2021).

As with the Meke Meter™, the Whiti Te Rā model has potential in the classroom setting with refinement. However, Whiti Te Rā is yet to be utilised in practice and was designed to be

used by practitioners with their clients. However, the six dimensions are useful in planning and evaluating the inclusion of Māori pathways leading to wellbeing within many settings, including the educational setting.

4.7.3 Ethical responsibilities

For most people, especially adolescents and children, thinking about QoL and wellbeing is a personal issue. Evidence suggests that completing surveys or questionnaires can cause distress and or harm to the respondent (Labott et al., 2014). Research surveys that identify health and wellbeing needs yet provide little or no support to respondents could therefore be viewed as unethical, likewise, the classroom administration of instruments that assess QoL or wellbeing with the appropriate resource to address any issues raises could also be deemed unethical. Forrest et al., (2019) studied the use of an indigenous self-reflection tool called the Meke Meter to capture tertiary students' perception of their wellbeing and noted the importance "...to develop, or link to, appropriate resources for each item of the Meke Meter that educate users or connect them to relevant services in their local community thus facilitating a more holistic approach to their learning journey." (p. 342) and suggested that the development of an app would enable users to be connected with real-time support. If a wellbeing instrument is to be embedded into secondary school classroom practice nationally, it will be important to clearly define where responsibilities lie. For example, whose responsibility should it be to ensure the appropriate resources are available for school staff and students, along with the wider school community? The Government or individual schools? In addition, who would oversee those responsibilities are meet and that no harm comes to students, teachers, or the wider school community as a results of greater wellbeing awareness? There is an ethical and moral responsibility for these questions to be addressed before embedding the regular, routine assessment of wellbeing into the school curricula.

4.8 Summary

The systematic literature review used in this study provided a valuable framework to examine, synthesise, and analyse extant adolescent QoL and wellbeing instruments and test their suitability for use in secondary schools. This review accessed eight primary, peer-reviewed research studies about QoL or wellbeing tools that assess the wellbeing status of adolescents in a positive way (i.e. the tools were not focused on recording negative wellbeing outcomes). These studies employed five wellbeing instruments that meet the criteria for

assessment of their suitability for use in the NZ secondary school setting. All of the instruments were of international origin, and none had been validated with NZ adolescents. Once identified, the tools were assessed to find out how aligned they were to two popular Māori health models and to see if they were suitable for use by rangatahi in the NZ secondary school setting. This assessment, not surprisingly, revealed that the instruments identified were insufficiently aligned to Māori understandings of wellbeing and in addition, most were unsuitable for teachers to administer during class time and nor were they fit for purpose for rangatahi, in particular rangatahi Māori. To be suitable for measuring the wellbeing of rangatahi Māori, measures need to match the diverse and deeply intricate cultural needs of Māori and understand the complex interactions that occur within te ao Māori. While the capacity of Māori wellbeing research has increased, it is evident that Western measurement instruments are inadequate in their ability to capture the inter-relationships between Māori cultural concepts and pathways towards wellbeing that, at their core, privilege Māori cultural worldviews. Thus, there is scope for an adolescent-specific wellbeing tool to be co-design with rangatahi for them to use to evaluate aspects that contribute to their wellbeing, set goals and track progress, with a focus on thriving and flourishing.

Chapter 5

General Discussion and Conclusions

Mā te rongō, ka mōhio.	<i>Through perception, comes awareness.</i>
Mā te mōhio, ka mārama.	<i>Through awareness, comes understanding.</i>
Mā te mārama, ka mātau.	<i>Through understanding, comes wisdom.</i>
Mā te mātau, ka ora.	<i>Through wisdom, comes wellbeing.</i>

This whakataukī is commonly used to describe the progression or development of learning and the contribution to one's overall wellbeing from a Māori perspective, emphasizing the connections between perception, awareness, understanding, wisdom, and wellbeing. This study sought to explore the idea that if rangatahi were provided with a tool, such as the Meke Meter, to capture their perceptions about aspects of their wellbeing, that awareness would evolve and they would grow in understanding their strengths and where they needed to develop strategies and set goals to further strengthen their wellbeing, learning how to apply the knowledge and thus, developing wisdom and ultimately holistic wellbeing that enhances Waiora and Mauri ora.

5.1 General Discussion

This research explored wellbeing in the secondary school setting based on the assumption that schools are ideal places to promote enduring knowledge, skills, and attitudes that enhance personal as well as societal wellbeing. Generally, schools engage in a variety of programmes and activities that are designed to promote student wellbeing, whether it is acknowledged as an integral part of learning in schools, or as supplementary activities to address distractions to the central aim of academic and intellectual development. This research sought to answer three specific questions:

1. Is the online and/or paper-version of the Meke Meter™ a suitable and user-friendly interface for rangatahi to use to self-evaluate their wellbeing?
2. Do classroom teachers feel that the Meke Meter™ can be effectively applied in the curriculum around wellbeing?
3. Are there any existing QoL or wellbeing tools suitable for use in the NZ secondary school context?

A case study approach that collected qualitative data from rangatahi and their kaiako was used to address the first two questions. An inductive thematic analysis found the Meke Meter™ to be user-friendly for both rangatahi and kaiako. Their collective perspectives showed that there was value in a visually appealing, easy-to-understand, quick to use, self-reflection tool that can track positive change in a culturally relevant manner. The Meke Meter™ gave kaiako an opportunity to see into the lived experiences of their rangatahi and allowed them to offer support where needed. For rangatahi, filling in the Meke Meter™ regularly allowed them to take stock of their lives and check in with themselves. The Meke Meter™ supported reflective practice and embraces the interconnectedness of life factors, allowing the user to use and develop self-reflection skills and assess various aspects of their life without the need for heightened numeracy and literacy competence anticipated in other modalities of self-reflection such as journaling. These observations are similar to those reported for the use of the Meke Meter™ in the tertiary classroom setting (Forrest et al., 2019). Participants in both studies reported that the Meke Meter™ encouraged self-awareness and provided users with a greater sense of understanding about themselves. Self-monitoring promotes insight for personal growth and goal setting, as well as identifying the need to ask for help (Rickard et al., 2016). This study, showed that the use of the Meke Meter™ in the secondary school setting enabled students to recognise how the various aspects of their lives can influence their overall QoL and wellbeing, allowing them the opportunity to adjust, and to track outcomes.

