Healing Your Puku: Why Gut Health Matters and What's Really Going On

Understanding Ancient Wisdom, Modern Science, and Māori Wellness

Abstract

This essay examines gut health (puku health) through an integrated lens that brings together contemporary microbiome science, Māori health frameworks, and esoteric healing traditions. Drawing on biomedical research into the gut–brain axis and the role of the microbiome in physical, mental, and emotional wellbeing, the discussion situates these findings alongside Indigenous knowledge systems that have long recognised the gut as a centre of intuition, emotion, and spiritual connection. Central to this analysis are Te Whare Tapa Whā which frames health as a multidimensional and interconnected phenomenon encompassing tinana, hinengaro, wairua, whānau, and emerging modern determinants such as digital and financial wellbeing; discussed by Te Poutama o te Ora. The essay critically explores how colonisation and the disruption of traditional Māori food systems have contributed to reliance on ultra-processed foods, resulting in adverse gut health outcomes and broader health inequities. It further considers how stress, trauma, and socio-economic pressures interact with gut physiology, reinforcing cycles of physical and emotional dysregulation. By integrating Indigenous knowledge, esoteric perspectives, and scientific evidence, this work argues that gut health cannot be understood or addressed solely through individual dietary choice. Instead, it highlights the need for holistic, culturally grounded approaches that restore food sovereignty, strengthen identity, and support collective wellbeing.

We further examine the Puku (gut) health as understood through both Western scientific frameworks and Māori perspectives, investigating how esoteric healing traditions provide complementary approaches to understanding digestive wellness.

We look again at Te Whare Tapa Whā, developed by Sir Mason Durie (1998) as a foundational four-cornerstones approach, and Te Poutama o te Ora, a contemporary nine-element framework that extends holistic wellness principles to address modern challenges including digital and financial wellbeing (I'Anson, 2025).

As well examining recent microbiome research, indigenous knowledge systems, and esoteric healing principles, this analysis demonstrates how these frameworks offer complementary rather than competing approaches to understanding health, with relevance to addressing gut health and its connections to mental, spiritual, and familial wellbeing. The findings suggest that integrating multiple knowledge systems strengthens our understanding of health as a multidimensional, interconnected phenomenon.

Introduction

The human gut, known as Puku in te Reo Māori, has emerged as a critical focal point in contemporary health research, with accumulating scientific evidence demonstrating its profound influence on physical, mental, and emotional wellbeing. The human gut contains trillions of microbial cells that play essential roles in immunity, brain signalling, and emotional regulation, as shown in recent microbiome research (Silk et al., 2024). This scientific understanding resonates deeply with indigenous wisdom traditions and esoteric healing practices that have long recognised the gut as a centre of intuition, emotion, and spiritual connection.

Indigenous peoples, particularly Māori in Aotearoa/New Zealand, have maintained holistic frameworks for understanding health that predate and complement contemporary biomedical models. Sir Mason Durie's Te Whare Tapa Whā model likens holistic wellbeing to the structure of a wharenui, where each wall—representing physical, spiritual, mental, and family wellbeing—must be strong to ensure overall health (Durie, 1998).

In developing a framework that builds on this holistic foundation; Te Poutama o te Ora has emerged that seeks to address contemporary wellness dimensions

including taha Matihiko (digital wellness) and taha Pūtea (financial wellness), reflecting the evolving challenges of modern life.

Esoteric healing traditions offer another layer of understanding, viewing health through the lens of subtle energies, spiritual principles, and the interconnectedness of body, mind, and spirit. These traditions, which span diverse cultural contexts from Kabbalistic practices to shamanic healing, recognise the gut as a centre of power, intuition, and energetic transformation (Levin, 2008). Contemporary research is beginning to validate aspects of this ancient wisdom, particularly regarding the gut-brain axis and the role of the microbiome in emotional regulation and spiritual experience.

This essay brings together three different ways of understanding gut health. **First**, there's modern-day thinking showing us exactly what's happening in our bodies at a microscopic level. **Second**, there's ancient esoteric wisdom - spiritual healing traditions from around the world that have always treated the gut as a centre of power and intuition. And **third**, there are Māori health frameworks that see wellness as something that involves your body, mind, spirit, and whānau all working together.

What This Is All About

The Puku- gut, belly, or digestive system – hold significance in Māori knowledge in that it is not only the main fuel source but that it is also linked to our identity. The gut can be seen as ‘a second brain’ in that Puku health affects everything from your mood to your immune system to how you feel spiritually connected. Esoteric knowledge shows us that our tūpuna (ancestors) already knew this. They understood that gut health wasn’t just about digestion – it was about our whole wellbeing.

