BARRIERS TO FOOD LITERACY FOR TONGAN MIGRANTS IN AOTEAROA NEW ZEALAND

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Supervisor

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Abstract

Food literacy within Pacific Island and, more specifically, Tongan contexts is a complex and comparatively new academic topic. This dissertation explores the barriers to food literacy experienced by Tongan migrants living in Aotearoa New Zealand. Their perspectives are important because although there is an abundant corpus of research literature, the voices of Tongan migrants and their cultural experiences potentialise a revised view of the food literacy of Tongan people. Informing that potential, my research explores, through interviews, the lived subjective experiences of three Tongan participants of mixed age, gender, and background who are migrants to Aotearoa New Zealand. Using qualitative description, thematic analysis, talanoa, talanoa-vā, the dual realm of existence, and considerations of voice and double-voicedness, my research recommends a new strategy to enhance food literacy knowledge for Tongans. That strategy is located within the experiences of my Tongan migrant participants. In that way my research makes a unique contribution to existing knowledge, considering the importance of fakalato (balance) and the integration of anga fakatonga (the Tongan way). Additionally, my research maximises my participants' emic and etic roles, positioning them, as migrants to Aotearoa New Zealand, as unique and insightful sources of food literacy information. Consequently, by drawing on my participants' insights and my research recommendations, much can be done at a local, community-based level to not only enhance food literacy knowledge but also reduce the prevalence of food-related health issues for Tongans.

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Attestation of Authorship

I hereby declare that this submission is my own work and that, to the best of my knowledge and belief, it contains no material previously published or written by another person (except where explicitly defined in the acknowledgements), nor used artificial intelligence tools or generative artificial intelligence tools (unless it is clearly stated, and referenced, along with the purpose of use), nor material which to a substantial extent has been submitted for the award of any other degree or diploma of a university or other institution of higher learning.

Signed:

Date: 6 March 2024

Glossary of Tongan Terms

Tongan Word	Translation/Explanation
Anga fakatonga	The Tongan way
Anga fakapalangi	The Western way
‘Eiki	Chiefs
Faakai	Eating too much
Famili	Family
Fatongia	Non-negotiable obligation
Fusimo ‘omo	Food insecurity
Inasi	Your share
Kainga	Kinship, extended family, including friends, church, community
Kava	Beverage made from ground kava root
Lea fakatonga	The Tongan language
Mana	Spiritual power
Mātapule	Chief attendant
Puaka	Pig, pork
Siaine	Bananas
Talo	Taro
Tapioca (Cassava)	Manioke
Toua	A person mixing and serving kava drink
Tauhi vā	The building of relationships between people
Tu’a	Commoner
Tu‘i Tonga	King/religious head of Tonga
Ufi	Yam
Vaevae manava	Food sharing

Note. For sources, refer to the in-text referencing.

Chapter 1: Introduction

Overview

My dissertation explores the food literacy experiences of three Tongan migrants living in Aotearoa New Zealand. To achieve that goal, this chapter provides much of the socio-cultural underpinning necessary to glean an understanding of Tonga, its food history and cultural uniqueness. Consequently, I first present introductory information on food literacy, my research questions, and a rationale for my topic choice. Then, the chapter provides an overview of Pacific Island nations, emphasising Tonga's socio-culture, food traditions, language, and religion. Additionally, this chapter presents a discussion on how energy-dense foods and migration have impacted the Tongan diet. That impact links diet to disease and in doing so recognises the need for intervention to improve the Tongan diet and health outcomes for Tongans. After Chapter 1, my dissertation unfolds as follows:

- Chapter 2 introduces and explores the theoretical and conceptual frameworks. Within those frameworks, I present my philosophical concepts of ontology (Crotty, 1998), epistemology (O'Leary, 2017), the social construction of reality thesis (Berger & Luckmann, 1967, 2011) and symbolic interactionism (Mead, 1974). I demonstrate my understanding and application of these domains not only within my research topic, but also within food, and within my Discussion and Conclusion (refer Chapter 6) by discussing the subjective nature, experience, and knowledge of my participants.
- Chapter 3 presents my literature review reflecting food literacy's contested definition and evolving academic and socio-cultural roles. My literature review begins by exploring food literacy's meta themes, before narrowing its focus to concentrate on food literacy, and its associated themes, in the Pacific, and then specifically in Tonga.
- Chapter 4 presents and discusses my research methodology and its application within method. My research involves primary research, and analysis using thematic analysis (Braun & Clarke, 2006, 2019).
- Chapter 5 presents my talanoa (Vaioleti, 2006) and talanoa-vā (Faʻavae, Fehoko, & Vaka, 2022) research findings gleaned from my interviews with my research participants. My research findings inform the responses to my research questions, and I note my participants' speaking position cognisant of Koven's (2004, 2012) research on speaker positioning, particularly double-voiced narration.

- Chapter 6 rounds out my research dissertation. In Chapter 6, I consider my findings (refer Chapter 5) within my considerations of literature (refer Chapter 3). That process not only identifies my dissertation's contribution to research and a way forward for food literacy, but also prompts my presentation of my research limitations, my recommendations for future research and a concluding reflective statement.
- Complementing Chapters 1–6 are my appendices. Because my dissertation has a word limit of 30,000 words, I have created two context related appendices, Appendix 1: Language and Religion, and Appendix 2: Kava, to add context to the body of my dissertation, while keeping it within word count expectations. Additionally, my dissertation also includes the more usually 'expected' appendices, namely: Appendix 3: Summary of Authors and their Food Literacy Findings, Appendix 4: Methodologies Considered but Rejected, Appendix 5: Ethics Application Approval, Appendix 6: Participation Information Sheet, and Appendix 7: Participant Consent Form.

Introducing Food Literacy

The definition of food literacy is a contested and evolving concept. However, food literacy can be defined as:

> *the scaffolding that empowers individuals, households, communities, or nations to protect diet quality through change and strengthen dietary resilience over time. It is composed of a collection of inter-related knowledge, skills and behaviours required to plan, manage, select, prepare, and eat food to meet needs and determine intake.* (Vidgen & Gallegos, 2014, p. 54)

In contemporary cultures, food literacy plays an important role in our understanding of food. That understanding complements the role of food as a source of human nutrition. Consequently, food occupies an important place in our everyday lives, culture, society, community, and environment (Rowat et al., 2021). Father of gastronomy Brillat-Savarin realised those connections in his seminal work, *The Physiology of Taste; Or Meditations on Transcendental Gastronomy* (1825/2009). There, he suggested that "gastronomy is the intelligent knowledge of whatever concerns man's [sic] nourishment" (Brillat-Savarin, 1825/2009, p. 61). Building upon that, Williams-Forson and Wilkerson (2011) suggested that "food is a powerful tool for analysing almost any kind of issues" (Williams-Forson & Wilkerson, 2011, p. 8). That realisation provides a potent link between food and gastronomic study and research because food provides insight into gastronomy through a gastronomically focused cultural lens. (Gillespie & Cousins, 2001; Santich, 2007). Considering those connections, my research explores food literacy and the barriers to food literacy experienced by Tongan migrants living

in Aotearoa New Zealand. My research topics addresses a significant gap in current research within Tongan migrant communities. Guiding my primary qualitative research inquiry are my research questions.

Research Questions

My primary research question asks:

- In what ways is food literacy experienced by Tongan migrants in Aotearoa New Zealand?

Underpinning my primary question are my two secondary research questions. They ask:

- What is the current state of academic knowledge surrounding food literacy of Tongan migrants in Aotearoa New Zealand?
- What agents of change could positively impact the food literacy of Tongans in Aotearoa New Zealand?

Linking my Research to Gastronomy

As Brillat-Savarin noted, gastronomy considers that "the destiny of nations depends on how they nourish themselves" (Brillat-Savarin, 1825/2009, p. 15). In that way, the link between food and gastronomy is, as Santich (2007) recognised, greater than "the study of food per se" (p. 53). Gastronomy encompasses the study and consideration of "natural history, physics, chemistry, cookery, business, and political economy" (Brillat-Savarin, 1825/2009, p. 61). Considering that, and Brillat-Savarin's (1825/2009) link between gastronomy and the "nourishment of man [sic]" (p. 61), the association between food literacy and gastronomy provides a valuable way in which gastronomy can focus attention on food literacy – and, in this research, Tongan food literacy in particular. Considering that gastronomy provides a unique insight into food literacy because gastronomy recognises the important position that food has in human society, culture, customs and practices throughout history (Santich, 2007). Considering that scope, a gastronomic lens provides the perfect mechanism through which food literacy and my research questions can be explored.

Rationalising My Topic: Why Food Literacy?

Food has dominated my life. Consequently, it is little wonder that I chose food literacy as my dissertation research topic. Growing up in Penang, Malaysia, I came to realise that everything 'revolved' around food. Back then, every occasion, including births, birthdays, weddings, Chinese lunar festivities, the passing of loved ones, Chinese New Year, Mid-Autumn (known as the moon cake festival), and ancestor worship, were corner stoned by food. In my lived experience in Malaysia, my Malaysian culture encouraged the giving and sharing of food with neighbours and friends, and giving food expressed hospitality and reciprocity. My memories of food include its accessibility. Every marketplace had food stalls offering a vast array of food for daytime, evening dining out, and supper occasions. When I grew up, I never thought that the foods we consumed were either healthy or unhealthy. Neither was the term 'food literacy' part of our vocabulary. When I was growing up, a balanced meal consisted of rice, vegetables, meat or fish, soup, or curry. Those meals used methods of cookery including boiling, braising, steaming, and frying. Complementing that, we enjoyed local sweet treats and fresh fruits.