A critical analysis interrogated the qualitative data using the four core principles of appreciative inquiry. Key findings revealed that frequent use of the Meke Meter™ improves self-awareness which, according to Travers et al., (2015) is a key component of goal achievement. Promoting awareness of wellbeing during this crucial developmental stage will assist in rangatahi being more self-aware into adulthood and focusing on self-awareness can lead to emotion regulation (Ballinger, 2015). From the adolescent perspective, being able to self-identify and self-analyse issues that impact on life and being equipped to address these, contributes to consolidating one's identity and thrive into adulthood. Scales et al. (2000) identified seven outcomes considered to be important for adolescent wellbeing or thriving. The seven thriving indicators are (a) school success, (b) leadership, (c) valuing diversity, (d) physical health, (e) helping others, (f) delay of gratification, and (g) overcoming adversity. The findings of this study suggest that users of the Meke Meter™ embraced the self-awareness and set goals to build up their strengths. This strength-based approach as

opposed to a deficit approach was also highlighted as a positive aspect of the Meke Meter™ is a recent study of adult users by Armstrong (2022).

Schools are well-placed to encourage rangatahi to practise self-reflection and self-awareness skills in a supportive environment. Incorporating a tool like the Meke Meter™, regularly into teaching practice could contribute to the development of all seven thriving indicators. Thus, allowing rangatahi to reflect and set goals towards the mastery of these skills, with the guidance of, and in collaboration with their kaiako. Therefore, creating opportunities for research that leads to action, such as youth-led participatory action research and collaborative action research (Camarota & Fine, 2008; Mitra & McCormick, 2017; Rodríguez & Brown, 2009). Furthermore, contemporary educational policies still measure short- and long-term success completely in terms of academic performance (Murray-Harvey & Slee, 2007; Van Petegam et al., 2008), and shifting the measurement of learning success to encompass wellbeing has positive implications for rangatahi in terms of viewing learning more holistically and acknowledging the importance of identity development. However, there are challenges with this, particularly due to the subjectivity of the concept of wellbeing success which is an area for future research.

The frequent use of the Meke Meter™ provided kaiako with not only an opportunity “to record positive changes in the health of students creating a measure of success beyond that of traditional mainstream measures” (Forrest et al., 2019, p. 342) but also to capture and utilise the students’ voice to evoke change within their classrooms, thus, creating a power sharing relationship. Cook-Sather (2020) and Robertson (2017) attest that encouraging the use of the students’ voice fosters the development of student agency and empowerment, which in turn improves self-esteem. The NZ Child and Youth Wellbeing Strategy (Department of the Prime Minister and Cabinet, 2019) highlights six outcomes that reflect what children and young people consider to be important to them; feeling loved, safe, and nurtured, have what they need, are happy and healthy, are learning and developing, are accepted, respected, and connected and feel involved and empowered. The Meke Meter™ can monitor and track these outcomes, identifying social, economic, and environmental factors that could impact the wellbeing of children and youth. For kaiako, collection of and access to this data would facilitate the identification of areas that may require additional pastoral support for their ākongā.

There were suggestions from participants (both teachers and students) in the secondary school case study for the Meke Meter™ to utilise modern digital technology, in the form of mobile application. Mobile devices today are a common feature in everyday life, particularly in the classroom. They are constantly connected with modern technology, and as Consolvo et al. (2014) states that mobile computing represents a major shift in the way health and wellbeing may be measured. This would allow for the collection of data over time to track changes and also enable suitable resources to be linked to each item of the Meke Meter™ in order to educate users or connect them to relevant support services in their local community, allowing for a more holistic approach to their learning journey.

In order to answer the third research question a systematic literature review was conducted to locate research studies that had used QoL and or wellbeing measurement instruments with adolescent populations. Eight quantitative studies were retrieved that utilised five holistic, positively framed wellbeing measurement tools. An assessment of the tools was conducted to ascertain if they were suitable for use by rangatahi in the NZ secondary school context. It was found that the tools were insufficient in capturing wellbeing from a te ao Māori perspective and that most were also unsuitable for teachers to administer in their classrooms. The Meke Meter™ was not identified during the systematic review due to the age of participants in published research being outside the scope of inclusion criteria, therefore was not assessed.

One of the main reasons why the eligible instruments did not align well with te ao Māori and hauora Māori was the lack of acknowledgement of cultural identity and spirituality elements to holistic wellbeing. Identity development is an important aspect of adolescence, yet school typically tasks rangatahi with developing educational and professional goals. As highlighted throughout this thesis, for Māori, their culture, whenua, wairua and whakapapa are essential to identity development. Previous research indicates that a having a relatively clear and stable identity makes people more resilient, reflective, and independent in making key life decisions, while also promoting a sense of competence (e.g., Flum & Kaplan, 2006; Kroger et al., 2010). However, Beck et al., (1994) argue that developing a clear and stable identity has become increasingly challenging due to processes of individualization, emancipation, and migration.

Schools are places where adolescents spend a lot of time and is an important context where adolescents' identity development can be supported. Teachers can help adolescents to explore the identity implications of the new ideas, activities, or possibilities they are

introduced to at school (Flum & Kaplan, 2006; Schachter & Rich, 2011). Verhoeven et al (2019) found there to be two preconditions that are required to intentionally support adolescents' identity development in school: meaningful learning experiences and a supportive classroom environment. In the same study, it was argued that messages at school were unintentionally communicated to adolescents concerning who they should or could be through "differentiation and selection, teaching strategies, teacher expectations and peer norms" (p. 35). This example shows that the school itself and the teacher, in particular, can play a key role in student identity development and, ultimately, student success. In the NZ context, collectively this research speaks to the importance of pro-equity teaching being informed by, and embracing matauranga Māori, to help mitigate loss of cultural identity due to colonisation.