But here's the present biggest problem: fast and processed foods impact our gut health. Further these food choices – reflect the migration away from traditional sources of food including food cooked in the home. We explore these changes and show how the different frameworks can help us understand what's going on and what we can do about it.

Gut Microbiome

Inside the digestive system are living bacteria, fungi, viruses, and other microorganisms called microbiome. Dr Jeffrey Gordon (as cited in News Centre, Northwestern University, 2024) is renowned for his work in this area and what it told us about gut-health in children. How these ‘microbiome’ seemed to get stuck in malnourished children and [they] needed to be repaired before the children would respond positively to food. His solution was a super-food that contained chickpeas, soy flour, peanut paste and banana powder providing the necessary plant fibres to feed gut-bacteria crucial for healthy growth. Unsurprisingly other structures were also improved that being, bone growth, immune, brain and neurological and metabolism functioning. Why this matters; when these microbials are damaged this affects whole body functioning. These bacteria are responsible for helping digest food, make vitamins, protect us from harmful bacteria and train our immune systems.

What happens then when we fill the gut with highly processed, high fat and sucrose ladened foods?

According to Silva et al. (2020) when we eat ultra-processed and convenience foods these negatively affect the gut-brain-axis by altering the gut microbiome. Processed diets, typically low in fibre and rich in additives, are associated with reduced microbial diversity and the loss of beneficial bacteria, which weakens gut-brain communication. This reduction affects the production of short-chain fatty acids (SCFA) critical to gut–brain communication (Silva et al., 2020; Martínez Steele et al., 2018).

Frequent consumption of highly processed foods disrupts microbial balance, reducing protective species while encouraging inflammatory pathways. These foods are low in fibre and high in additives, reducing beneficial bacteria and microbial diversity while promoting harmful species (Silva et al., 2020). Dysbiosis disrupts the production of SCFA that help maintain gut barrier integrity and regulate brain function. This imbalance can lead to increased gut permeability, systemic inflammation, and altered neurotransmitter signalling, which are linked to mood disorders and cognitive decline (Martínez Steele et al., 2018; Firth et al., 2020).

Research shows that changes in the gut microbiome can occur very quickly after eating processed foods. Even a single fast-food meal can start shifting gut chemistry within hours by reducing beneficial bacteria and altering microbial metabolites (David et al., 2014). This demonstrates how sensitive the gut–brain axis is to dietary choices, even in the short term.

Not only the Gut is impacted

The impact of processed foods goes far beyond digestion because the gut microbiome influences the entire body and mind. When gut bacteria are disrupted, it can lead to systemic inflammation and affect brain chemistry. High intakes of processed foods can be linked to obesity, type 2 diabetes, cardiovascular disease, cancer, inflammatory bowel disease, depression, anxiety, poor sleep, and cognitive decline (Martínez Steele et al., 2018; Adjibade et al., 2019; Gómez-Donoso et al., 2020). A significant proportion of serotonin is produced in the gut, highlighting its influence on emotional and mental states. Stress often shows up as gut problems (Silva et al., 2020). This connection explains why gut health plays a critical role in mental health and stress regulation.

For Māori, It's More Than Food Choices

The reliance on convenience foods among Māori is not simply a matter of poor personal choices—it is deeply connected to colonisation and the dismantling of traditional Māori food systems. In early New Zealand history Māori had sustainable food practices with kai from forests, rivers, the sea and grown in the land. Food preparation, planting and gathering practices observed spiritual practices such as karakia. Food embodied Manaakitanga (care for others) and strengthened the bonds of the people to land and wairua (Smith, 2015).

As Smith (2015) and Walker (1990) argue, colonisation systematically dismantled Māori food systems—an impact still visible in today’s health inequities.

Today, these historical injustices have lasting effects. Māori experience significantly higher rates of food insecurity—only 34.8% of Māori households have reliable access to healthy food compared to 64.2% of Pākehā households (Ministry of Health, 2023). Many Māori communities are in areas with limited access to supermarkets but an abundance of fast-food outlets (Gorton et al., 2010). Structural barriers such as low income, time constraints from multiple jobs, and the high cost of

fresh produce make convenience foods the most practical option for many whānau. The intergenerational loss of traditional food knowledge further compounds these challenges.

These systemic issues contribute to health inequities. For Māori, these outcomes are not the result of individual failure but of structural oppression and historical trauma. This means colonisation's impact on food systems is not only a physical health issue—it directly affects mental health, mood, and emotional wellbeing through gut chemistry (Silva et al., 2020).

Why Processed Foods Dominate

Highly processed foods are everywhere because they are cheap (or seem cheap), quick to prepare, taste good, last a long time, and are easy to find. When people are exhausted from work, caring for children, stressed about bills, and living in areas with few supermarkets but plenty of fast-food outlets, grabbing takeaways or instant noodles is not laziness—it's survival (Monteiro et al., 2018).