In my native oral language, Hokkien, there is not a term equivalent to food literacy. The closest vernacular terms reflecting food literacy's definition include phrases like 'eat good food', 'eat bad food' and 'eat food filled with vitamins.' The term 'eat good food' means to eat well, and for me emphasises consuming plenty of meat and fish. Conversely to 'eat bad food' means to eat poorly when times are hard, the food budget is limited, food is expensive or of poor quality. In my culture, to 'eat food filled with vitamins' means to eat food cooked with medicinal herbs bought from a Chinese medicinal shop. These foods are designed to nourish and repair the body. As I reflect upon those phrases, I believe that their synthesis reflects and constitutes the basic elements of food literacy within my culture.

My interest in food topics, particularly food literacy, began when I started my study toward a master's degree in gastronomy at Auckland University of Technology (AUT). While food intrigued me, food literacy captivated me because I came to realise that whatever the culture, most people try to eat well. Considering that elevated my interest in food. Soon I came to realise that, through research, change could be made that might positively impact the nutritional knowledge of others. While that sounds an admirable goal, I am mindful that my dissertation has limitations (refer Chapter 6, "Discussion and Conclusion") and that my own knowledge and growth are 'works in progress.'

Coinciding with that, the health of Pacific Islanders began to interest me. In particular, I noticed several articles proposing that, consequent to being overweight and obese, many Pacific Islanders were, through diet, susceptible to chronic diseases including diabetes, hypertension, and cardiovascular disease (Butcher et al., 2021; Horsey et al., 2022; Kammholz et al., 2021; Perry et al., 2017). I began to wonder what contribution I might make to improving that situation. Guiding that was my belief that, like many Malaysians, Pacific Islanders might not actively consider notions of what is a healthy or unhealthy diet. In that way, and based on my limited food literacy knowledge, I felt an affinity with Pacific Islanders. That affinity, and my passion for my topic, prompted my research journey.

Locating The Pacific Islands

Pacific Island nations are located in the Pacific Ocean. While there are 7,500 Pacific Islands, only 500 of them are habitable. Most Pacific Island have fertile volcanic soil, abundant marine life, and natural resources (Haberkorn, 2007). The Pacific Islands comprise 22 island nations (refer Table 1, below) clustered within Melanesia, Polynesia, and Micronesia. All Pacific Island nations were colonised, except for the Kingdom of Tonga. The Kingdom of Tonga avoided direct colonisation through treaties with France (in 1855), Germany (in 1876), the Treaty of Friendship with Great Britain (in 1879) and United States of America (in 1886) (Bade, 2021, p. 241).

Table 1: Pacific Island Countries and Territories – Melanesia, Polynesia, Micronesia

Melanesia	**Colonised by and date**	**Polynesia**	**Colonised by and date**	**Micronesia**	**Colonised by and date**
Fiji	United Kingdom, end of 19th century.	**American Samoa**	United States of America, 19th century.	**Federated States of Micronesia**	Germany, end of 19th century.
New Caledonia	France, end of 19th century.	**Cook Islands**	United Kingdom, 19th century.	**Guam**	United States of America, end of 19th century.
Papua New Guinea	Germany, end of 19th century.	**French Polynesia**	France, 16th century.	**Kiribati**	United Kingdom, end of 19th century.
Solomon Islands	United Kingdom, 20th century.	**Niue**	United Kingdom, 19th century.	**Republic of Marshall Islands**	France, end of 19th century.
Vanuatu	United Kingdom and France jointly, 20th century.	**Pitcairn Island**	United Kingdom, 19th century.	**Nauru**	Germany, end of 19th century.

		Samoa	Germany, end of 19th century.	**Commonwealth of Northern Mariana Islands**	France, end of 19th century.
		Tonga	British Protectorate from 1900 until 1970.	**Palau**	Germany, end of 19th century.
		Tokelau	British Protectorate, end of 19th century.		
		Tuvalu	British Protectorate, end of 19th century.		
		Wallis and Futuna	France, end of 19th century.		

Note. Information sourced from: Bade (2021), Charlton et al. (2016), Foster (2023), Haden (2009), Lee and Francis (2009), Macdonald (2023).

The 'face' of many Pacific Island nations is changing. China is 'gaining ground' in nations such as Fiji and the Solomon Islands (Fonua, 2023). That influence contrasts with the previous Western dominance in the Pacific region. Redressing China's presence, the United States of America (USA) has begun to take a more active role, and with Australia's cooperation, develop a more militaristic presence in the Pacific (Smith & Wesley-Smith, 2021).

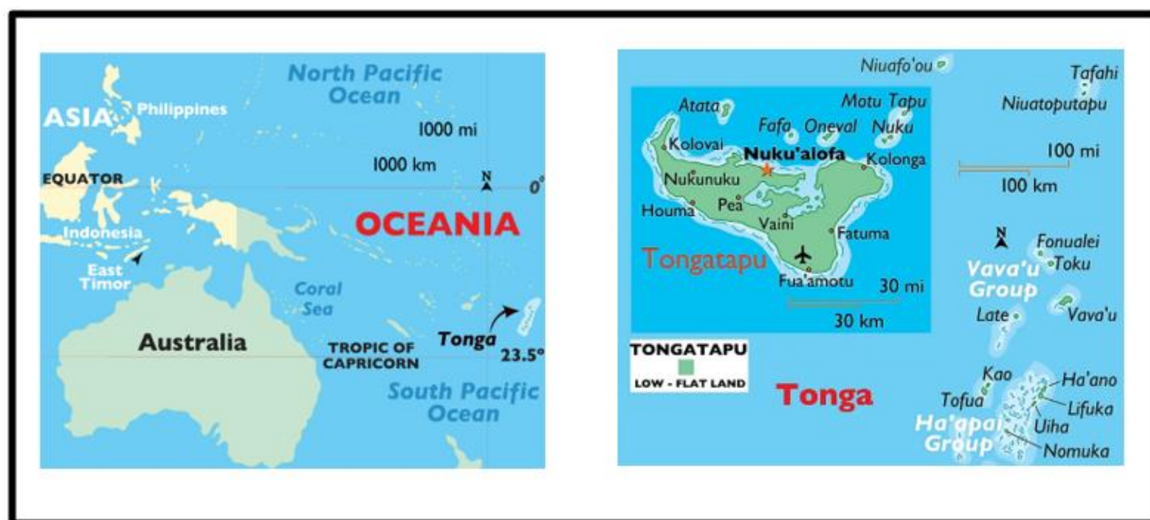
While 22 nations make up the Pacific Islands, my research concentrates upon food literacy in the Kingdom of Tonga**.** Tonga is the only Pacific Island that has a hereditary monarchy (West, 2009). Tonga's monarchy began with "Taufa'ahau of the Tu'i Kanokupolu kingship line" (West, 2009, p. 819). He took the baptised name Saosi or George. King George Tupou I reigned from 1845–1893 (West, 2009, p. 819). Tonga's current monarch is King Tupou VI (Churchward, 2015; Royal Palace of Tonga, 2015). The Kingdom of Tonga has an estimated population of 107,857 people with an estimated 381,642 Pacific Islanders living in Aotearoa New Zealand (Freeman et al., 2022). Unlike Islanders from Niue, Tokelau, and the Cook Islands, Tongans require a visa to enter Aotearoa New Zealand (Immigration New Zealand, 2023; Rovoi, 2023).

Introducing Tonga

Officially known as the Kingdom of Tonga (refer Figure 1, below), Tonga consists of 170 islands, of which 36 are inhabited (Langridge et al., 2023). The Kingdom of Tonga is spread over 140,000 square miles of the Pacific Ocean. Tonga's population is concentrated over three

islands, namely Vava‘u, Ha‘apai, and Tongatapu (Evans et al., 2003; Langridge et al., 2023; West, 2009). The capital city, Nuku‘alofa is located in Tongatapu (West, 2009). According to Lee and Francis (2009), and as noted in Table 1, Tonga was the only Pacific Island nation that was not colonised by the British. However, from 1900 to 1970 Tonga was a British protectorate (Bade, 2021; Lee & Francis, 2009). Since the 1960s, many Tongans have migrated to Aotearoa New Zealand, the United States of America and Australia (Alefaio-Tugia, 2022; Bade, 2021; Evans et al., 2003; Lee & Francis, 2009).

Figure 1: Locating Tonga in the Pacific, and a Map of Tonga



Note. Map from World Atlas (2022).

Due to its geological diversity, Tonga has rich, fertile volcanic soils promoting the growth of a wide selection of vegetation, forests, and swamps (West, 2009). While Tonga’s forest are home to scarce indigenous wildlife, including flying foxes, domestic animals, such as cattle, horses, pigs and chickens, were introduced through Western influence (West, 2009). Prior to Western influences, Tongans enjoyed a subsistence existence with produce grown and sourced from their land and sea. Those foods included squash, coconuts, bananas, vanilla beans, cocoa, ginger, black pepper, kava, and fish (Bade, 2021; Lagasse, 2018). That food was, according to Haden (2009), organic, free range and packed with nutrients. Consequently, it could be argued that, prior to Western influence, Tongans practiced food literacy, cognisant of seasonal and geographic, and geological considerations (Haden, 2009). Yet, key to understanding Tonga and its people is an appreciation of its dynamic culture, and how culture influences the ways in which Tongans make sense of their world (Berger & Luckmann, 1966).

As Morton (1998)realised, Tongan social structures, enacted and embodied within custom and practice, are reflected within the construct of anga fakatonga, the Tongan way (Morton, 1998, p. 1). Underpinning anga fakatonga is tauhi vā ('Ahio, 2011, p. 52). Tauhi vā defines the maintenance of relationships; kainga ('Ahio, 2011, p. 64), or kinship enacted within family, friends, church, and community, is bound within fatongia ('Ahio, 2011, p. 67), the customary practice of non-negotiable obligation. Another influential cultural domain is vaevae manava ('Ahio, 2011, p. xiii), the sharing of food. Consequently, any understanding of Tongan socio-culture requires an appreciation of those domains. However, to refine those domains, and to glean a holistic perspective, in the following sections, I consider those domains within two contrasting eras in Tongan history, Tonga before Western influence and Tonga after Western influence, within considerations of Tongan culture, Tongan food traditions, the Tongan language, and Tongan religion.