5.2 Conclusions

Māori knowledge and its intricacies and manifestations have a significant role to play in facilitating the wellbeing for rangatahi Māori and all NZ youths. The years that a young person spends at school are important and signify a time where many developmental milestones align. Physical, psychological, and social changes occur during the same time a young person is required to select subjects that could shape their vocational pathway enormously. It is well recognized that the role of schools is to prepare young people for life. Unfortunately, this aim can be obscured by the excessive focus on academic achievement.

This research highlights that schools are in a prime position to promote holistic learning by encouraging students to self-reflect and monitor their own wellbeing. If wellbeing is unbalanced, there is little point in having proficiency in literacy and numeracy if a person feels too overwhelmed to go to work and are unable to identify and address their triggers before they become problematic. Being able to recognise where aspects of wellbeing are out of balance is important, because if left, it could impact, other areas. Often it is the physical dimensions that people notice is lacking first. Symptoms such as weight or appetite changes, poor sleep, and acne are examples of common signs that physical wellbeing is compromised. However, the root of the cause may lie in other aspects on a person's life. Healthcare professionals can often treat the physical symptoms; however, this may not treat the core of the issue. Thus, teachers can play a key role in equipping adolescents to better understand their wellbeing so that they can make informed decisions that enhance their waiora and mauri ora especially once they are beyond the 'safety net' of the school environment.

Despite the responsibility to promote wellbeing, school structures and cultures often creates stress with intense pressures to perform academically. A typical day for rangatahi will see them interact with more than five adults. All five adults will have different expectations for subject achievement, behaviour, and classroom routines. No teacher is the same, nor are the relationships they share with each student. Traditionally, the teacher remains in the classroom, while rangatahi move around the school. The teacher has ownership of the space, and the students are the manuhiri of the space. This adds to the vulnerability that young people face when navigating the territory of new learning. In addition, many rangatahi struggle with multiple stressors, including family dynamics, health, academic performance, and low rates of help-seeking behaviours. Although the use of the school curriculum has been successful in promoting protective attitudes and skills to reduce health-risk behaviours, there is still a need to re-examine current approaches in order to meet the needs of many adolescents, particularly Māori. It is pivotal to address the wellbeing needs of rangatahi from a holistic, integrative approach, to support them in all areas of their life and in a culturally safe way so that they flourish and thrive.

Embedding the routine use of a wellbeing self-reflection into NZ teaching practice could provide a simple yet effective way of bringing wellbeing to the forefront in the classroom environment. This study did not identify any existing instruments that would be suitable however, it has been identified that there is scope for researchers to work alongside rangatahi and kaiako as well as the wider community to co-construct a digital tool that assesses and tracks the subjective wellbeing of rangatahi in a culturally relevant manner. The case studies reveal that the Meke Meter™ could provide a potential framework for this, though as well as embracing Te Whare Tapa Whā, it would be advantageous for the Meke Meter™ to be adapted to incorporate aspect of Te Wheke and Whiti Te Ra as well. Furthermore, a mobile app would provide the user with a digital platform that is easily accessible and give individuals access to their own data letting them set goals and track progress. Additionally, and importantly, the data which is stored in the 'back end' of the app could be accessible in a collective manner by schools and Government to better inform education, family, and health policies.

Notably, in performing the case studies and systematic review it also became evident that while there appears to be many positives from promoting self-reflection and self-awareness of wellbeing by rangatahi within the secondary school context, there also come with it the ethical and moral responsibility and obligation for this to occur in a safe and supportive

manner with the appropriate resources being available for both rangatahi and kaiako. Thus, to create a shift to a more holistic learning within secondary schools it will be necessary to reframe policies and curricula to ensure the appropriate infrastructures are in place to ensure positive wellbeing outcomes which will ultimately enhance learner success.

In concluding, the importance of self-reflection to te ao Māori is captured in the following whakataukī,

Titiro Whakamuri, Kōkiri Whakamua

Look back and reflect so you can move forward.

This research encouraged kaiako to embed the use of the Meke Meter™ into their teaching practice to encourage rangatahi to reflect on various aspects of their lives. This was a novel approach to promoting wellbeing in the secondary school context which was evaluated from both the kaiako and ākonga perspectives. In addition, the academic literature was interrogated for existing QoL and wellbeing tools used with adolescents, and these were assessed for use in NZ. The feedback obtained from teaching practice coupled with the knowledge gained from the literature that is presented in this thesis helps to provide an evidence-base for the future development of the Meke Meter™ for use with rangatahi. This Masters was the first stroke of the hīrau (paddle) steering the research waka (canoe) towards the successful implementation of an adolescent-specific Meke Meter™ and an entire wrap-around system of monitoring and resources in the NZ secondary school setting to equip and empower rangatahi to live their best possible lives with a focus on thriving and flourishing to enhance wellbeing.

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Appendix A

HEEADSSS Assessment for Year 9 Students

Domain	Example Question
Home	Where do you live?
	How long have you lived there?
	Who lives with you?
	Do you have your own room?
Education and employment	Where do you go to school?
	What is your favorite/least favorite class?
	Do you feel safe at school?
	What are your grades like?
	Do you have a job?
	What are your future education/employment plans?
Eating	Are you concerned about your weight/body changes?
	Have you ever worried about having food to eat?
Activities	What do you do for fun? Sports? Reading? Video games?
	How much TV do you watch in a week?
Drugs and alcohol	Do any of your friends smoke or drink alcohol? Other drugs?
	Have you ever tried smoking, alcohol, or drugs with your friends?
Sexuality	Have you ever dated anyone? Boys, girls, or both?
	Have you ever kissed anyone?
	Have you ever had sex?
Suicide, depression, and self-harm	Have you thought about hurting yourself or someone else?
	Have you lost interest in things that you used to really enjoy?
Safety from injury and violence	Do you always wear a seat belt in the car?
	Have you ever ridden with a driver who was drunk or high?
	Is there a lot of violence at your school? In your neighborhood? Where you live?
	Have you ever been picked on or bullied?
	Have you ever felt you needed to protect yourself?