This situation didn't happen by accident. It was shaped by economic and political systems that prioritise profit over health. Low wages push families toward cheap food. Poor urban planning creates "food deserts" where fresh food is hard to access. Aggressive marketing targets children and families, making fast food seem fun and normal. Government policies allow companies to pack products with sugar, salt, and additives, making them addictive and profitable (Moodie et al., 2013; Monteiro et al., 2018). All these factors make unhealthy food the easiest choice.

For Māori, colonisation adds another layer. Land loss, poverty, racism, and disconnection from traditional food practices mean whānau face structural barriers to healthy eating (Smith, 2015; Walker, 1990). When ancestral food systems were destroyed and poverty became entrenched, the odds were stacked against Māori. This is why simply telling people to "eat better" doesn't work. Real change requires fixing the system—not blaming individuals.

Ancient Wisdom, Māori Knowledge, and Modern Science: The Gut Connection

For thousands of years, healing traditions around the world have taught that the gut is more than a digestive organ—it is a centre of power, emotion, and intuition. In yoga and Eastern practices, the belly is linked to energy centres (chakras) that

influence confidence, creativity, and instinct. This is why we talk about “gut feelings” or having “butterflies in the stomach.” Modern science confirms this connection: the gut has its own nervous system with millions of neurons, often called the “second brain,” which communicates constantly with the brain (Mayer, 2011a).

Spiritual traditions also believed the gut stores unprocessed emotions and trauma. Today, trauma research agrees that the body holds emotional pain, and according to Van der Kolk (2014) explains that unresolved trauma is often stored in the body, sometimes manifesting in the digestive system. Practices such as deep breathing, meditation, and chanting help calm stress and activate the vagus nerve, which connects the gut and brain. Scientific studies show these techniques reduce inflammation, lower stress hormones, and improve gut function (Breit et al., 2018). This demonstrates what ancient wisdom understood: gut health is shaped not only by food but by emotional wellbeing, stress, and spiritual balance (Silva et al., 2020).

Māori Knowledge and Kai

Our tūpuna had deep knowledge of food and health, grounded in whakapapa—the understanding that all life is connected. They knew that human health depends on the health of land, water, plants, and animals. Traditional Māori diets were diverse and seasonal, rich in fibre from plants, omega-3 from seafood, and fermented foods that supported a healthy gut microbiome. Science now confirms that dietary diversity creates microbial diversity, which is essential for good health (De Filippo et al., 2010). Unlike today’s processed diets, traditional kai nourished both body and spirit. Karakia before meals acknowledged the source of food and strengthened connection to land and whānau. Processed foods like instant noodles or fast food lack this connection, creating not only physical harm but spiritual disconnection (Smith, 2015).

Modern Research and Indigenous Knowledge

Recent studies show Indigenous diets support healthier microbiomes than Western diets (Schnorr et al., 2014). However, research involving Māori must respect tikanga. Biological samples, such as stools, are Tapu and carry mauri and whakapapa. Ethical research requires partnership, karakia, and Māori control over data (Hudson et al., 2016). Indigenous knowledge is not just cultural—it is scientific and deserves protection. Our ancestors were expert observers who understood ecology, nutrition,

and health in sophisticated ways. Modern science is only now catching up to what Indigenous peoples have known for generations.

The Gut as Storehouse of Emotional Memory

Ancient healing traditions have long recognised that unprocessed emotions, particularly those arising during periods of vulnerability or trauma, may become embodied within the digestive system, manifesting as physical symptoms and experiences of spiritual disconnection. This perspective aligns with contemporary psychosomatic medicine and trauma research, which demonstrate that chronic stress and unresolved emotional experiences can dysregulate gut–brain communication and contribute to gastrointestinal disorders, including irritable bowel syndrome and functional gastrointestinal disease (Van der Kolk, 2014; Mayer, 2011b). Approaches—such as body-centred therapies, and mind–body practices—aim to support emotional integration and physiological regulation, thereby facilitating the release of embodied stress responses (Payne et al., 2015).

The concept of the gut as a seat of intuition or instinctual wisdom appears across diverse spiritual and cultural traditions, often described as “gut knowing” that operates beyond conscious rational thought. Contemporary neuroscience provides a biological foundation for this understanding through research on the enteric nervous system (ENS), sometimes referred to as the “second brain.” The ENS contains 200–500 million neurons and is capable of autonomous function independent of the central nervous system, while remaining in constant bidirectional communication with the brain (Gershon, 1998; Mayer, 2016). This complex neural network supports the view that the gut possesses a distinct form of intelligence involved in emotional processing, interoception, and intuitive decision-making.