Tongan Culture

For Hogg (2021) culture was a set of thoughts and practices differentiating social groups. Heine (2020) suggested that notions of culture reinforce the behaviours of individuals through shared ideas, beliefs, and practices. In those ways, as Kronenfeld (2018) realised, culture reflects a collective system of shared knowledge and language representing the "collective representation" of communities (Kronenfeld, 2018, p. 41). For Muimuiheata (2022), Tongan culture is predicated within considerations of collectivism (refer Table 2, below), and social hierarchy.

Table 2: Attributes of Collectivist Cultures

1.	People are born into extended families or clans which protect them in exchange for loyalty.
2.	"We" consciousness.
3.	Strong emphasis on belonging/being part of a group/community.
4.	Emphasis on social harmony.
5.	Others classified as in-group or as an out-group that is not part of an in-group.
6.	Opinions and votes pre-determined by in-group decision-making.
7.	Transgression of norms promotes feelings of shame.
8.	The word "I" is often avoided.
9.	Relationships prevail over task.

Note. Adapted from Hofstede (2011, p. 11).

As previously noted, Tongan socio-culture is community-based within considerations of kainga (kinship) and expressions of rank, language, and religion (Metuamate, 2018; Ratuva, 2019; Veys, 2009; West, 2009). Extending that and adding to an understanding of Tongan culture are considerations of gender and gender roles (Haden, 2009). 'Ahio (2011) and Wong Soon et al. (2021) explained gendered roles within women's roles as food preparers and household carers, and men's work role in subsistence agriculture and fishing. Within those considerations, Tongan social roles are reflected and reinforced within anga fakatonga (Morton, 1998, p. 1) and maintaining relationships, such as tauhi vā ('Ahio, 2011, p. 52) and kainga ('Ahio, 2011, p. 64). For Pollock (1992), Tongans' largest celebration, inasi (which literally means "your share") involves Tongan chiefs and mātapule (second rank chiefs) (Pollock, 1992, p. 113) maintaining the practice of anga fakatonga (Morton, 1998, p. 1). Within inasi, gender roles and class systems are reinforced through celebration. Inasi celebrates that sisters are ranked higher than brothers (West, 2009). Notwithstanding that, contemporary Tongan culture reflects a "dual realm of existence" (Bakhtin, 1981, p. 159). That duality constitutes the Tongan way, anga fakatonga (West, 2009, p. 820), and the Western way, anga fakapalangi (West, 2009, p. 820), for many Tongans, particularly Tongan migrants. That is an important consideration, given that half of Kingdom of Tonga's population live outside Tonga (West, 2009). Consequently, for many modern Tongan's cultural realities and their expression are sometimes contradictory considerations.

Tongan Food Traditions

As Fischler (1988) observed, food is not only a determinant of identity, provisioning commensality, but also a materiality defining the 'other' (Fischler, 2011). In those ways, food sustains, denotes, and connotes human relationships, linking individuals to their collective identity, ethnicity, or group. Gastronome Brillat-Savarin (1825/2009) encapsulated this very point. He remarked that "the universe is nothing without the things that live in it, and everything that lives eats" (Brillat-Savarin, 1825/2009, p. 15). Extending that is Brillat-Savarin's (1825/2009) most quoted aphorism "you are what you eat" (p. 15). More recently, but reflecting that theme, Oh et al. (2019) noted that "what you eat defines who you are" (p. 1). Equally, and countering those positions, Morris (2010), in discussing Māori food consumption by Pākehā, argued that what we do not eat is equally revealing of who we are.

Contemporary Tongan foodscapes are shaped by history (Haden, 2009). Some 3,500–4,000 years ago, Austronesian peoples navigated their way from South Asia, settling in Oceania, Polynesia, Madagascar, Taiwan, Korea, and Japan. On that migration they brought with them food, plants, and animals (Haden, 2009; Klamer, 2019; Peterson, 2009; Ratuva, 2019; Shichirō, 1976; Smith, 2017). Consequently, the traditional Tongan diet reflected that migration within the consumption of pigs, dogs, rats, chickens, and fish; starchy carbohydrates such as taro (talo), yam (ufi), breadfruit, rice, sago, and arrowroot; and bananas, sugarcane, coconut, pandanus, leafy vegetables, and gourds (Haden, 2009; Peterson, 2009; Pollock, 1992). Those foods were either cooked, eaten raw or preserved to enhance their longevity. In ancient Tonga, preservation techniques included fermentation, smoking, and drying to ensure that food could be stored for future use (Haden, 2009). Traditional Tongan food culture used lapita pots for cooking and an umu (earth and underground oven) for baking and steaming. Archaeologically, lapita pottery is commonplace in the Pacific region (Haden, 2009; Klamer, 2019; Ratuva, 2019). Given the ocean's bounty, and the produce from the land, a traditional Tongan diet was high in fibre, and low in fat, salt, and sugar (Haden, 2009).

Notwithstanding that, the traditional Tongan diet was initially influenced by European contact during the 17th century. A lineage of 'explorers' beginning with the Dutch, then James Cook, followed by English Methodist Missionaries (around the 1820s) created 'waves of dietary influence.' As well as salted pork and ship's biscuits (Cruz Berrocal & Sand, 2021; Dolce, 2020; Kodicek & Young, 1969), maritime explorers also introduced Tongans to foreign infectious diseases, including measles, smallpox, flu, tuberculosis and sexually transmitted diseases (Cruz Berrocal & Sand, 2021). Captain James Cook's Tongan explorations paved the way for the arrival of missionaries and more explorers (Cruz Berrocal & Sand, 2021; Kaeppler, 1971a).

Tongan food traditions and Tongan social hierarchy and systems of belief are connected. For instance, the yam is considered by Tongans to be a special food for the Gods. Consequently, yam is offered to Tui Tonga, a pre-Christian mythical god (Pollock, 1992; Veys, 2009). That offering ensures the nation's protection as well as enhancing the land's productivity (Pollock, 1992). Another ancient Tongan food tradition is pork (puaka) consumption. Eating pork symbolises wealth and prestige. Pork is highly valued and represents an integral part of food ritual celebrations, and, in past time, it held strong connections to Tongan royalty (Treagus,

2010; Tu'inukuafe, 2019). For many Tongans, feasting is not complete without a pig roasted over an open fire, while the root crops, yam, cassava, taro, fish, seafood, beef, or horse meat are baked in an umu (Haden, 2009; Treagus, 2010; Tu'inukuafe, 2019). In those ways, celebrations involving food not only maintain relationships (tauhi vā) but also reinforce belief and tradition, building community (kainga) and evoking notions of duty and obligation (fatongia) (Haden, 2009; Treagus, 2010; Tu'inukuafe, 2019).

Yet traditional foods have morphed to suit changing times and non-traditional protein sources. Reflecting that are lu-based Tongan dishes. In Tongan, lu means taro leaves (Haden, 2009; Toloke, 2021; Treagus, 2010). Traditional protein ingredients, within lu-based dishes include lu puaka (pork), and lu ika (fish) (Toloke, 2021, p. 21). However, today in Tonga lu sipi is a very popular dish. Lu sipi is made by using sheep meat or mutton flap (Haden, 2009; Toloke, 2021; Treagus, 2010). The sipi (sheep meat) is cut into bite-sized pieces, wrapped in lu and banana leaves with coconut cream, and steamed or baked in an umu (Haden, 2009; Toloke, 2021). Lu-based dishes reflect and encapsulate Tongan socio-culture in their entire process from the food's sourcing until its commensal eating (Toloke, 2021). Lu dishes are usually prepared by women and require many hands to prepare. Consequently, dishes like lu sipi reflect the Tongan way (anga fakatonga) within the many hands that it takes to source, prepare, and cook the food and then consume it. In making a dish like lu sipi, notions of social bonding and relationships (tauhi vā) and kinship (kainga) are reinforced and maintained. Making dishes like lu sipi similarly reflect notions of commitment, duty, and obligation (fatongia) toward family within the provision of food, its preparation, and its communal consumption. That consumption evokes sharing (vaevae manava), a cornerstone concept within the Tongan way (anga fakatonga). In those ways, Tongan foods like lu sipi are markers of Tongan identity, ways of being and becoming that reinforce being Tongan.

Considering the impact of contemporary protein sources, like lamb, realises the connection between diet and well-being. That consideration adds another layer of thought to the notion of how what we eat comes to reflect who we are (Brillat-Savarin, 1825/2009). Those considerations are compounded when additional 'new' protein sources are considered. Those sources include inexpensive fatty lamb flaps, mutton flaps, and turkey tails. While those items are considered unpalatable in the West, in Tonga they are valued as luxurious and prestigious products (Gewertz & Errington, 2007; Haden, 2009). Consequently, many Tongans have

developed a taste for these cheap fatty foods, incorporating them into their traditional lu-type dishes (Haden, 2009, p. 131). Key to those understandings is the Tongan language and religious beliefs (refer Appendix 1).

Tongan Food and Rituals

Traditionally, the Polynesian diet included bananas, plantain, and coconut, complemented by fish, particularly mullet and milkfish (Haden, 2009). In outlying islands, some islanders still enjoy a staple diet within a subsistence existence (Haden, 2009). However, over time and due to Western influence, consumption of traditional island foods and kava declined as they were perceived by many missionaries as unpalatable, foreign, unknown, and inferior (Haden, 2009).