Appendix B

EIT Research and Ethics Approval



Our Ref: **Ref PG 20/12**

Primary researcher: Dana Armstrong.

Supervisor: Rachel Forrest, David Tipene-Leach (Advisor)

2nd September, 2020

Dear Dana,

Thank you for your application for your research project ***"Rangatahi Wellbeing: The Meke Meter"*** – our Ref **PG 20/12** received by the Research Ethics and Approvals Committee.

I am pleased to inform you that your research application has been approved.

As you continue with your research, please refer to the EIT Code of Research Ethics. As a reminder, if your proposal changes in any significant way, you must inform the Committee. Please quote the above reference number on all correspondence to the Committee. Please send all correspondence to REACApprovals@eit.ac.nz.

The Committee wishes you well for the project.

Yours sincerely

Catherine Hines
Secretary - Research Ethics & Approvals Committee

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Regional Learning Centres: Central Hawke's Bay, Hastings, Maraenui, Ruatoria, Wairoa

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Appendix C

Information for Research Participants



HAWKE'S BAY
EASTERN INSTITUTE OF TECHNOLOGY
TE AHO A MĀUI

Information for Research Participants

Date:	03.11.2020
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Project Title:	Rangatahi Well-being: The Meke Meter
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To:	Secondary School Students
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Researcher(s):	Dana Armstrong
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Affiliation:	Eastern Institute of Technology
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Description of the research:

A qualitative study to determine if the Meke Meter™ is an appropriate tool for capturing the well-being status of Rangatahi.
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What will participating in the research involve?:

You will be required to fill in a google form during class time facilitated by your class teacher.
--

This survey should take approximately 10 minutes to complete.

No audio or video tapes will be made.

Participation is voluntary and all information provided will be made anonymous so as to protect your identity.
--

The google form will contain the following questions:

- | |
|--|
| <ul style="list-style-type: none">• How did you find the Meke Meter™ to use?<ul style="list-style-type: none">- How did you find it to understand?- How did you find it to fill out?• What do you think about the presentation of the Meke Meter™?<ul style="list-style-type: none">- What did you think about the colours, pictures, etc?• Did you find using the Meke Meter™ useful?<ul style="list-style-type: none">- If so, how?- If not, why not?• How could we improve the Meke Meter™ for use with Rangatahi? |
|--|

What are the benefits and possible risks to you in participating in this research?

The benefits to participating in this research will be to assist in developing a self-administered well-being indicator tool for Rangatahi that is useful and user friendly.
--

Your rights:

- You do not have to participate in this research if you do not wish to.
- Once you have completed the research you have a 12 month period within which you can withdraw any information collected from you.
- You are welcome to have a support person present (this may be a member of your family/whanau or other person of your choice)
- You may request a summary of the completed research

Confidentiality:

All participants can view their own personal data online via www.mekemeter.org. Data is anonymised after submitted; therefore, only anonymous data will be stored. Identifiable information about you will not be made available to any other people. Data will be securely stored in a Microsoft Azure cloud for 12 months.

If you wish to participate in this research, or if you wish to know more about it, please contact

Contact Person:	Dana Armstrong
EIT School/Section:	Faculty of Education, Humanities and Health Science
Work phone #	0275064109
Email address	Armstd3@student.eit.ac.nz

Supervisor Name(s):	Rachel Forrest
Work phone #	(06) 830 1524 #5424
Email address	rforrest@eit.ac.nz

Head of School/Manager:	Natalie Waran
Work phone #	(06) 830 1411 #5411
Email address	NWaran@eit.ac.nz

For any queries regarding ethical concerns, please contact:
Chair, Research Approvals Committee, EIT. Ph. 974 8000

This study has been approved by the EIT Research and Ethics Approvals Committee on 2 September 2020 Reference PG 20/12.


Appendix D

PowerPoint Presentation delivered to Secondary School


Kaiako



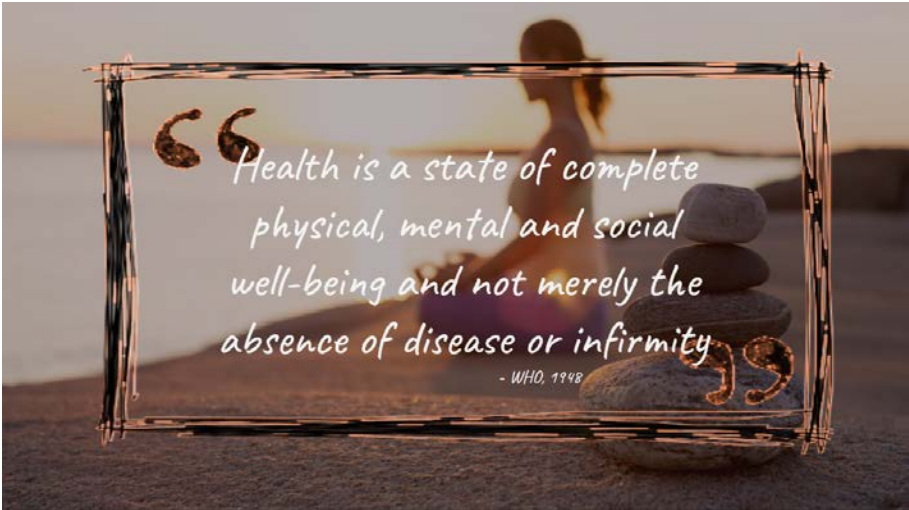
The Team



Levi Armstrong
Health Lead



Dana Armstrong
Rangatahi Lead



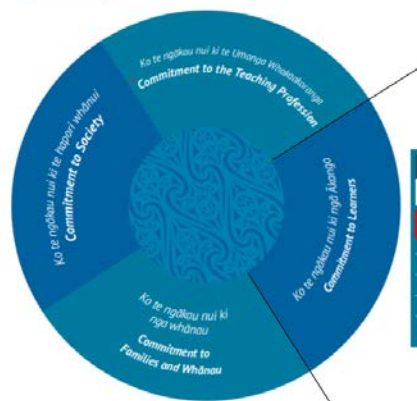


The birth of The Meke Meter

- Easy to read and understand
- Whānau had input into domains and colours
- Self reflection tool