Esoteric Practices for Gut Health

Esoteric healing traditions have long approached digestive health as part of a broader energetic and spiritual system, rather than viewing it solely through a biological lens. These approaches often incorporate practices such as mindfulness meditation, diaphragmatic breathing, energy healing, and intentional eating rituals. Research increasingly supports the idea that such mind–body techniques can influence digestive health particularly by reducing stress and promoting parasympathetic activation (Breit, Kupferberg, Rogler, & Hasler, 2018). For instance,

mindfulness practices have been shown to lower systemic inflammation and improve gastrointestinal symptoms in individuals with irritable bowel conditions (Goyal et al., 2014).

Breathwork and somatic practices are also central to many esoteric traditions, where the breath is viewed as a conduit for both physical and energetic balance. Deep, rhythmic breathing activates the vagus nerve, which plays a critical role in regulating digestive processes and gut–brain communication (Porges, 2011). Similarly, sound-based practices—such as chanting, toning, or the use of specific vibrational frequencies—are believed to influence internal organs through resonance. Though scientific investigation into these methods remains limited, preliminary studies suggest that vocal resonance and certain harmonic frequencies may enhance vagal tone and contribute to stress reduction (Fujii et al., 2021).

Esoteric perspectives also emphasise the emotional and energetic dimensions of digestion. The gut is seen not only as a physical organ but as a site of stored emotional experiences and intuitive knowledge. Practices such as Reiki, chakra balancing, and body-focused meditation aim to clear blockages in subtle energy channels (sometimes referred to as meridians or Nadis) that are thought to impede the free flow of energy and, by extension, digestive wellbeing (Tondora & Davidson, 2006). While mainstream medicine may not fully endorse these views, growing interest in integrative health models suggests a place for esoteric practices within broader wellness strategies—particularly when combined with evidence-based approaches.

Te Whare Tapa Whā: The Four Cornerstones of Health

What Is Te Whare Tapa Whā?

Drawing on Durie’s Te Whare Tapa Whā, the model uses the wharenui as a metaphor for holistic health, illustrating how interconnected dimensions sustain wellbeing. If one wall is damaged or missing, the whole house becomes unstable and might collapse. Our health is the same - we need all four dimensions to be strong.

The four walls are: Taha tinana (physical health) – our body and physical wellbeing. Taha wairua (spiritual health) - our spirit, our connection to things bigger than ourselves, our sense of meaning. Taha hinengaro (mental and emotional health) -

our thoughts, feelings, and mental wellbeing. Taha whānau (family and social health) - our relationships, our sense of belonging, our connections to whānau and community.

The house also sits on a foundation - whenua (land). This represents our connection to the environment, to our ancestral lands, to the physical place we belong. This model challenged Western medicine, which usually only focuses on the body and ignores the spiritual, emotional, and social dimensions. Te Whare Tapa Whā says you can't separate these things - they're all equally important.

How Te Whare Tapa Whā Helps Us Understand Gut Health

Let's look at how gut health and the fast-food problem affect all four dimensions of Te Whare Tapa Whā.

Taha Tinana (Physical Health): What we eat directly affects our physical body. Processed foods damage gut bacteria, cause inflammation, lead to weight gain, increase diabetes and heart disease risk, and rob the body of nutrients. For Māori, colonisation destroyed access to traditional nutritious kai and replaced it with cheap processed foods. The physical health problems we see today - high rates of obesity, diabetes, heart disease – can be linked to this forced change in diet.

Taha Wairua (Spiritual Health): In Western health this dimension is often overlooked, but it's crucial. Food has always been spiritual for Māori. Karakia blessed kai, gathering food connected you to the land and ancestors, preparing and sharing food brought whānau together in sacred ways. Processed foods are created without reference to whakapapa, no spiritual ceremony. They come from factories, not the land. There's no karakia for a burger, no story connecting it to place and people. This spiritual disconnection from food is itself a form of harm to wairua. When we eat food with no connection, no meaning, no spiritual dimension, part of us is unfed even if our stomach is full.

Taha Hinengaro (Mental and Emotional Health): We have already discussed how gut health affects the brain and mood through the gut-brain axis. However, it extends further. The stress of poverty, racism, and trying to survive on minimum wage directly affects the gut through stress hormones and inflammation. At the same time, eating processed foods changes brain chemistry, potentially causing depression and anxiety. Then there's the shame and guilt people feel about feeding their whānau

'bad' food, even when they have no other realistic options. This psychological burden makes everything worse. The mental health crisis and the gut health crisis are connected.

