

## **The Puku-Tuakiri Connection: Indigenous Approaches to Gut Health and Identity Formation within Te Poutama o te Ora**

### **Abstract**

This is the third paper investigating the application of the transformational steps of Te Poutama o te Ora in relation to Taha Kai, a Māori wellness approach to food colonisation and the gut-identity connection. Rooted in the indigenous understanding that the Puku (gut) forms Tuakiri (identity), the framework provides structured pathways for healing relationships with food, eating, and embodied selfhood. Through systematic analysis of how industrial food systems affect five wellness dimensions (Whakapapa, Tinana, Tuakiri, Wairua, and Hinengaro), this research explores protocols including seven-day food awareness tracking, three-tier practice integration, and nine-day resistance building incorporating therapeutic fasting. Taha Kai demonstrates how traditional Māori knowledge of the gut-mind-identity connection aligns with contemporary research on the gut-brain axis while offering culturally grounded healing pathways.

### **Introduction**

The relationship between gut health and psychological wellbeing represents a convergence point between traditional indigenous knowledge and contemporary scientific understanding. While Western medicine only recently discovered the gut-brain axis and its profound influence on mental health, emotion regulation, and identity formation (Mayer, 2011), Māori knowledge has long positioned the Puku (gut/stomach) as the seat of Tuakiri (identity), emotion, and knowing (Durie, 1998). This ancient wisdom understood that what we consume directly shapes who we become, physically, mentally, emotionally, and spiritually.

Taha Kai addresses the dual colonisation of indigenous food systems and bodies through industrial agriculture, processed foods, and disconnection from traditional food knowledge. The first three steps, Te Ohorere (The Awakening), Te Whakatūria tō Mana

(Establishing Your Authority), and Te Whakawhanake i tō Kaha (Building Your Resistance), provide structured progression from unconscious eating patterns toward embodied food sovereignty. This paper analyses these steps through lenses of trauma-informed practice, nutritional science, and decolonial methodology.

## **Step 1: Te Ohore - The Awakening**

### *The Puku-Tuakiri Connection in Indigenous and Contemporary Science*

Te Ohore establishes the Puku as the locus of identity formation, positioning gut health as foundational to selfhood. This aligns remarkably with contemporary research on the gut-brain axis, which demonstrates bidirectional communication between the gastrointestinal tract and central nervous system mediated by neural, hormonal, and immunological pathways (Cryan & Dinan, 2012). The gut microbiome produces neurotransmitters including serotonin, dopamine, and GABA, directly influencing mood, cognition, and behaviour (Dinan & Cryan, 2017).

The framework's positioning of Tuakiri (identity) as the central pillar in Te Poutama o te Ora reflects indigenous understanding that a grounded, healthy Puku enables stable sense of self, while dysregulated gut function fragments identity. This conceptualisation proves particularly relevant for understanding of the disassociation of the sense of self when eating patterns become governed by shame, external rules, or disconnection from bodily signals (Foster & Neufeld, 2013).

### *Food Colonisation and Intergenerational Trauma*

The framework explicitly names food colonisation as systematic displacement of traditional kai (food) practices, land-based food production, and communal eating rituals with industrial food systems designed for profit extraction rather than nourishment (Grey & Patel, 2015). For Māori communities, this occurred through land confiscation eliminating access to traditional food sources, economic marginalisation necessitating cheap processed foods, and cultural disruption severing intergenerational food knowledge transmission (Reid & Robson, 2007). Whakapapa explores how communal food practices are eroded with isolated consumption and a loss of connection to food

sources, when shared meals significantly contribute to social bonding, cultural transmission and mental health (Eisenberg et al., 2004). Tinana outcomes include chronic inflammation, gut dysbiosis, metabolic dysfunction, and food sensitivities increasingly prevalent in populations consuming Western processed diets (Spreadbury, 2012). Disordered eating research demonstrates that poor interoceptive awareness (inability to accurately perceive internal bodily states) correlates strongly with eating pathology and compromised self-concept (Herbert & Pollatos, 2012).