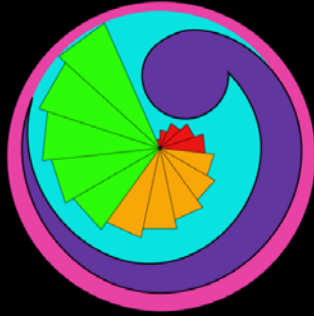
THE CODE OF PROFESSIONAL RESPONSIBILITY



2. COMMITMENT TO LEARNERS	
<i>I will work in the best interests of learners by:</i>	
1.	promoting the wellbeing of learners and protecting them from harm
2.	engaging in ethical and professional relationships with learners that respect professional boundaries
3.	respecting the diversity of the heritage, language, identity and culture of all learners
4.	affirming Māori learners as tangata whenua and supporting their educational aspirations
5.	promoting inclusive practices to support the needs and abilities of all learners
6.	being fair and effectively managing my assumptions and personal beliefs

Council, E. (2017). Our code, our standards. Wellington, New Zealand: Education Council.

Measuring Impact - The Meke Meter



1. Engage
2. Understand
3. Intervention
4. Measure



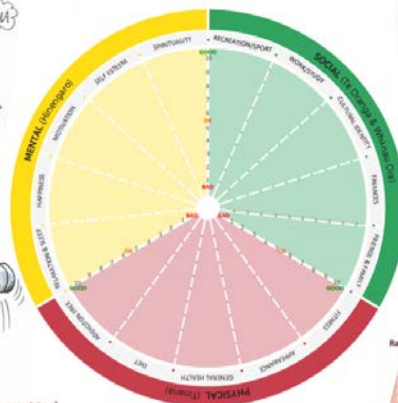
“

If you can't *measure* it,
you can't *improve* it

- Peter Drucker

”

The MEKE meter!



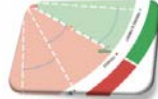
Whānau Group: _____

Date: _____

Name: _____

Year Level: _____

Rate each section and draw a line across it



A health and wellbeing assessment tool
developed in consultation with
Used with permission



The MEKE meter!

MENTAL (Thoughts & Feelings)

SOCIAL (Connections & Relationships)

PHYSICAL (Body & Health)

SPIRITUAL (Values & Purpose)

Whānau Group: _____

Date: _____

Name: _____

Year Level: _____

Rate each section and draw a line across it

- Students grade themselves between 1-10 on each of 15 categories.
- It becomes clear which areas could need work and teachers can assist with strategies to facilitate improvement

A health and wellbeing assessment tool developed in consultation with EIT and Te Aho A Maui. Used with permission.

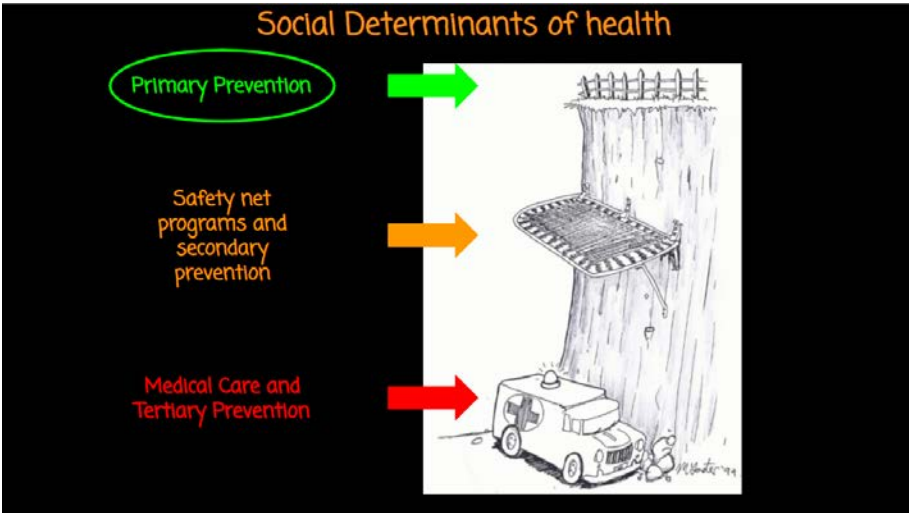
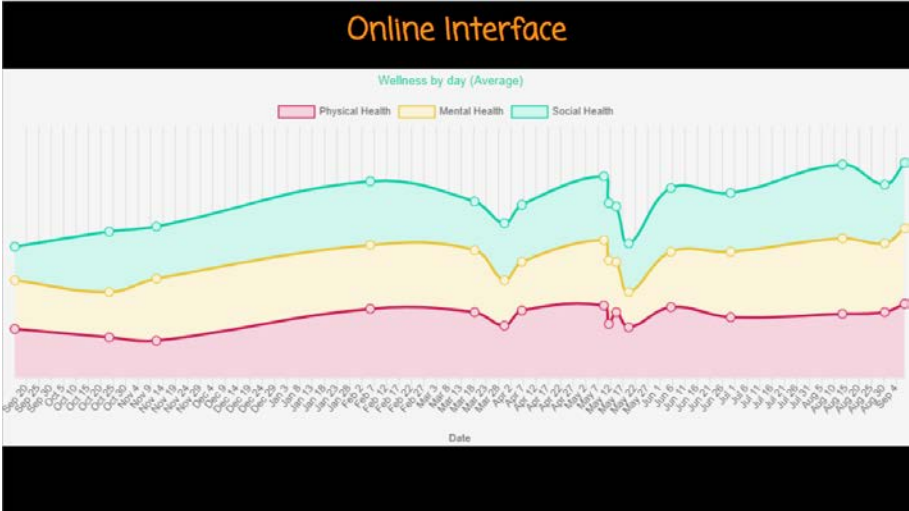
Hauora Rangatahi

- Online or paper-based platform.
- Users create a login and password to access their Meke Meter.
- Self reflection.
- Set goals and work on areas to improve.