Change occurred in Tonga during its protectorate status. Under the influence of missionaries, the King of Tonga became a Christian. By 1851, all Tongans were converted to Christianity (Haden, 2009). Consequently, under the guise of Christianity, Tongan secular society was transformed (Haden, 2009). For Hofstede (2011), who specialised in considerations of cultural dimensions, that change denoted the "collective programming of the mind that distinguishes the members of one group or category from another" (Hofstede, 2011, p. 3).

Considering that history, it can be argued that, although the Kingdom of Tonga was never colonised, Tonga was colonised through the Westernising influences of its protectorate status, and the Christian missionaries who transformed traditional Tongan culture. Early missionaries ordained some locals as priests (Haden, 2009). Doing that meant teaching the locals how to read, and write, so they could understand the Bible. As a result Tongan traditional culture was changed from its old ways of worshipping to Christian worship (Haden, 2009). That change forced many indigenous Tongans to ascribe to Western sensibilities. Reflecting that was the adoption of the Western three-meals-a-day schedule to limit the number of meals the Tongans ate; observing etiquette and table manners; eating with cutlery rather than using their hands; using cups, saucers and napkins; and being seated on chairs (Haden, 2009).

Like most meals, a Tongan meal can be realised as a ritual because it represents an opportunity to participate and connect within food-related social activities and celebrations. Consequent to their regularity, such occasions aid in wider understandings of being and becoming Tongan and how Tongans and others come to make sense of their world (Berger & Luckmann, 1966).

Considering those points, eating connotes well-being, love, care, and respect (McCabe et al., 2013). Extending that, Graham et al. (2016) proposed that not only is food about sustenance and nourishment, but also about connecting and reinforcing social bonds, maintaining culture, and supporting identity, community, and notions of the environment. This is evidenced in Tonga where cultural practice and the connection of food traditions and rituals are enacted within the sharing and gifting of food, and through acts of generosity, reciprocity, hospitality, kindness, and commensal eating that strengthen and build community cohesion (Graham et al., 2018; Graham et al., 2016; Haden, 2009; McCabe et al., 2013). Wong Soon et al. (2021) reinforced this point in revealing that "for Pacifica people in Samoa and Pacific Island countries and Pacifica people in Aotearoa New Zealand, food is about connectedness [that defines] relationships at individual, family, and societal levels" (p. 6). Key to those notions, 'Ahio (2011) advised, is the idea that "quantity is more important than quality" (p. 78). Today, given a taste propensity for unhealthy food choices, that consideration has negatively impacted the Pacific diet (Taumoepeau et al., 2021). Contemporary protein sources, including inexpensive fatty lamb flaps, mutton flaps and turkey tails, exemplify that consideration.

Convenience meat was first introduced into the Pacific diet by explorers, whalers and missionaries (Errington & Gewertz, 2008). Since then it has been 'complemented' by mutton and lamb flaps, turkey tails, McDonalds, Coca-Cola and Kentucky Fried Chicken (KFC) (Gewertz & Errington, 2010). Consequently, the food history of Tonga provides a valuable portal of understanding that illuminates contemporary Pacifica diets and their health-related issues (Charlton et al., 2016; Taumoepeau et al., 2021).

One important Tongan cultural food ritual is the consumption of puaka. Puaka's importance reflects that its ancient consumption was reserved for chiefs and "Tu'i Tonga, the religious heads of Tonga" (Newell, 1947, p. 365). Today, puaka is the most valued meat in Tongan culture (Tu'inukuafe, 2019). Consequently, puaka is reserved for feasting at occasions, that include church events after the Sabbath, weddings, funerals, and church conferences (Treagus, 2010). In those ways, puaka is a special food, one bordering on the sacred. According to Newell (1947), in feasting for royalty and chiefs, the pig is taken out of the basket, cut and divided ceremonially in front of the King. The pig's back is considered to be its prime joint. The cooked pig's back is first ceremonially presented to the highest-ranking dignitary or guest of honour (Newell, 1947). The remaining pig is then ceremonially cut and apportioned in the following

manner. The pig's head, one hind leg and a foreleg are presented to the dignitary seated to the left of the host (Newell, 1947). Then, the hind leg, foreleg and hind quarter are presented to the dignitary to the right of the host. The last portion of pig, the chest with yams, is served to other dignitaries. The importance of the occasion is signified by the number of pigs displayed and eaten (Newell, 1947). Alongside pork, kava consumption is an important part of Tongan life, community, and ritual (Apo' Aporosa, 2015; Henry, 2022; Soares et al., 2022). For more on kava, please refer to Appendix 2.

Energy-Dense Foods

Imported energy-dense foods that are common to Pacific nations including Tonga are: salted beef brisket, turkey tails, mutton/lamb flaps, imported chicken, sausages, canned tuna, spam,[1] corned mutton, corned beef, fish; instant noodles and fast foods, including McDonalds and KFC; non-alcoholic beverages, particularly Coca-Cola; snacks including Twisties and Twinkies; breads, cereals, polished white rice, dairy products, dried foods, and confectionary; and sugar, fats, and oils (Errington & Gewertz, 2008; Evans et al., 2001; Fresno-Calleja, 2017; Gewertz & Errington, 2007; Gewertz & Errington, 2010; Haden, 2009). These foods are considered to be energy dense because they are highly processed, contain excessive amount of salt, saturated fat and oil, refined sugar, are nutrient-poor, contain high calories, lack dietary fibre, possess little/no roughage, and contain high levels of refined carbohydrate (Charlton et al., 2016; Gerritsen et al., 2021; Gil-Riaño & Tracy, 2016; Haden, 2009; Mackay et al., 2022; Singh et al., 2021; Taumoepeau et al., 2021). Energy-dense foods differ from a traditional Island diet foods not only because they are imported, but also because they are highly processed, contain additives and flavourings, lack freshness, are often in dehydrated form, and/or are chemically altered to ensure shelf life (Evans et al., 2001; Gerritsen et al., 2021; Kammholz et al., 2021; Mackay et al., 2022; Singh et al., 2021). Energy-dense foods are relevant to food literacy because food literacy guides and equips us with skills and knowledge that empower us to make positive food-related decisions that positively impact our health and well-being (Horsey et al., 2022; Kammholz et al., 2021; Vidgen & Gallegos, 2014). Energy-dense foods are potential health hazards because they are high in fats. Those fats contribute to obesity, hypertension, cardiovascular disease, and diabetes (Errington & Gewertz, 2008; Evans et al., 2001; Kammholz et al., 2021; Singh et al., 2021) (refer to the sections on "Diet and

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[1] Spam is a processed canned meat product (Haden, 2009).

Diseases", below). Consequently, energy-dense foods constitute a threat to health and well-being in Pacific Islands like Tonga.

Impacts on the Tongan Diet

One way to explore how migrant diets have changed and how that change impacts health outcomes, is to follow the quote from Brillat-Savarin (2009, p. iv), "tell me what you eat, and I shall tell what you are," in a novel way. Considering Brillat-Savarin's notion through a socio-medical lens provides valuable insights into the ways in which diet is reflected within health outcomes. A large volume of academic literature supports that notion. Exemplifying that is Reeve et al.'s (2022) suggestion that "overweight and obesity [were] linked primarily to an over consumption of dietary energy, [and were] strongly associated with an increased prevalence of diabetes, hypertension and cardiovascular disease, as well as increased NCD-related[2] mortality" (p. 2). Additionally, Taumoepeau et al. (2021) noted a:

> shift away from healthy traditional diet [, … a] decline physical activity, increased consumption of imported and processed foods [that are] low in fibre, high in refined carbohydrates and fats, nutrition transition contributed to dramatic rise in prevalence of obesity and NCDs such as T2DM (Type 2 Diabetes mellitus). (Taumoepeau et al., 2021, p. 1)

Considering the impact of diet on Tongan health and health outcomes, (Helble & Francisco, 2017) observed the link between energy dense food and negative health outcomes for many Tongans. Additionally, Taumoepeau et al. (2021) associated Tongan people's overweight and obesity with diets based on imported, processed and nutrient-poor foods that compromised health. The health and diet statistics for Pacific Island nations, including Tonga, are presented in Tables 3 and 4, below.

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[2] 'NCD' is the acronym for non-communicable disease, also called chronic disease, and refers to diet-related illnesses such as overweight, obesity, malnutrition, diabetes, hypertension, and cardiovascular diseases (Reeve et al., 2022).

Table 3: Overweight and Obesity in the Pacific

The Pacific	1990	2013	% Change
Fiji	44.2	51.2	15.8
Papua New Guinea	39.1	42.9	9.7
Solomon Islands	59.5	64.8	8.9
Timor-Leste	4.7	4.9	4.3
Vanuatu	45.3	50.6	11.7
Palau	44.2	51.2	15.8
Marshall Islands	66.7	76.9	15.3
Micronesia	69.6	74.9	7.6
Samoa	80.3	84.0	4.6
Tonga	82.5	86.1	4.4
Kiribati	75.1	79.1	5.3
Mean for the Pacific	55.57	60.60	9.1

Note. Data from Helble and Francisco (2017).

Table 4: Diseases Attributed to Obesity in Asia and Pacific

	Disease	Risk factor Attribution (%)	Proportion from Total DALY (%)	Real Contribution of BMI>=25 to DALY (%)
1	Ischemic heart disease	15.63	6.76	1.06
2	Stroke	19.56	8.73	1.71
3	Diabetes	40.99	3.19	1.31
4	Liver cancer	9.99	2.26	0.23
5	Breast cancer	11.86	0.54	0.06
6	Oesophagus cancer	14.59	0.86	0.13
7	Gall bladder and Biliary tract cancer	11.28	0.15	0.02
8	Hypertensive heart disease	29.83	0.96	0.29
	Total			**4.79**

DALY = disability-adjusted life year; BMI = body mass index.

Note. Data from Helble and Francisco (2017).