Taha Whānau (Family and Social Health): Traditional food practices brought whānau together - gathering kai, preparing meals together, eating together, sharing and caring for each other through food. These collective practices strengthened whānau bonds. Research shows that social connection and strong relationships improve gut microbiome, while loneliness damages it. But convenience foods undermine whānau connection. Fast food is often eaten alone or in a rush. Pre-packaged meals don't require family members to cook together. The knowledge of how to prepare traditional kai doesn't get passed from kaumātua to mokopuna because that intergenerational connection was broken. Healing gut health means healing whānau connections and food practices.

What Te Whare Tapa Whā shows us is that you can't fix gut health by just telling people to eat better. You need to address all four dimensions - improving access to nutritious food (tinana), reconnecting people to food's spiritual and cultural meaning (wairua), supporting mental health and reducing stress (hinengaro), and strengthening whānau and community food practices (whānau). All this needs to sit on a foundation of whenua - restoring our connection to land and traditional food sources.

Te Poutama o te Ora: An Expanded Wellness Framework for Today

A lot has changed since Te Whare Tapa Whā came into being. We're dealing with challenges our tūpuna didn't face; social media and screen addiction affecting our mental health and sleep, financial systems that trap people in poverty, digital food delivery bringing burgers, chips or pizza to our door in 20 minutes, and new forms of disconnection from traditional practices.

This is where Te Poutama o te Ora comes in. It builds on Te Whare Tapa Whā's foundation but expands it to nine elements that address modern realities while staying grounded in Māori values. It includes the four traditional dimensions but adds taha Kai-Nuku i tō Puku (food and nutrition), taha Pūtea (financial wellness), taha Matihiko (digital wellness), and taha Tuakiri (identity) as the central integrating force, and a framework for transformation that happens in stages.

Taha Kai: Food as Medicine – Nuku i tō Puku

Te Poutama o te Ora makes food its own wellness dimension - taha kai. The concept of 'Nuku i tō Puku' (I'Anson, 2025) means nourish your gut. This recognises that food isn't just physical nutrition - it's medicine, it's culture, it's connection. Your gut health underpins everything else. If the Puku isn't healthy, our energy is low, our brain doesn't function as well, our mood suffers, our immune system weakens, and we struggle to connect spiritually.

Taha kai encourages a return to traditional Māori food knowledge (Rongoā - plant medicines, traditional preservation methods, seasonal eating, respecting the mauri of kai) with modern contemporary methods to bring alignment back into your life. It allows you to confront the convenience of food crisis through awareness and an understanding of what food looks like in a future you. There is no claim in this framework to being a nutritionist, medical profession or weight loss professional in that field. The methods look at the motivations that bring a person to where they find themselves today and where and what they can do to change that position.

Healing the relationship with food happens in stages and when we heal how we think about food, we accept there is a better way. We don't go from eating fast-food every day to eating more natural foods overnight. It's a journey: First, awareness (Te Whāriki o te Ora) - understanding present practices and what our future goals are, the 'what'. Then skill-building (Te Whakatakato tō Mahere) 'the how'- deciding what changes we can make big or small to work towards our taha-kai goals. Then consistency (Te Whakatūria o tō Mana me Tū Pūmau) - making it a regular practice. Then resilience - being able to maintain those even when life gets stressful (Whai Hua me Me Heke ki Mua). And finally, food sovereignty - where we take back control over our food (Tū Maia). This last step is likely to take several attempts as we seek to change a lifetime of habits.

Taha Pūtea: Money Matters for Gut Health

Taha Pūtea (financial wellness) recognises that our economic situation directly affects our health. When we are stressed about paying rent and feeding our whānau, that stress floods the body with cortisol (stress hormone), that can cause damage to the gut, causes inflammation, and can make a person feel sick. That's the direct physical pathway.

The practical reality: when we don't have money, we can't afford healthy food. Compare a bag of fruit to a pack of instant noodles. Fresh fish to a $2 pie and chips. When we are choosing between paying the power bill or buying vegetables, the power bill wins. This is about economic systems that make healthy food expensive and unhealthy food cheap.

For Māori, poverty isn't accidental - it's a result of colonisation. Confiscated land, denying economic opportunities, and assimilation of English education and language extinguished Māori independence. Today, poverty rates are higher and lower incomes continues the stress around financial dysfunction. As already mentioned, the stress translates into gut health disparities. We cannot eat better if there is poverty that makes processed food the only affordable option.

Taha Matihiko: The Digital World's Impact

Taha Matihiko (digital wellness) might seem unrelated to gut health, but it's important. Our phones and screens affect our stress levels, sleep quality, and how we connect with others - all things that impact gut health through the gut-brain axis. Constant notifications keep us in a stressed state. Blue light from screens disrupts sleep, and poor sleep messes up the gut bacteria. Social media can make us feel anxious, lonely, or inadequate, which affects the gut.