Wairua examines the decoupling of the spiritual-kai connection from the food dimension as becoming merely transactional fuel rather than relationship with land, seasons, and life force. Hinengaro looks at emotional occupation through food anxiety, dietary rules, and body image concerns that consume mental bandwidth

The resulting health disparities prove devastating. Māori populations experience disproportionate rates of obesity, type 2 diabetes, cardiovascular disease, and gastrointestinal disorders directly linked to processed food consumption and disconnection from traditional diets (Robson & Harris, 2007). The framework identifies these patterns as intergenerational food trauma, scarcity mindsets persisting into abundance, stress-eating patterns learned in poverty, gut dysbiosis inherited through altered maternal microbiomes (Hanson & Gluckman, 2014).

### **Step 2: Te Whakatūria tō Mana - Establishing Authority**

#### *Food Sovereignty and Embodied Authority*

Te Whakatūria tō Mana positions food choices as exercises of sovereignty rather than mere consumer decisions. This framing aligns with food sovereignty movements emphasising communities' rights to define their own food and agriculture systems rather than having them dictated by global market forces (Patel, 2009). For indigenous communities, food sovereignty represents decolonisation, reclaiming traditional food practices, reconnecting with land-based food production, and resisting industrial food system dependence.

Mana in this framework is as embodied authority developed through consistent practice rather than intellectual knowledge alone. The emphasis is on experiential learning through doing proving crucial for behaviour change, research consistently demonstrates that experiential interventions prove more effective than information-based approaches for improving eating behaviour (Contento et al., 2007).

### *SMART Goals and Food-Related Cognitive Overload – Te Whāriki o te Ora*

The application of SMART goal statements developed as three specific statements across each domain establishes a personalised framework that honours progression to gut-wellness. These fifteen prospective objectives receive priority ratings on a 1-9 scale, differentiating immediate healing needs from appropriately deferred goals - recognizing that parallel transformation attempts across multiple domains generally yield universal failure (Baumeister & Tierney, 2011). The protocol explicitly distinguishes between ‘wants’ (often shaped by diet culture, body image pressures, or external expectations) and ‘needs’ (genuine requirements for healing the Puku-Tuakiri connection), encouraging participants to focus exclusively on authentic needs during initial transformation stages. This distinction proves particularly crucial within food contexts where diet culture systematically colonises eating through external rules that override bodily wisdom, generating perpetual dissatisfaction regardless of actual health status (Tribole & Resch, 2012).

Through deliberate evaluation, the nine primary healing objectives interlace Te Whāriki o te Ora (the wellness mat) that being clear direction within the bounds of cognitive resources compromised by food trauma, disordered eating patterns, or gut dysbiosis affecting cognitive function. This purposeful narrowing from comprehensive awareness to prioritized specifics embodies indigenous principles honouring the traditional understanding that a healthy Puku enables clear decision-making while dysregulated gut function impairs it (Cryan & Dinan, 2012).

### *Te Pukapuka Mataara 7-Rā: Seven-Day Awareness Protocol*

An empirical foundation for intervention is built through the structured seven-day observation, established without requiring immediate change. This methodology aligns

with mindfulness-based approaches to eating demonstrating that non-judgmental awareness significantly improves eating behaviour and reduces emotional eating (Kristeller & Wolever, 2011). The structured daily capture of information across five dimensions develops interoceptive awareness, the capacity to accurately perceive internal signals including hunger, fullness, and gut sensations (Khalsa et al., 2008). This awareness proves foundational for healing disordered relationships with food and rebuilding trust in bodily wisdom.

### *Three-Tier Practice Architecture add Te Whakatakato tō Mahere*

From this daily documentation, *Te Whakatakato tō Mahere* is developed as a strategic action-planning protocol that links food-healing goals with everyday eating practices. In contrast to conventional meal plans or prescriptive diets that disconnect people from bodily cues, *Te Whakatakato tō Mahere* organises food-healing behaviour across three integrated timeframes designed specifically for nutritional restoration. (1) Monthly food reference points include time-bound activities such as stabilising meal timing for circadian alignment and participating in communal food events. (2) Weekly eating strategies draw on *Te Whāriki o te Ora* priorities, including traditional kai preparation, fasting-window practices, and mindful-eating techniques. (3) Daily nourishment rhythms (*Whakatūria tō Mana*) foster dietary awareness through morning hydration rituals, intentional meal preparation, undistracted eating, and evening reflection on hunger–fullness patterns and food–emotion connections.