Considering the data for Tonga in Table 3 and Table 4 suggests that a correlation exists between being overweight/obesity and diet-related diseases (refer Table 5).

Table 5: Diseases Attributable to Overweight and Obesity in Tonga

	Prevalence overweight and obesity in Tonga			
	Name of country	**1990**	**2013**	**% Change**
	Tonga	82.5	86.1	4.4
No:	**Diseases attributed to overweight and obesity**	**Risk factor Attribution (%)**	**Proportion from Total DALY (%)**	**Real Contribution of BMI>=25 to DALY (%)**
1	Ischemic heart disease	15.63	6.76	1.06
2	Stroke	19.56	8.73	1.71
3	Diabetes	40.99	3.19	1.31
4	Liver cancer	9.99	2.26	0.23
5	Breast cancer	11.86	0.54	0.06
6	Oesophagus cancer	14.59	0.86	0.13
7	Gall bladder and Biliary tract cancer	11.28	0.15	0.02
8	Hypertensive heart disease	29.83	0.96	0.29
	Total			**4.79**

DALY = disability-adjusted life year; BMI = body mass index.

Note. Adapted from Helble and Francisco (2017).

Table 5 shows that, in 1990, 82.5% of Tongans were overweight or obese (Helble & Francisco, 2017). Being overweight or obese refers to the excess fat accummulated in the body that results in physical impairment and high risk of certain diseases (Helble & Francisco, 2017). DALY refers to productive life lost in each year because of a person's disability (morbidity) and/or through premature death (mortality) (Helble & Francisco, 2017). In 2013, 86.1% of Tongans were overweight or obese. That represents a 4.4 % increase from 1990 (Helble & Francisco, 2017). That increase is attributed to the increasing prevalence of NCDs, like diabetes and heart disease. Diabetes, an illness attributed to diet-related outcomes, is at its highest level in Tonga (Helble & Francisco, 2017). In Table 5, being overweight and obese is causally linked to eight types of non-communicable diseases that negatively impact the health of Tongans (Helble & Francisco, 2017). Diabetes, hypertensive heart disease, ischemic heart disease and stroke are common diseases in overweight and obese Tongans. Additionally, obesity or being overweight also increases cancer risks (refer Table 5). The link between diet and disease for Pacific Island peoples, including Tongans, is clearly established (Baumhofer et al., 2020; Evans et al., 2003;

Evans et al., 2001; Helble & Francisco, 2017; Horsey et al., 2022; Kaufusi, 2020; Muimuiheata, 2022; Reeve et al., 2022; Romeo-Stuppy et al., 2022; Sievert et al., 2019; Taumoepeau et al., 2021; Veatupu et al., 2019; Win Tin et al., 2020).

Diet and Disease in Pacific Island Nations

In Pacific Island nations, Evans et al. (2001) linked poor dietary choices to food literacy skills. This is because the lack of food literacy skills impacted on food knowledge and the inability to make informed food choices – decisions resulting in poor dietary choices. Additionally, Pacific Island peoples use food to reinforce socio-cultural roles and patterns that align with considerations of obligation (fatongia). Adding to that, a large body size signifies health ('Ahio, 2011; Hardin et al., 2018). Consequently, consumption patterns and behaviours promoting obesity also promote chronic diseases. Compounding that are the negative impacts of Western diets, particularly the introduction of cheap fatty meats, energy-dense foods, and nutrient-poor foods that promote diet-related illnesses and chronic diseases (Evans et al., 2003; Veatupu et al., 2019). Other imported items also contribute to the diseases of Tongans and other Pacific Islanders. Tobacco provides an excellent exemplar. Because of the introduction of these items into the Tongan and wider Pacific way of life, islanders are susceptible to NCDs including cardiovascular disease, diabetes, cancer, chronic lung disease, hypertension, and respiratory problems. Those diseases have been escalated by the COVID-19 pandemic (Win Tin et al., 2022).

Diet and Disease in Tonga

Considering Tongan people's exposure, a diet including Western foods, Tongan food socio-culture has been contemporarily transformed into a blend of traditional and Westernised diet preferences (Gewertz & Errington, 2007; Haden, 2009). By comparison to a traditional Tongan diet, a Western diet promotes the consumption of unhealthy food options, nutrient-poor, energy-dense, fatty, high-calorie but inexpensive foods which are associated with diet-related NCDs (Evans et al., 2003; Veatupu et al., 2019). Given that the Tongan population encourages an obesogenic environment (i.e., one promoting obesity), these foods provide a 'quick fix' (Veatupu et al., 2019). Consequently, diet-related diseases are a leading contributory factor in the development of NCDs (Colagiuri et al., 2002; Reeve et al., 2022) as previously noted (Win Tin et al., 2022). Notwithstanding that, many type-2 diabetes cases go undetected (Colagiuri et

al., 2002). That is an important consideration for Tongans because Tonga has a high incidence of diabetes that has doubled over a 25-year period (Colagiuri et al., 2002). For this reason, the Tongan Government has responded to a potential health crisis by implementing preventive policies and legislation (Win Tin et al., 2022). These are noted in Table 6.

Table 6: Positive Differences in Terms of Concerted Efforts in Pacific Island Countries and Territories (PICTs) including Tonga

Preventive Policies and Legislations against Non-communicable diseases (NCDs) in Pacific Island Countries and Territories (PICTs) including Tonga					
Tobacco		**Alcohol**		**Food and Physical Activity**	
Total PICTs	**Policy and Legislation**	**Total PICTs**	**Policy and Legislation**	**Total PICTs**	**Policy and Legislation**
20 PICTs	Tobacco control Policy.	21 PICTs	Imposed alcohol tax on beverage not ethanol.	14 PICTs	Tax on unhealthy food and beverage choices, e.g. sugar, sweetened beverage and foods.
20 PICTs	Public spaces made smoke-free.	21 PICTs	National licensing regulation to restrict sales of alcohol.	16 PICTs	Tonga put forward additional policy to reduce population salt consumption. Policy to reduce salt consumption and trans-fat.
17 PICTs	Legislated for health warning on tobacco packaging.	20 PICTs	Regulation to prevent drink driving.	13 PICTs	Endorsed food-base dietary guidelines and policies.
2 PICTs	Legislated to prevent tobacco industry interference.	8 PICTs	Restriction placed on alcohol advertising.	5 PICTs	Restrict marketing of goods and non-alcoholic beverage to children and unhealthy foods in schools.
17 PICTs	Health warnings on tobacco packaging.			14 PICTs	Provision and promote healthy food choices in schools.
19 PICTs	Restrict advertising.			15 PICTs	Compulsory physical education in schools.
18 PICTs	Restrict sales and require tobacco licensing.				

Note. Adapted from Win Tin et al. (2022).

PICTs, as Charlton et al. (2016) defined them, are the Pacific Island countries and territories. The PICTs are comprised of 22 island countries and territories within three clusters: Melanesia,

Polynesia and Micronesia (refer Table 1), while in Win Tin et al. (2022) the PICTs that participated in the project are comprised of 21 island countries (i.e., Pitcairn Island was excluded).

Table 6 notes that Tonga imposed taxation to discourage tobacco use, created smoke free zones, issued health warnings, and restricted tobacco advertising. Additionally, Tonga promoted taxation on alcohol, restricted alcohol advertising, issued drink/drive warnings, as well as legislating taxation on unhealthy foods sold in schools, and imposing policies to reduce salt and trans-fat food consumption. Compulsory physical activity in schools was also encouraged (Win Tin et al., 2022). Consequently, taxes on unhealthy options act as a deterrent in reducing the use and consumption of tobacco, alcohol, and unhealthy foods promoting diet-related disease. Within Pacific Island nations, diet-related diseases are important considerations because ill health, via NCDs, that results in morbidity or mortality, creates health costs for governments as well as negatively impacting the quality of life and life span of individuals and their kainga (Reeve et al., 2022; Taumoepeau et al., 2021). In Tonga, a staggering 81% of deaths are attributable to NCDs (Veatupu et al., 2019).

Tonga is faced with high death rates directly related to diet related NCDs. As Veatupu et al. (2019) and Sievert et al. (2019) revealed, a diet of energy-dense nutrient-poor foods that are highly processed, and contain “risks nutrients” like sugar, saturated fat, and sodium, has negative consequences on diet quality, metabolism and health (Sievert et al., 2019, p. 2). As Veatupu et al. (2019) noted, Tongans live in an obesogenic environment, where 54.3% of the female population, and 40.5% of the male population are obese (Freeman, 2018, p. 13). Underpinning that, according to Veatupu et al. (2019), the common denominator in Tonga’s overweight population is that childhood obesity leads to adult obesity. Consequently, additional research that explores food literacy in Tonga is timely.

Chapter 2: Theoretical and Conceptual Frameworks

Introduction

In this chapter, my research presents the philosophical underpinning supporting my dissertation's position on food literacy. Specifically, in this chapter I present my theoretical and conceptual frameworks. Theoretical and conceptual frameworks are similar but not the same. A theoretical framework references the theoretical structures supporting a research endeavour (Swanson & Chermack, 2013). Consequently, a theoretical framework provides the theoretical background and philosophical explanations underpinning research. A conceptual framework, according to Ravitch and Riggan (2012), is a way of connecting all the features of the research process, such as researcher's positionality, the researcher's interest, the researcher's disposition, and the literature review, theory and methods. In that way a conceptual framework denotes the researcher's application and adaptation of the theory proposed within a theoretical framework.

In those ways, a theoretical framework and a conceptual framework complement each other. Specifically, in this chapter, I explicate my theoretical and conceptual frameworks within my exploration and application of ontology (Crotty, 1998), epistemology (Creswell & Poth, 2018; Crotty, 1998; Levers, 2013), the social construction of reality thesis (Berger & Luckmann, 1966), and symbolic interactionism (Mead, 1934). To best explain those notions, I sequentially work through those topics by presenting their theoretical dimensions (my theoretical framework), then their application to my research (my conceptual framework).