But there's a direct link to food too. Food delivery apps make ultra-processed meals available instantly - we can order online in seconds without leaving our couch. Social media is full of food advertising targeted at us based on algorithms that know our spending preferences. Instagram food advertising might make us crave junk food. TikTok diet culture might stress us out about your bodies. Online spaces can either support healthy eating (recipe groups, Māra kai networks) or undermine it (fast food ads, unrealistic body standards).

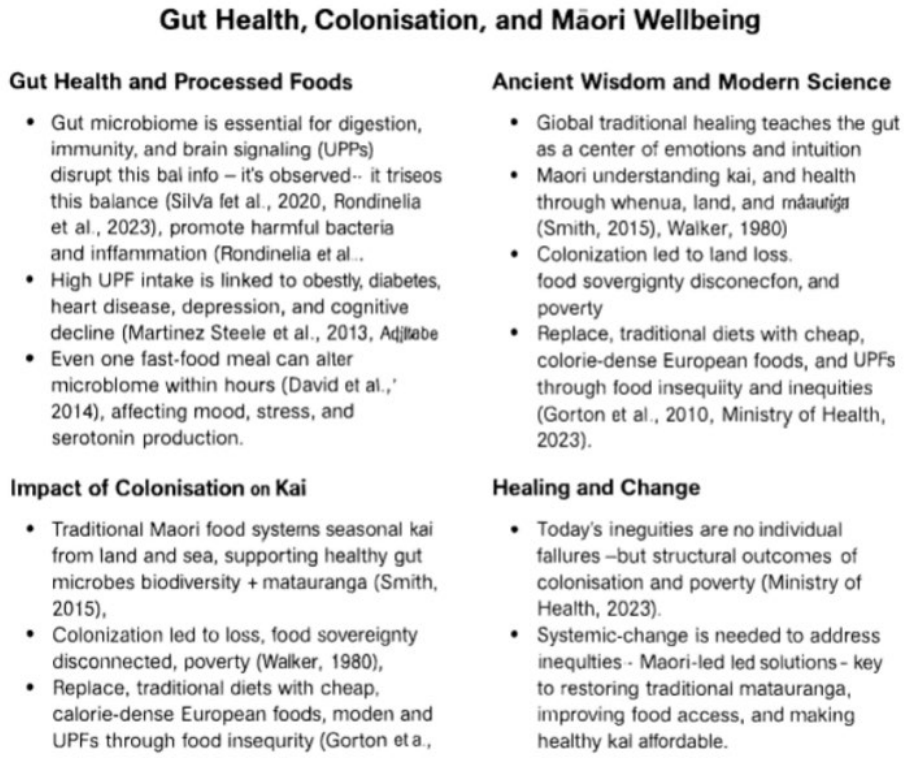
Te Poutama o te Ora recognises we need to have a healthy relationship with technology - using it in ways that support our wellbeing rather than harm it. This might mean turning off notifications during meals, limiting screen time before bed, being selective about who we follow online, and using digital tools to connect with food sovereignty movements rather than fast food delivery.

Taha Tuakiri: Identity as the Centre

Te Poutama o te Ora puts taha Tuakiri (identity) at the centre as the force that integrates everything else. For Māori, strong cultural identity - knowing our whakapapa, te Reo, understanding tikanga, feeling connected to our iwi and hapū - provides resilience against the harmful impacts of colonisation.

When our identity is strong, we are more likely to value traditional kai, resist processed food marketing, participate in Māra kai, pass on food knowledge to our Tamariki, and see food choices as part of cultural survival. Cultural identity gives us the strength to resist the convenience food system because we understand that eating traditional kai is an act of Te Haere Whakanoa – returning to the beginning.

This connects to what spiritual traditions teach: when we are disconnected from our true self and living in ways that contradict our values, we get sick. The disconnection shows up in our body. For Indigenous Peoples disconnected from cultural identity and forced to live in colonised food systems, that disconnection manifests as gut problems, obesity, diabetes - physical symptoms of spiritual and cultural wounding. Healing means reclaiming identity, which means reclaiming food practices, which means healing your Puku.



Gut Health, Colonisation, and Māori Wellbeing

Gut Health and Processed Foods

- Gut microbiome is essential for digestion, immunity, and brain signaling (UPPs) disrupt this bal info – it's observed·· it triseos this balance (Silva fet al., 2020, Rondinelia et al., 2023), promote harmful bacteria and inffammation (Rondinelia et al..
- High UPF intake is linked to obestly, diabetes, heart disease, depression, and cognitive decline (Martinez Steele et al., 2013, Adjitabe
- Even one fast-food meal can alter microblome within hours (David et al.,' 2014), affecting mood, stress, and serotonin production.