Online Interface

My Wellbeing

Your Meke score is 128/150



Appendix E

Rangatahi Wellbeing – Rangatahi Google Form Survey

Rangatahi Participant Information

You are invited to participate in a research project being conducted by Dana Armstrong a Master of Health Science candidate at the Eastern Institute of Technology.

The aims of this study are:

- To explore secondary school student views regarding the use and value of the Meke Meter.
- To obtain secondary school teacher perceptions about the appropriateness of the Meke Meter for use with Rangatahi (adolescents).

The title of the study is:

Rangatahi Wellbeing: The Meke Meter

This survey is anonymous. No one, including the researcher, will be able to associate your responses with your identity. Please do not indicate in your responses your name, institution or geographic region. Your participation is voluntary, and you may choose to stop responding at any time during the survey.

The completion of the survey indicates your voluntary agreement to participate in this research project.

Ethical approval has been granted by the EIT Research Approvals Committee. (Reference 20/12).

Questions regarding this study can be directed to Dana Armstrong at armatd3@student.eit.ac.nz or Rachel Forrest at rforrest@eit.ac.nz

*Required

Demographic Information

1. What is your ethnicity? You can select more than one option *

Tick all that apply.

- Māori
 Pacifika
 New Zealand/European
 Asian

Other: _____

The usability of the Meke Meter

These questions will refer to how you found the Meke Meter to use.

2. How did you find the Meke Meter to use? *

3. How did you find the Meke Meter to understand? *

4. How did you find the Meke Meter to fill out? *

The presentation of the Meke Meter

These questions will refer to the presentation and look of the Meke Meter.

The MEKE Meter!

The MEKE meter!

Whānau Group: _____
Date: _____
Name: _____
Year Level: _____

Note each section and draw a line across it

A health and wellbeing assessment tool developed in consultation with Te Aho o Te Kaitiaki and Te Kaitiaki Take Kōwhiri. Used with permission.

5. What do you think about the presentation of the Meke Meter? *

6. What did you think about the colours, picture, images, general look, etc? *

The usefulness of the Meke Meter

These questions will refer to how useful you found the Meke Meter.

7. Did you find the Meke Meter useful? If so, how? If not, why not? *

8. How could the Meke Meter be improved for use with Rangatahi? *

Consent

9. I consent to participate in this survey *

Mark only one oval.

Yes

No

This content is neither created nor endorsed by Google.

Google Forms

Appendix F

Rangatahi Wellbeing – Kaiako Google Form Survey

Kaiako Participant Information

You are invited to participate in a research project being conducted by Dana Armstrong a Master of Health Science candidate at the Eastern Institute of Technology.

The aims of this study are:

- To explore secondary school student views regarding the use and value of the Meke Meter.
- To obtain secondary school teacher perceptions about the appropriateness of the Meke Meter for use with Rangatahi (adolescents).

The title of the study is:

Rangatahi Wellbeing: The Meke Meter

This survey is anonymous. No one, including the researcher, will be able to associate your responses with your identity. Please do not indicate in your responses your name, institution or geographic region. Your participation is voluntary, and you may choose to stop responding at any time during the survey.

The completion of the survey indicates your voluntary agreement to participate in this research project.

Ethical approval has been granted by the EIT Research Approvals Committee. (Reference 20/12).

Questions regarding this study can be directed to Dana Armstrong at armstd3@student.eit.ac.nz or Rachel Forrest at rforrest@eit.ac.nz.

*Required

The usability of the Meke Meter

These questions will refer to how you found the Meke Meter to use.

1. How did you find administering the Meke Meter? *

2. How did it fit in to the rest of the curriculum? *

3. How much explanation did the Meke Meter require for your students to be able to fill it out? *

4. While your students were completing the Meke Meter, do you think they understood what each section meant? *

5. What questions did your students have while they were filling the Meke Meter out? *

6. How could the Meke Meter be improved? *

The presentation of the Meke Meter

These questions will refer to the presentation and look of the Meke Meter.

The MEKE Meter!

The MEKE meter!

Mental Wellbeing (Yellow Quadrant):
- Happiness
- Stress
- Anxiety
- Depression
- Self-esteem
- Confidence
- Motivation
- Energy
- Focus
- Attention
- Memory
- Learning
- Creativity
- Problem-solving
- Decision-making
- Communication
- Relationships
- Community
- Culture
- Identity
- Values
- Beliefs
- Attitudes
- Behaviors
- Habits
- Lifestyle
- Environment
- Support
- Resources
- Opportunities
- Challenges
- Risks
- Barriers
- Obstacles
- Difficulties
- Struggles
- Strains
- Pressures
- Demands
- Expectations
- Responsibilities
- Roles
- Functions
- Contributions
- Impacts
- Outcomes
- Results
- Achievements
- Successes
- Failures
- Lessons
- Insights
- Discoveries
- Experiences
- Encounters
- Encounters
- Encounters

Physical Wellbeing (Green Quadrant):
- Strength
- Flexibility
- Balance
- Coordination
- Agility
- Endurance
- Stamina
- Cardiovascular
- Respiratory
- Musculoskeletal
- Immune
- Digestive
- Circulatory
- Reproductive
- Sensory
- Nervous
- Endocrine
- Integumentary
- Lymphatic
- Urinary
- Excretory
- Integumentary
- Lymphatic
- Urinary
- Excretory

Emotional Wellbeing (Red Quadrant):
- Mood
- Emotions
- Feelings
- Thoughts
- Beliefs
- Attitudes
- Behaviors
- Habits
- Lifestyle
- Environment
- Support
- Resources
- Opportunities
- Challenges
- Risks
- Barriers
- Obstacles
- Difficulties
- Struggles
- Strains
- Pressures
- Demands
- Expectations
- Responsibilities
- Roles
- Functions
- Contributions
- Impacts
- Outcomes
- Results
- Achievements
- Successes
- Failures
- Lessons
- Insights
- Discoveries
- Experiences
- Encounters
- Encounters
- Encounters