Theoretical Framework: Ontology

Ontology derives from the Greek words "*onto* (being) and *logia* (science, study, theory)" (Slevitch, 2011, p. 74). According to Grant and Giddings (2002), the theory of ontology relates to fundamental views about the nature of human being and existence of reality. Additionally, for Laverty (2003), ontology refers to reality and what it is to know. More recently, Gray (2022) defined ontology as "the study of being, that is the nature of existence and what constitutes reality and understanding of what is" (p. 23). Ontology considers reality within notions of realism and relativism (Slevitch, 2011). Realism proposes reality is based on truth and facts that cannot be changed (Slevitch, 2011). Contrasting that, relativism proposes multiple

realities, fluidity, change over time and place and the importance of a person's subjective experience of the world (Slevitch, 2011).

Conceptual Framework: Applying Ontology

I approach my topic within a worldview emphasising relativism. In that way I consider my topic, my participants, and indeed qualitative knowledge, as subjectively experienced and known. For me, it is the variation of experience that essentialises my research within its qualitative paradigm. In that way, I link my concept of ontology into the wider purview of the social construction of reality thesis (Berger & Luckmann, 1966). In practical ways, ontology is applied to my research within the value I place on my participants' subjective experiences of my topic, the dynamic nature of knowledge, and my integration of talanoa (refer Chapter 4, "Methodology") within my own and my participants' interactions.

Theoretical Framework: Epistemology

As Slevitch (2011) noted, epistemology is derived "from the Greek word *episteme,* meaning knowledge" (p. 74). As a philosophy, epistemology is concerned with scope and nature of knowledge (Slevitch, 2011). Epistemology reflects how we come to obtain knowledge of the world, what it means to know, how we know, and what we know (Crotty, 1998; Levers, 2013). Consequently, epistemology, according to Slevitch (2011), is how we view truth and acquire legitimate knowledge. Additionally, according to Levers (2013), epistemology considers how we make sense of our world and how we derive meaning from it. According to Crotty (1998), there are three philosophical branches of epistemology, namely, objectivism, subjectivism, and constructivism. Objectivism posits that truth and meaning lie within the object, that knowledge does not change and is independent from human influence (Crotty, 1998). Subjectivism positions that the meaning of an object is constructed, inasmuch as knowledge is understood subject to perception and thought (Levers, 2013). Constructivism avers that meanings are socially constructed by human social interactions that promote both shared meaning and subjective interpretation (Crotty, 1998; Gray, 2022; O'Leary, 2017).

Conceptual Framework: Applying Epistemology

Given my ontological position, its logical 'next step' within considerations of epistemology reflects an amalgam of subjectivism and constructivism. Enhancing that is my realisation of the observation by Neill (2018) that knowledge "provides a base for appreciating how people

come to know, participate, and understand their own worldviews and the worldviews of others" (p. 15), and "the interdependent nature of knowing about knowledge" (p. 14). I realise my research participants' subjective experiences about my topic by engaging in talanoa (refer Chapter 4, "Methodology") within a participant-centric approach to my research. My participants' subjective experiences and knowledge provide a unique insight into my topic, one that not only allows their voices to be heard but also, within their voice, promotes a contribution to academic knowledge. Given that my participants live within a "dual realm of existence" (Bakhtin, 1981, p. 325), they are best placed to respond to my research questions and elaborate upon them within their subjective experiences of food literacy.

Theoretical Framework: Social Construction of Reality Thesis

Berger and Luckmann's (1966) social construction of reality thesis is a theoretical position guiding the realities of everyday life (Berger & Luckmann, 1967, 2011) within our subjective understandings of reality and knowledge. Berger and Luckmann (1966) proposed that humankind create their world in order to understand it. 'Reality' references what is considered 'real' in our everyday language and life, whilst 'knowledge' references 'facts' (Berger & Luckmann, 1967, 2011). Therefore, and considering Berger and Luckmann (1966), reality is a socially constructed process manifest through social interaction. In that way, through interaction, meaning is made, transmitted, reinforced, and revitalised (Berger & Luckmann, 1967, 2011). Within interaction, the subjective human experience exists but is arguably subsumed within wider notions of shared culture. Exemplifying that, Americans are often linked to hamburgers. However, not every American eats or even likes hamburgers. Nonetheless, that collective reality helps us come to know Americans and American food culture. Key to the construction of reality is language. Language is something inherently interactive. Language, and its shared voice and meanings, help us to make sense of and understand the world around us. For Berger and Luckmann (1966), the dynamics of language are essential to our creation of reality its understanding and knowledge.

Conceptual Framework: Applying the Social Construction of Reality Thesis

The application of Berger and Luckmann's (1966) social construction of reality thesis flows into, and from, my realisations of ontology and epistemology. For me, subjective experiences align with different world constructions (cultures/worldviews) and their unique behaviours and rituals. Similarly, different languages have evolved through verbal construction so people can

understand and negotiate their world and its dynamic realities. Applying those considerations to my research, the world is made real for me within the subjective narratives of my participants. Their experiences, lives, realities, and knowledge may well be different from my own. Nonetheless the knowledge my participants bring to this research is valuable. It makes a unique contribution to knowledge. My valuing of it, considered that way, makes my participants an invaluable resource contributing uniquely subjective knowledge to a research domain lacking participant voice: food literacy. Considering that, my participants' knowledge and input, while subjectively based, is a rich, deep, and meaningful academic resource.

Theoretical Framework: Symbolic Interactionism

According to Carter and Fuller (2016), symbolic interactionism is a theoretical framework recognising the importance of the organised, meaningful, and repeated interactions between individuals. Adding to that, Gray (2022) proposed that human interaction is mediated through processes of interpretation and meaning-making. According to Carter and Fuller (2016), Herbert Blumer created the notion of symbolic interactionism and introduced it to George Herbert Mead. Mead extended Blumer's notions within considerations of the self and society. (See Mead (1934) and Blumer (1969).). Key to symbolic interactionism is the recognition that language promotes interaction and the development of shared and, arguably, dynamic meaning (Carter & Fuller, 2016). Gray (2022) noted that symbolic interactionism was characterised by three principles:

> 1. People interpret the meaning of objects and actions in the world and then act upon those interpretations.
>
> 2. Meanings arise from the process of social interaction.
>
> 3. Meanings are handled in and are modified by an interactive process used by people in dealing with the phenomena that are encountered. (Gray, 2022, p. 27)

Consequently, symbolic interactionism (Mead, 1934) facilitates an understanding of how individuals, through their interactions, derive meaning. In those ways, symbolic interactionism blends with my considerations of the social construction of reality thesis (Berger & Luckmann, 1966), ontology (Crotty, 1998), and epistemology (Creswell & Poth, 2018) because each domain emphasises the importance of the subjective experience and the multiplicity of reality.

Conceptual Framework: Applying Symbolic Interactionism

In considering my application of symbolic interactionism to my research, I am mindful of my participants' subjective knowledge, my use of talanoa (refer Chapter 4, "Methodology"), and how building a research relationship with my participants within talanoa is of vital importance. For my participants, notions of the Tongan way (anga fakatonga) and kainga (kinship) resulting in relationship building (tauhi vā) are of vital importance. Considering that actualises the ways in which theories, including symbolic interactionalism (Mead, 1934, 1974), are embodied and enacted in different ways and within different cultures. As a researcher, I need to be highly cognisant of those domains and culturally sensitive to my participants' cultural backgrounds.

Concluding My Theoretical and Conceptual Framework

In summary, this chapter has presented the various philosophical and theoretical positions of my theoretical and conceptual frameworks. Key to understanding the importance of their inclusion is the notion that how we come to know what we know and what constitutes knowledge and reality are topics that are often taken for granted. In exploring these topics, I have come to understand some basic philosophical principles that, up until working on my dissertation, I had not considered. Completing this chapter has allowed me to understand the application of these theories to my research topic and the subjective nature of experience and knowledge, and that has promoted my deeper exploration and understanding of my topic.

Chapter 3: Literature Review

Introduction

A literature review is, as Ridley (2008) and Snyder (2019) described, a systematic way of collecting and identifying theories and previous research on a specific topic or topics. In that way, a literature review supports the identification of research questions that refer to gaps in literature that ongoing research might respond too (Ridley, 2008). Encapsulating that, Snyder (2019) proposed that "literature reviews play an important role as a foundation for all types of research and for future research and theory" (p. 339). Accordingly, academics use two methods to create a literature review: a thematic or a chronological approach. A thematic approach is a method of identifying, analysing, and reporting themes within and across data to create patterned-based meanings. In a literature review, those meanings are then organised within overarching themes (Braun & Clarke, 2006, 2013). Contrastingly, a chronological approach is a method for making connections, comparison, and contrast between perspectives which are time-bound. As Hart (2018) observed, a chronologically positioned review links past and present, and proposes future research and topic-related possibilities. Considering those approaches, my Tongan-focused food literacy literature review takes a blended approach, maximising both chronology and theme. That combination is best suited to my research because it maximises the themes within existing literature in a domain that is relatively new to the academy: food literacy.