Ancient Wisdom and Modern Science

- Giobal traditional healing teaches the gut as a center of emotions and intuition
- Maori understanding kai, and health through whenua, land, and mâauriga (Smith, 2015), Walker, 1980)
- Colonization led to land loss. food sovergignty disconecfon, and poverty
- Replace, traditional diets with cheap, colorie-dense European foods, and UPFs through food insequiity and inequities (Gorton et al., 2010, Ministry of Health, 2023).

Impact of Colonisation on Kai

- Traditional Maori food systems seasonal kai from land and sea, supporting healthy gut microbes biodiversity + matauranga (Smith, 2015),
- Colonization led to loss, food sovereignty disconnected, poverty (Walker, 1980),
- Replace, traditional diets with cheap, calorie-dense European foods, moden and UPFs through food insequrity (Gorton et a.,

Healing and Change

- Today's ineguities are no individual fallures –but structural outcomes of colonisation and poverty (Ministry of Health, 2023).
- Systemic-change is needed to address inequlties - Maori-led led solutions - key to restoring traditional matauranga, improving food access, and making healthy kai affordable.

Conclusion

Gut health is not just a biological issue—it is deeply social, cultural, and historical. For Indigenous Peoples, the disruption of traditional food systems through colonisation replaced diverse, nutrient-rich kai with cheap, processed foods. This shift has harmed physical health, but its impact goes further: it alters the gut microbiome, which influences mood, cognition, and emotional wellbeing through the gut–brain axis (Silva et al., 2020). When 90% of serotonin is produced in the gut, poor diet and stress do not just affect the body—they affect the mind. These outcomes not only feel like personal failures; they are the result of structural inequities rooted in colonisation, poverty, and disconnection from whenua and tikanga. Healing requires systemic change: restoring food sovereignty, revitalising Mātauranga Māori, and creating environments where healthy, culturally connected kai is accessible and affordable. When we honour both science and Indigenous knowledge, we can rebuild not only gut health but also the wellbeing of whānau, communities, and future generations.

References

Adjibade, M., Julia, C., Allès, B., Touvier, M., Lemogne, C., & Hercberg, S. (2019). Ultra-processed food intake and risk of depression: Prospective analysis of the French NutriNet-Santé cohort. *Nutrients, 11*(8), 1958. https://doi.org/10.3390/nu11081958

Breit, S., Kupferberg, A., Rogler, G., & Hasler, G. (2018). Vagus nerve as modulator of the gut–brain axis in psychiatric and inflammatory disorders. *Frontiers in Psychiatry, 9*, 44. https://doi.org/10.3389/fpsyt.2018.00044

David, L. A., Maurice, C. F., Carmody, R. N., Gootenberg, D. B., Button, J. E., Wolfe, B. E., & Turnbaugh, P. J. (2014). Diet rapidly and reproducibly alters the human gut microbiome. *Nature, 505*(7484), 559–563. https://doi.org/10.1038/nature12820

De Filippo, C., Cavalieri, D., Di Paola, M., Ramazzotti, M., Poullet, J. B., Massart, S., & Lionetti, P. (2010). Impact of diet in shaping gut microbiota revealed by a comparative study in children from Europe and rural Africa. *PNAS, 107*(33), 14691–14696. https://doi.org/10.1073/pnas.1005963107.

Durie, M. (1998). *Whaiora: Māori health development* (2nd ed.). Oxford University Press.

Firth, J., Marx, W., Dash, S., Carney, R., Teasdale, S. B., Solmi, M., & Sarris, J. (2020). Food and mood: How diet influences mental wellbeing. *The Lancet Psychiatry, 7*(6), 487–488. https://doi.org/10.1016/S2215-0366(20)30134-8

Fujii, T., Okamoto, T., Morita, N., & Yamaguchi, T. (2021). Effects of chanting and humming on vagus nerve stimulation: A scoping review. *Journal of Integrative and Complementary Medicine, 27*(8), 675–683. https://doi.org/10.1089/jicm.2020.0565

Gershon, M. D. (1998). The second brain: A groundbreaking new understanding of nervous disorders of the stomach and intestine. HarperCollins.