This triadic framework incorporates Maramataka knowledge of optimal timing for dietary change—*Te Rākaunui* favouring the initiation of fasting protocols or food eliminations, and *Ōmutu–Huna* phases supporting meal planning and rhythm stabilisation. These patterns align with circadian research demonstrating that meal timing significantly shapes metabolic processes, gut function, and gut–brain signalling (Zarrinpar et al., 2014). Emerging studies also show that lunar cycles can influence sleep architecture, hormonal rhythms, and potentially eating patterns (Cajochen et al., 2013).

The framework offers food-healing strategies ranging from minor practices (such as one mindful-eating moment per meal) to more substantial commitments (such as 24-hour

therapeutic fasts for Tinana restoration and Wairua deepening). It emphasises progressive integration rather than restrictive overhauls, recognising that abrupt dietary change often produces restriction–binge cycles or reactivates food trauma (Schaumberg et al., 2017). Participants are guided toward practices that match their current healing needs and gut capacity, ensuring coherence between food intentions and feasible action—especially critical given that gut dysbiosis can impair executive functioning and decision-making required for sustained eating-behaviour change (Foster & Neufeld, 2013).

### *Three-Tier Integration System*

The framework exhibits trauma-informed nuance through direct acknowledgment of how food scarcity legacies, disordered eating histories, and intergenerational food trauma influence implementation capability. For individuals with eating disorder histories, restrictive practices including fasting remain contraindicated; the System validates alternative healing pathways focused on awareness restoration and food fear reduction rather than elimination or restriction. For communities affected by food colonisation, the protocol supports both individual gut-healing needs and collective food practices, rejecting the idea that people must choose between personal health and cultural participation. By integrating traditional kai preparation, shared food rituals, and seasonal eating patterns into weekly strategies, it positions food healing as inseparable from cultural renewal and the preservation of whanaungatanga (kinship and connection). This approach recognises that, for Indigenous peoples, genuine food sovereignty depends on frameworks that uphold both Puku health and cultural integrity (Grey & Patel, 2015).

Tier 1 practices create foundational rhythms through daily non-negotiable actions encompassing morning hydration, mindful consumption, and pre-sleep fasting periods. These practices target essential gut health requirements including circadian synchronization, profoundly influencing digestive processes and metabolic wellness (Zarrinpar et al., 2014). Tier 2 practices incorporate intermittent fasting methodologies. Research demonstrates that time-restricted eating (consuming food within 8–12-hour windows) improves metabolic markers, reduces inflammation, and supports gut

microbiome health (Longo & Panda, 2016). Tier 3 practices encompass prolonged fasting (24+ hours) enabling profound healing. While therapeutic fasting shows promise for various health conditions, the framework appropriately emphasises medical consultation and acknowledges contraindications including eating disorder history, pregnancy, and certain medical conditions (de Cabo & Mattson, 2019).

### *Environmental Architecture*

Environmental restructuring establishes choice architecture reinforcing intentions without demanding continuous willpower. Designated eating spaces removed screens from eating contexts, and strategic food availability prove effective for behaviour change (Hollands et al., 2013). The removal of delivery apps and marketing subscriptions addresses how digital food environments actively undermine healthy eating through convenience and targeted advertising designed to override satiety signals and trigger consumption (Cohen & Babey, 2012).

## **Step 3: Te Whakawhanake i tō Kaha - Building Resistance**

### *System Resistance and Progressive Challenge*

Te Whakawhanake i tō Kaha recognizes that industrial food systems escalate opposition as individuals create protective boundaries. Ultra-processed foods undergo deliberate engineering for hyper-palatability through salt, sugar, fat, and additive combinations explicitly designed to bypass innate satiety mechanisms, generating compulsive consumption patterns (Gearhardt et al., 2011). Marketing approaches deploy sophisticated psychological techniques encompassing scarcity framing, social validation, and emotional linkage.

The nine-day intensification protocol systematically develops capability across varied challenge areas. This parallels progressive conditioning principles where managed stress generates adaptation and enhanced capability (Kraemer & Ratamess, 2004). Daily focuses rotate through resistance competencies: craving management, social pressure navigation, stress-boundary maintenance, intentionality prioritization over convenience.