My literature review begins by exploring the contested definitions of food literacy within a global context and how food literacy's role and understanding have changed over time. Then, my literature review narrows its focus by exploring Pacific Island and Tongan literature on food literacy. Within that focus, I highlight research addressing the relationship between food literacy, food, health, and nutrition (Begley et al., 2019; Horsey et al., 2022; Kammholz et al., 2021; Perry et al., 2017; Rowat et al., 2021; Saals et al., 2022; Sørensen et al., 2012; Thompson et al., 2021; Truman et al., 2020; Truman et al., 2017; Vidgen & Gallegos, 2013; Vidgen & Gallegos, 2014; Wong Soon et al., 2021). Additionally, my literature review explores food security ('Ahio, 2011; Begley et al., 2019; Dodd et al., 2020; Horsey et al., 2022; Kammholz et al., 2021; Kaufusi, 2020; Thompson et al., 2021; Vidgen & Gallegos, 2013; Vidgen & Gallegos, 2014; Wong Soon et al., 2021), food insecurity ('Ahio, 2011; Baumhofer et al., 2020; Begley et al., 2019; Dodd et al., 2020; Horsey et al., 2022; Kammholz et al., 2021; Kaufusi,

2020; Rowat et al., 2021; Thompson et al., 2021; Vidgen & Gallegos, 2013; Vidgen & Gallegos, 2014; Wong Soon et al., 2021), and food resilience ('Ahio, 2011; Begley et al., 2019; Kammholz et al., 2021; Rutter, 2012; Wong Soon et al., 2021). Given the breadth of information related to food literacy within my literature review, in Appendix 3 I present an overview of the research of my primary authors, their research positions, their findings, and the themes relevant to my topic.

Understanding Food Literacy

Exploring Food Literacy's Contested Definitions

Food literacy is a comparatively new academic concept. In the academy, notions of food literacy emerged in the 1990s within contemporary nutrition policies and plans (Thompson et al., 2021). More recently, particularly during the last decade, food literacy has gained academic momentum. Consequently, considerations of food literacy are dynamic. Reflecting that dynamism has been the impact of the COVID-19 pandemic (Thompson et al., 2021). During the COVID-19 pandemic, Saals et al. (2022) argued that meal regularity declined, while meal frequency increased, particularly snack consumption. Additionally, in Aotearoa New Zealand, the pandemic created new challenges in terms of the affordability of healthy food, physical access to food, and irregular patterns of consumption (Fountain, 2021; Gerritsen et al., 2021; Zwanka & Buff, 2021). Irregular consumer behaviours saw an increase in panic buying and the stockpiling of food at home. Consequently, supply and demand issues resulted in increased food prices (Fountain, 2021; Gerritsen et al., 2021; Rajkumar, 2022). Notwithstanding COVID 19's impact, Rowat et al. (2021) defined food literacy as the inclusion and consideration of nutrition, "practical skills in food management, food selection, and food preparation" (p. 409).

Earlier, Vidgen and Gallegos (2014) defined food literacy as "the everyday practicalities associated with navigating the food system,"[3] and the intake of food that was "consistent with nutritional recommendations" (p. 51). Expanding that, Kammholz et al. (2021) recommended that the framework for food literacy, as outlined by Vidgen and Gallegos (2014), also included the knowledge, skills and behaviours required to identify, understand and make healthy food

[3] Vidgen and Gallegos (2014) considered food literacy and its connection to food systems from two perspectives, that of food experts and that of individuals as experts. Food experts possessed insight and knowledge in the purposes of existing policies and investments. Individuals were considered to be experts in the daily functions of the procurement and consumption of food.

choices in order to plan, manage, select, prepare and eat food to meet recommended nutritional requirements. Truman et al. (2017, p. 365) revealed that the "use of the term food literacy is wide-ranging because it is used to describe everything from food preparation cooking skills to food science and safety, to household related food production (i.e., food safety) and consumption issues (i.e., food marketing)." Consequently, and despite the considerations of Vidgen and Gallegos (2014), Thompson et al., (2021), Kammholz et al. (2021), Truman et al. (2017, p. 365), Perry et al., (2017) and Rowat et al. (2021), definitions of food literacy are not only dynamically contested, but this contestation also reflects the notion that food literacy is an evolving concept.

Emergent Food Literacy Themes

In the last decade, there has been a substantial global increase in food literacy research. According to Thompson et al. (2021), food literacy articles have usually been written in the English language and published in journals specialising in public, environmental and occupational health, and in nutrition and dietetics, social sciences, general education and educational research. Additionally, Thompson et al. (2021) noted that these articles were popular in high income countries like Canada, the USA, the United Kingdom and Australia. Thompson et al. (2021) also noted that Pacific Island countries failed to feature in that mix. This not only highlights the relative socio-economic status of Pacific Island nations, but also that food literacy is an under-researched topic in the Pacific Islands.

Compounding that, during the nineteenth century, agricultural industrialisation, combined with pesticide and chemical use, generated both positive and negative health issues (Nash, 2004; Vileisis, 2008). Those activities reinforced the links between health, disease and food literacy (Nash, 2004; Vileisis, 2008). As Lang (2003) realised, within food's industrialisation came the emergence of cheap, poor quality, nutrient-poor food. Those foods contributed to ill-health and disease that, in turn, added to the economic and social costs of healthcare. Consequently, familiarity with food literacy gained ground parallel to the increasing importance of food knowledge, particularly within considerations of health and nutrition (Vidgen & Gallegos, 2014).

Reflecting that, the research of Vidgen and Gallegos (2014) explored the scope of food literacy within considerations of food resilience. According to Vidgen and Gallegos (2014), food resilience references the strength and ability of people to overcome adverse conditions

impacting food availability. For Rutter (2012, p. 336), resilience denoted a "reduced vulnerability to environmental risk experiences" as well as a preparedness to master adversity, stress and unfavourable risk, in order to achieve favourable outcomes. Consequently, resilience is an important personal trait because it reflects the realisation of one's self-determination, particularly within the ability to 'bounce back' and positively persevere. The relationship between food resilience and food literacy is perceived to be important because "empowering individuals, communities, and nations to protect diet quality through change and promote dietary resilience over time" (Vidgen & Gallegos, 2014, p. 54) is a key strategy within food literacy's implementation. In those ways, food literacy's focus on nutrition and themes beyond nutrition has benefits within and across communities (Vidgen & Gallegos, 2013). Consequently, food literacy has an association with other literacies and behavioural traits.

Expanding that notion, research by Truman et al. (2020) explored four domains of literacy including health, food, nutrition and health-related media literacies. Key to those domains, for Truman et al. (2020), was education. Education facilitated knowledge, learning, skills, and information gathering that enhanced food literacy knowledge and practice. Those skills, at an individual level, influenced food-related behaviours that impacted an individual's ability to make informed and healthy food choices (Truman et al., 2020). Contrasting that, poor food literacy promoted poor food behaviours and choices that were not beneficial for health and well-being (Truman et al., 2020). That was evidenced within food literacy's link with health literacy. As Sørensen et al.'s (2012), Truman et al.'s (2020) and Truman et al.'s (2017) all realised, that connection promoted an understanding of food choices, and how changing food behaviours and food habits promoted healthy food choices that, in turn, impacted life quality. Those authors revealed that food literacy's link to positive health outcomes encouraged people to take responsibility for their own food/health status. Notwithstanding that, Sorenson et al.'s (2012) research also revealed the need to develop new tools to determine health literacy efficacy as health literacy has grown to include communication skills, analysis, critical thinking, and considered decision-making. In those ways, that research revealed the interconnected nature of diet-related health literacies and how poor food literacy compromised health outcomes.

Food Literacy and Food Insecurity

Extending those considerations Begley et al. (2019) explored poor food literacy's link to food insecurity in low- and middle-income groups in Australia. Their research aimed to identify how food insecure participants responded to a food literacy programme and how that impacted participants' access to food. Begley et al.'s (2019) research recognised the nexus of food literacy and food insecurity in concluding that poor food literacy contributed toward food insecurity. Additionally, their research also highlighted how food insecurity hindered individual opportunities to use food literacy behaviours to access a balanced diet. Considering that, Begley et al. (2019, p. 1) defined food insecurity as the "uncertain and limited physical, social, economic access of individuals and households to safe, sufficient, nutritious and culturally relevant food." Begley et al. (2019) also observed that food insecurity was linked to food poverty and that these domains contributed to an individual's poor food literacy. According to Begley et al. (2019), members of food-secure households who did not exhibit food literacy behaviours, when compared to members of food-insecure households, reflected the premise that food-secure households had more disposable income that allowed them to eat from a varied range of sources (Begley et al., 2019).

This work by Begley et al. (2019) is important for our understanding of food literacy because it revealed the relationship between food literacy and food insecurity. Exemplifying that, Begley et al. (2019) explained that a fit-for-purpose, participant-screened food literacy programme that is sensitive to its participants' needs promoted best practice. That approach encouraged participants to learn about the application of food literacy skills and knowledge that helped them better manage food insecurity (Begley et al., 2019). Within that consideration, Begley et al. (2019) articulated the relationship between food literacy and food insecurity, and that in turn provided insight into the consequences of poor food literacy. Begley et al. (2019) recommended an approach to food literacy that promoted government assistance and higher levels of welfare support to alleviate food insecurity. Given that background, and beginning with the research of Haden (2009), my literature review begins its focus upon research on food literacy in Tonga. That noted, my literature review also attends to how language serves to both clarify and confuse meaning, inasmuch as meaning can be lost in translation. Exemplifying that are the works of Haden (2009) and 'Ahio (2011).

Haden's (2009) research revealed that the best Pacific Island language phrase matching food literacy's definition was the Fijian phrase 'kakana dina' (Haden, 2009, p. 120). Particularly referencing taro, kakana dina is Fijian for 'real food' (Haden, 2009, p. 120). For many Fijians, a meal is considered to be incomplete if it does not include taro (Haden, 2009). Additionally, kakana dina's 'real food' and taro connotations link with the hard-working hands of those working the soil planting root crops, including taro (Haden, 2009). In those ways, as Haden (2009) proposed, kakana dina or 'real food' reflected Fijian considerations of identity and self-esteem (Haden, 2009, p. 120). Extending these considerations of the importance of language is the research by 'Ahio (2011).