Gómez-Donoso, C., Martínez-González, M. A., & Gea, A. (2020). Ultra-processed food consumption and cognitive decline: A prospective cohort study. *Nutritional Neuroscience, 23*(10), 795–802. https://doi.org/10.1080/1028415X.2018.1559270

Gorton, D., Bullen, C., & Mhurchu, C. N. (2010). Environmental influences on food security in high-income countries. *Nutrition Reviews, 68*(1), 1–29. https://doi.org/10.1111/j.1753-4887.2009.00179.x

Goyal, M., Singh, S., Sibinga, E. M. S., Gould, N. F., Rowland-Seymour, A., Sharma, R., & Haythornthwaite, J. A. (2014). Meditation programs for psychological stress and well-being: A systematic review and meta-analysis. *JAMA Internal Medicine, 174*(3), 357–368. https://doi.org/10.1001/jamainternmed.2013.13018

Hudson, M., Milne, M., Reynolds, P., Russell, K., & Smith, B. (2016). Te Ara Tika: Guidelines for Māori research ethics. *Health Research Council of New Zealand.*

I'Anson, R. (2025). *Te Poutama o te Ora.* https://www.iantemo.com/.

Levin, J. (2008). Esoteric healing traditions: A conceptual overview. *EXPLORE: The Journal of Science and Healing*, *4*(2), 101-112.

Martínez Steele, E., Baraldi, L. G., Louzada, M. L., Moubarac, J. C., Mozaffarian, D., & Monteiro, C. A. (2018). Highly processed foods and added sugars in the US diet: Evidence from a nationally representative cross-sectional study. *BMJ Open, 6*, e009892. https://doi.org/10.1136/bmjopen-2015-009892

Mayer, E. A. (2011a). Gut feelings: The emerging biology of gut–brain communication. *Nature Reviews Neuroscience, 12*(8), 453–466. https://doi.org/10.1038/nrn3071

Mayer, E. A. (2011b). The mind–gut connection: How the hidden conversation within our bodies impacts our mood, our choices, and our overall health. HarperCollins.

Mayer, E. A. (2016). Gut feelings: The emerging biology of gut–brain communication. Nature Reviews Neuroscience, 17(8), 453–466. https://doi.org/10.1038/nrn.2016.49

Ministry of Health. (2023). *Household food insecurity among children in New Zealand.* Wellington: Ministry of Health.

Monteiro, C. A., Cannon, G., Moubarac, J. C., Levy, R. B., Louzada, M. L., & Jaime, P. C. (2018). The UN decade of nutrition, the NOVA food classification and

the trouble with ultra-processing. *Public Health Nutrition, 21*(1), 5–17. https://doi.org/10.1017/S1368980017000234

Moodie, R., Stuckler, D., Monteiro, C., Sheron, N., Neal, B., Thamarangsi, T., ... & Lancet NCD Action Group. (2013). Profits and pandemics: Prevention of harmful effects of tobacco, alcohol, and ultra-processed food industries. *The Lancet, 381*(9867), 670–679. https://doi.org/10.1016/S0140-6736(12)62089-3

News Center, Northwestern University. (2024). 'Father of Microbiome Research' Awarded 2024 Nemmers Prize in Medical Science. Retrieved from https://news.feinberg.northwestern.edu/2024/01/18/father-of-microbiome-research-awarded-2024-nemmers-prize-in-medical-science/

Payne, P., Levine, P. A., & Crane-Godreau, M. A. (2015). Somatic experiencing: Using interoception and proprioception as core elements of trauma therapy. Frontiers in Psychology, 6, 93. https://doi.org/10.3389/fpsyg.2015.00093

Porges, S. W. (2011). *The polyvagal theory: Neurophysiological foundations of emotions, attachment, communication, and self-regulation*. W. W. Norton & Company.

Schnorr, S. L., Candela, M., Rampelli, S., Centanni, M., Consolandi, C., Basaglia, G., & Crittenden, A. N. (2014). Gut microbiome of the Hadza hunter-gatherers. *Nature Communications, 5*, 3654. https://doi.org/10.1038/ncomms4654

Silk, E. T., Bayer, S. B., Foster, M., Roy, N. C., Taylor, M. W., Vatanen, T., & Gearry, R. B. (2024). Advancing microbiome research in Māori populations: Insights from recent literature exploring the gut microbiomes of underrepresented and Indigenous peoples. *mSystems*, *9*(11), e0090924.

Silva, Y. P., Bernardi, A., & Frozza, R. L. (2020). Gut microbiota and brain health: The role of diet. *Nutrients, 12*(3), 693. https://doi.org/10.3390/nu12030693.

Smith, L. T. (2015). *Decolonizing methodologies: Research and Indigenous peoples.* Zed Books.

Tondora, J., & Davidson, L. (2006). Practice-based evidence: Incorporating spiritual and cultural strengths. *Psychiatric Rehabilitation Journal, 29*(4), 245–247. https://doi.org/10.2975/29.2006.245.247.

Van der Kolk, B. (2014). *The body keeps the score: Brain, mind, and body in the healing of trauma.* Penguin Books.

Walker, R. (1990). *Ka whawhai tonu matou: Struggle without end.* Penguin Books.