### *Therapeutic Fasting and Autophagy*

The framework integrates extended fasting as both physical healing practice and spiritual discipline. Autophagy, cellular self-cleaning activated during fasting, removes damaged proteins and organelles, supporting cellular health and potentially extending lifespan (Levine & Kroemer, 2008). Fasting reduces gut inflammation, allows digestive system rest, and supports microbiome rebalancing (Li et al., 2017).

Importantly, the framework positions fasting within spiritual context rather than merely weight loss or health optimisation. Traditional cultures worldwide employed fasting for clarity, purification, and spiritual connection. This spiritual framing prevents the colonisation of fasting into another diet trend while honouring its sacred dimensions. Direct acknowledgment of eating disorder contraindications exhibits trauma-informed methodology recognizing restriction causes harm for individuals with disordered eating backgrounds (Schaumberg et al., 2017).

### *Social Pressure Navigation*

Developing authority statements confronts a key implementation obstacle: social environments where dietary decisions encounter examination and pressure. Food holds deep social significance; declining food may be read as spurning relationship, tradition, or cultural membership (Bisogni et al., 2002). The framework differentiates justification (implying flexibility) from authority statements (declaring sovereignty), offering concrete tools for boundary protection without relational harm.

### *Collective Food Sovereignty*

Creating food healing circles embodies indigenous communal values and social support evidence confirming that collective accountability markedly enhances transformation success (Wing & Jeffery, 1999). These circles function as a normalising mechanism (others confronting parallel challenges), collaborative strategy creation, accountability structures, and reciprocal support. For communities collectively addressing food colonization, group methodologies respect cultural principles while delivering tangible

benefits including shared cooking, traditional food knowledge transmission, and collective purchasing power.

## **Discussion and Implications**

Taha Kai's first three steps demonstrate sophisticated integration of indigenous wisdom with contemporary nutritional science and behaviour change research. The Puku-Tuakiri connection, long understood in te Ao Māori, finds remarkable validation in gut-brain axis research revealing bidirectional communication between gastrointestinal and nervous systems (Mayer, 2011). This convergence suggests that indigenous knowledge systems identified crucial health relationships millennia before Western scientific discovery.

The framework's explicit naming of food colonisation positions poor nutrition as systemic outcome rather than individual failing, reducing shame while increasing agency. This decolonial framing proves particularly important for indigenous communities disproportionately affected by diet-related diseases resulting from historical dispossession and ongoing economic marginalisation (Gracey & King, 2009).

This sequenced movement from awareness to authority to resistance recognises that enduring dietary change requires multidimensional capacity building. This diverges from standard nutrition programmes, which typically prioritise information provision above behavioural integration without addressing trauma, poverty, cultural disconnection, or systemic barriers (Contento et al., 2007). The trauma-informed approach recognising food scarcity histories, emotional eating patterns, and disordered relationships with food demonstrates clinical sophistication.

The integration of therapeutic fasting represents both innovation and reclamation. While fasting research shows promise for metabolic health, inflammation reduction, and longevity (de Cabo & Mattson, 2019), the framework positions fasting within spiritual tradition rather than biohacking trend. This cultural grounding prevents the colonisation of traditional practices while providing evidence-based health benefits.

Future research is needed to investigate the framework's applicability across diverse cohorts, with a focus on comparative outcomes for Māori and non-Māori participants. Long-term monitoring of gut-health indices, metabolic function, and psychological

wellbeing throughout the nine-step progression would yield valuable insights into programme outcomes. Investigating the Puku–Tuakiri relationship through integrated gut-microbiome profiling and identity assessments may also illuminate mechanisms embedded within traditional knowledge systems.

### **Conclusion**

In Taha Kai, the transition from food awareness to embodied authority and eventually to resistance against harmful food-system influences establishes a pathway for restoring both Puku health and the Tuakiri connection. Te Poutama o te Ora enables progression as participants relearn sustainable nourishment practices that honour bodily cues and cultural food traditions. The framework’s integration of Māori food knowledge with contemporary gut and metabolic science underscores its relevance to modern health challenges. Amid escalating diet-related illness, this approach offers a culturally grounded means of rebuilding healthy food relationships while upholding Indigenous food autonomy.

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