Spiritual Wellbeing (Purple Quadrant):
- Spirituality
- Faith
- Beliefs
- Values
- Attitudes
- Behaviors
- Habits
- Lifestyle
- Environment
- Support
- Resources
- Opportunities
- Challenges
- Risks
- Barriers
- Obstacles
- Difficulties
- Struggles
- Strains
- Pressures
- Demands
- Expectations
- Responsibilities
- Roles
- Functions
- Contributions
- Impacts
- Outcomes
- Results
- Achievements
- Successes
- Failures
- Lessons
- Insights
- Discoveries
- Experiences
- Encounters
- Encounters
- Encounters

Whānau Group: _____
Date: _____
Name: _____
Year Level: _____

Rate each section and draw a line across it

A health and wellbeing assessment tool developed in consultation with
Used with permission

7. What do you think about the presentation of the Meke Meter? *

8. What did you think about the colours, picture, etc? *

The usefulness of the Meke Meter

These questions will refer to how useful you found the Meke Meter.

9. Did you find the Meke Meter useful? if so, how? if not, why not? *

Consent

10. I consent to participate in this survey *

Mark only one oval.

Yes

No

Appendix G
Brief Multidimensional Students' Life Satisfaction Scale
(BMSLSS)

Brief Multidimensional Students' Life Satisfaction Scale (BMSLSS)

- 1 I would describe my satisfaction with my family life as:
- 2 I would describe my satisfaction with my friendships as:
- 3 I would describe my satisfaction with my school experience as:
- 4 I would describe my satisfaction with myself as:
- 5 I would describe my satisfaction with where I live as:

Note: Response options are a 7-point scale: Terrible, Unhappy, Mostly Dissatisfied, Mixed (about equally satisfied and dissatisfied), Mostly Satisfied, Pleased, Delighted

Appendix H

Multidimensional Students' Life Satisfaction Scale (MSLSS)



Multidimensional Students' Life Satisfaction Scale¹

The MSLSS was designed to provide a holistic assessment of the wellbeing of young people. It has five subscales: family, friends, school, living environment and self. Each segment can be considered separately. It is a validated tool, and has been tested for effectiveness in the USA and middle east.

Data is available on the average scores of a diverse sample of 313 American students aged 14 – 18, which can act as a comparison.

	<u>Family</u>	Strongly Disagree 1	Moderately Disagree 2	Slightly Disagree 3	Slightly Agree 4	Moderately Agree 5	Strongly Agree 6
1	I enjoy being at home with my family.						
2	My family gets along well together.						
3	I like spending time with my parents.						
4	My parents and I doing fun things together.						
5	My family is better than most.						
6	Members of my family talk nicely to one another.						
7	My parents treat me fairly.						

	<u>Friends</u>	Strongly Disagree 1	Moderately Disagree 2	Slightly Disagree 3	Slightly Agree 4	Moderately Agree 5	Strongly Agree 6
8	My friends treat me well.						
9	My friends are nice to me.						
10	I wish I had different friends.*						
11	My friends are mean to me.*						
12	My friends are great						
13	I have a bad time with my friends.*						
14	I have a lot of fun with my friends.						
15	I have enough friends.						
16	My friends will help me if I need it.						

	<u>School</u>	Strongly Disagree 1	Moderately Disagree 2	Slightly Disagree 3	Slightly Agree 4	Moderately Agree 5	Strongly Agree 6
17	I look forward to going to school.						
18	I like being in school.						
19	School is interesting.						
20	I wish I didn't have to go to school.*						
21	There are many things about school I don't like.*						
22	I enjoy school activities.						
23	I learn a lot at school.						
24	I feel bad at school.*						

	<u>Living Environment</u>	Strongly Disagree 1	Moderately Disagree 2	Slightly Disagree 3	Slightly Agree 4	Moderately Agree 5	Strongly Agree 6
25	I like where I live.						
26	I wish there were different people in my neighborhood.*						
27	I wish I lived in a different house.*						
28	I wish I lived somewhere else.*						
29	I like my neighborhood.						
30	I like my neighbors.						
31	This town is filled with mean people.*						
32	My family's house is nice.						
33	There are lots of fun things to do where I live.						

	<u>Self</u>	Strongly Disagree 1	Moderately Disagree 2	Slightly Disagree 3	Slightly Agree 4	Moderately Agree 5	Strongly Agree 6
34	I think I am good looking.						
35	I am fun to be around.						
36	I am a nice person.						
37	Most people like me.						
38	There are lots of things I can do well.						
39	I like to try new things.						
40	I like myself.						

¹ Source: Huebner, E. S. (2001). *Manual for the Multidimensional Students' Life Satisfaction Scale*. University of South Carolina, Department of Psychology. Columbia, SC.
Huebner, E. S., Laughlin, J. E., Ash, C., & Gilman, R. (1998). *Further validation of the Multidimensional Students' Satisfaction Scale*. *Journal of Psychological Assessment*, 16, 118-134.
Huebner, E. S. (1991). *Initial development of the Students' Life Satisfaction Scale*. *School Psychology International*, 12, 231-243.

Appendix I

The Flourishing Scale

The Flourishing Scale is a brief 8-item summary measure of the respondent's self-perceived success in important areas such as relationships, self-esteem, purpose, and optimism. The scale provides a single psychological well-being score.

Diener, E., Wirtz, D., Tov, W., Kim-Prieto, C., Choi, D., Oishi, S., & Biswas-Diener, R. (2009). New measures of well-being: Flourishing and positive and negative feelings. *Social Indicators Research, 39*, 247-266.

Below are 8 statements with which you may agree or disagree. Using the 1–7 scale below, indicate your agreement with each item by indicating that response for each statement.

1. Strongly disagree
2. Disagree
3. Slightly disagree
4. Mixed or neither agree nor disagree
5. Slightly agree
6. Agree
7. Strongly agree

I lead a purposeful and meaningful life.

My social relationships are supportive and rewarding.

I am engaged and interested in my daily activities

I actively contribute to the happiness and well-being of others

I am competent and capable in the activities that are important to me

I am a good person and live a good life

I am optimistic about my future

People respect me

Scoring: Add the responses, varying from 1 to 7, for all eight items. The possible range of scores is from 8 (lowest possible) to 56 (highest PWB possible). A high score represents a person with many psychological resources and strengths.

Appendix J

The Personal Well-being Index – School Children (PWI-SC)

3.1 Happy with Life as a Whole [Optional]

1. How happy are you...
with your life as a whole ?

VERY SAD						NOT HAPPY OR SAD						VERY HAPPY
0	1	2	3	4	5	6	7	8	9	10		

3.2 Personal Wellbeing Index – School Children/Adolescents [Life Domains]

1. [Domain: Standard of Living]
How happy are you ...
about the things you have? Like the money you have and the things you own?

VERY SAD						NOT HAPPY OR SAD						VERY HAPPY
0	1	2	3	4	5	6	7	8	9	10		

2. [Domain: Personal Health]
How happy are you ...
with your health?

VERY SAD						NOT HAPPY OR SAD						VERY HAPPY
0	1	2	3	4	5	6	7	8	9	10		

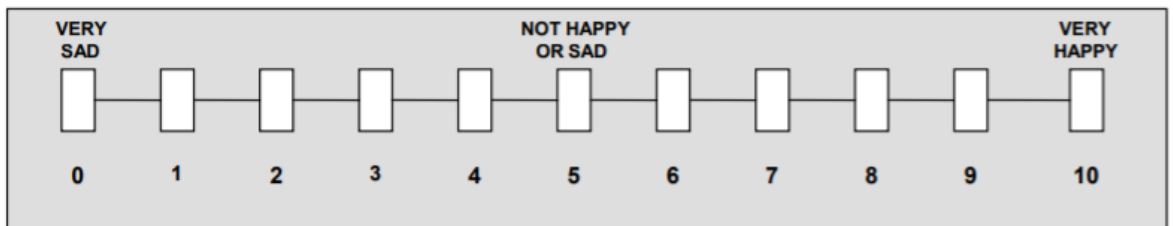
3. [Domain: Achievement in Life]
How happy are you ...
with the things you want to be good at ?

VERY SAD						NOT HAPPY OR SAD						VERY HAPPY
0	1	2	3	4	5	6	7	8	9	10		

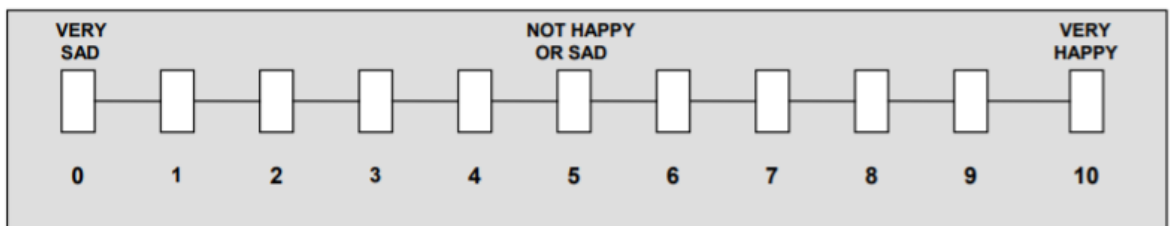
4. **[Domain: Personal Relationships]**
 How happy are you ...
about getting on with the people you know ?



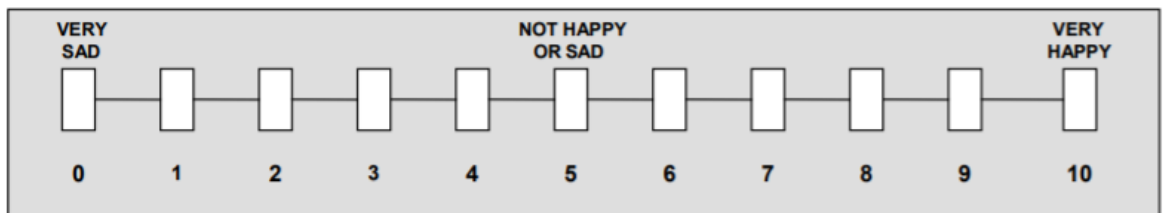
5. **[Domain: Personal Safety]**
 How happy are you ...
about how safe you feel ?



6. **[Domain: Feeling Part of the Community]**
 How happy are you ...
about doing things away from your home ?



7. **[Domain: Future Security]**
 How happy are you ...
about what may happen to you later on in your life ?



Cummins, R.A. and Lau, A.L.D. (2005). *Personal Wellbeing Index – School Children*. 3rd Edition.

Cummins, R.A. and Lau, A.L.D. (2005). *Personal Wellbeing Index – School Children*. 3rd Edition (Chinese-Cantonese).

Appendix K

Satisfaction with Life Scale (SWLS)



Satisfaction with Life Scale (SWLS)

Below are five statements that you may agree or disagree with. Using the 1 - 7 scale below, indicate your agreement with each item by placing the appropriate number on the line preceding that item. Please be open and honest in your responding.

		Strongly Disagree	Disagree	Slightly Disagree	Neither Agree nor Disagree	Slightly Agree	Agree	Strongly Agree
1.	In most ways my life is close to my ideal.	1	2	3	4	5	6	7
2.	The conditions of my life are excellent.	1	2	3	4	5	6	7
3.	I am satisfied with my life.	1	2	3	4	5	6	7
4.	So far I have gotten the important things I want in life.	1	2	3	4	5	6	7
5.	If I could live my life over, I would change almost nothing.	1	2	3	4	5	6	7

Copyright Information:

Diener, E., Emmons, R. A., Larsen, R. J., & Griffin, S. (1985). The Satisfaction with Life Scale. *Journal of Personality Assessment*, 49, 71-75.