'Ahio's (2011) explored the perceptions of food security of a group of 14 Tongans (seven Tongan mothers and seven Tongan health workers) living in South Auckland, Aotearoa New Zealand. 'Ahio's (2011) research revealed that within Tongan socio-culture, food and culture were interdependent constructs. According to 'Ahio (2011), Western dietary influences had negatively impacted Tongan food culture. That impact was realised in the availability of cheap, fatty, and processed meats. 'Ahio (2011) noted that these foods promoted a decrease in the consumption of traditional Tongan foods and vegetables by Tongans. Linked to that consumption were health deficits. Those deficits included being overweight, obese, and the onset of other chronic diseases including diabetes, hypertension, and cardiovascular disease, (refer Chapter 1, in the sections on "Rationalising My Topic: Why Food Literacy?" and "Energy-Dense Foods"). 'Ahio's (2011, p. xiii) research also revealed the power of language, particularly how a word's meaning can be lost, misrepresented or, through metaphor, made complex. 'Ahio (2011) suggested that 'food security' translated to 'fakalato' in the Tongan language. In deconstructing fakalato, Churchward's (1959, p. viii) dictionary noted that 'faka' was a prefix suggesting a likeness (causing or allowing to). 'Lato,' for Churchward (1959), was a suffix. That suffix inferred that something was "completely filled and covered with a mound of sand (as in a grave), complete, finished, achieved" (Churchward, 1959, p. 284). In combination, Churchward (1959) advised, fakalato denoted "(as in one's duty), to complete, put final touches on, to accomplish, fulfill, discharge" (Churchward, 1959, p. 59). Considering that Churchward's (1959) definition differs from that of 'Ahio (2011), who aligned 'food security' with the Tongan word 'fakalato'. However, the English words 'food security' and the Tongan translation 'fakalato' as "security in" ('Ahio, 2011, p. 38) and "having enough" ('Ahio, 2011, p. xii) has led to confusion for 'Ahio's research participants. Their confusion was

reflected in their research responses. Their understanding of fakalato was that it referenced the storage of food in a safe place until the next meal ('Ahio, 2011). As one of ‘Ahio’s (2011) participants commented, “the first time I heard about food security, I thought it is about locking up food in the cupboard to keep it secure” ('Ahio, 2011, p. 38). While 'Ahio (2011) promoted the use of fakalato as food security, she also realised the risk by admitting that there is “no word in the Tongan language to describe the English word food security” (p. 73). Given that, I considered fakalato to be a contested term. Consequently, I decided to contact Litiuingi Lose ‘Ahio to seek clarification.

In on-line conversations ‘Ahio advised me “that I found the Tongan translation for food security from a document by the Ministry of Agriculture and Forestry in Tonga. It was the first document released at that time using the Tongan translation fakalato for food security” (L. L. ‘Ahio, personal communication, May 11, 2023). ‘Ahio continued, “fakalato is a Tongan word. It is an original Tongan word. It is not a modern word. Modernising Tongan words follow the Palangi English word translation and sounds” (L. L. ‘Ahio, personal communication, May 11, 2023). Exemplifying that, as Kaeppler (1971b) observed, is the Tongan transliteration “famili” (p. 175). The “Tongan language has no indigenous word for family and no such word was used during the pre-European era” (Kaeppler, 1971b, p. 175). Continuing my inquiry regarding fakalato and given the lack of contemporary Tongan dictionaries,[4] I approached, by email, Professor Melenaite Taumoefolau, Professor of Tongan Language at the University of Auckland. As Professor Taumoefolau advised:

> The stem lato, means (of a grave) to completely fill the space that was dug for the burial of the coffin and then the sand is piled up to a little mound of sand. But it is also used metaphorically – kuo lato ‘a e mo’unga na’e tanu. The mountain that was built has become lato, referring to whatever task that has been performed is now completed. So, fakalato is to make lato. To satisfy (of needs, requirements), to fulfill (of mission, wishes, goals). (M. Taumoefolau, personal communication, May 5, 2023)

Additionally, Professor Taumoefolau suggested that fakalato “is a contemporary word. It’s just not known by Tongans growing up in New Zealand and overseas. In Tonga, where nearly all people go to church, or attend Tongan-speaking gatherings young adults and youth know this

[4] Dictionaries: The work of Churchward (1959, 2015) dominates Tongan dictionaries. Notwithstanding that, Churchward’s two editions (1959 and 2015) are the same. The 2015 edition is not a revised edition. Rather, its release celebrated the coronation of King Tupou VI.

word" (M. Taumoefolau, personal communication, May 5, 2023). Later, Professor Taumoefolau explained that:

> they might hear the word in church or in someone's prayer or in a cultural gathering where someone uses it in a speech. They might also come across it in the Tongan Language subject in school. Or they might hear the word at home used by parents or adults in the home. (M. Taumoefolau, personal communication, June 12, 2023)

The personal communications from Litiuingi Lose ʻAhio and Dr. Melenaite Taumoefolau highlighted differences, reflecting my own concerns about the word fakalato. Clearly, differences exist between the word's governmental use, the dictionary meaning and its vernacular understandings. Those differences aid our understanding of why ʻAhio's participants were confused by the word's contextual meaning. Consequently, using a dynamically charged word like fakalato may be problematic for researchers, their participants, and the readers of academic research outputs.

Additionally, ʻAhio explained that she had difficulty finding a Tongan word for food security, in contrast to her ease in finding a Tongan word for food insecurity, namely fusimo ʻomo (ʻAhio, 2011, p. 40). ʻAhio generously shared her understanding of how fakalato fits within vaevae manava (food sharing). As ʻAhio explained,

> food sharing connoted the maintenance of relationships, termed tauhi va and within family's kainga in Tongan and Pacifica cultures (ʻAhio, 2011, p. 64). If we cannot share, we become an individualistic person, but that is not the concept of health for Pacifica and Tongans. (L. L. ʻAhio, personal communication, May 11, 2023)

Additionally, ʻAhio shared a Tongan saying, "Your things are my things, I belong to the whole kainga" (L. L. ʻAhio, personal communication, May 11, 2023). In that way, in Tonga, food sharing reflects a holistic approach incorporating the ways in which food enhances the being and becoming of Tongan identity and the sense of belonging within that identity.

Notwithstanding that, ʻAhio's (2011) research revealed three important food security themes: knowledge and understanding, family income and the influence of acculturation. 'Ahio (2011) defined food security as involving "access to affordable, nutritious food at all times and requir[ing] that the food is both culturally and socially acceptable" (p.4). Within ʻAhio's (2011) definition is the assumption that knowledge and understanding represent important aspects of achieving food security. This is because adequate food knowledge provisions an understanding of food, thereby facilitating the skills required to access quality nutritious food. In that way,

food knowledge promotes individual choice, and informs healthy food decisions and ultimately food security. As 'Ahio (2011) explained, the lack of knowledge and understanding about food security was responsible for poor food purchasing skills, choices and behaviours that impacted upon the lack of understanding of what constituted healthy food. Those gaps in knowledge and understanding negatively impacted Tongan cooking skills in creating healthy meals, and the inability to access support systems to help Tongans overcome food insecurity ('Ahio, 2011). Additionally, 'Ahio (2011) noted that the relationship between family income and food security was that having a low income was associated with a high risk of food insecurity because a low income impacted budgeting and purchasing abilities.

'Ahio (2011) also observed two factors linking notions of food security and acculturation in Tongan communities. Those factors were the differences between Tongans who enjoyed a pro-traditional Tongan diet (the "low acculturation" group) and Tongans who enjoyed a pro-Western diet (the "high acculturation" group) ('Ahio, 2011, pp. 60-61). While both groups experienced food insecurity, the low-acculturation group faced food insecurity because of high food prices caused by the lack of Tongan food supplies in Aotearoa New Zealand ('Ahio, 2011). Contrasting that, the high-acculturation group also experienced food insecurity because of a lack of food-secure behaviours. Yet, as 'Ahio (2011) related, a mediating factor inherent to Tongan culture is "vaevae manava (the sharing of food)" ('Ahio, 2011, p. xiii). Vaevae manava can be understood as an intervention tool addressing food insecurity because it promotes food sharing obligations between family, friends, church, and community groups. Consequently, food for Tongans is an important socio-cultural tool and mediator. In Tongan culture, abundant food, its sharing and hospitality signify status, wealth, health, and well-being ('Ahio, 2011). Through vaevae manava ('Ahio, 2011, p. xiii), Tongans achieve balance and harmony, within the bringing together of people, in ways connotating security and well-being. However, as Western influences permeate Tongan culture, vaevae manava as a "non-negotiable obligation" ('Ahio, 2011, p. 75) has been diluted. Reflecting that, 'Ahio (2011) proposed that many young Tongan people were self-centric, and lacked the balance and harmony that vaevae manava promoted within social relations. Consequently, the cultural gap between young and older Tongans contributes to food insecurity as many young Tongans adopt an individualistic Westernised worldview.

Adding to contemporay research, Wong Soon et al.'s (2021) research explored the role of women as positive caring household influencers across three generations within five Samoan families. Wong Soon et al.'s (2021) research identified the extent to which women implemented food literacy skills and knowledge and, in doing so, promoted healthy eating for themselves and their families. This research also explored the role of midwives in sharing the food knowledge and food skills contributing to food literacy. Because pregnant women were responsible for their own nutrition, Wong Soon et al. (2021) suggested that they were empowered to practice positive food literacy behaviours and, by extension, impact their families' food security. This study highighted that, in lower socio-economic areas (of South Auckland), many pregnant women suffered from obesity, poor nutrition and food insecurity. Mediating that situation for expectant mothers, Wong Soon et al. (2021) found that midwives adopted a position of advocacy because midwives were practitioners and supporters of "women-centred, policy-based approaches towards nutrition" for pregnant women and their households (Wong Soon et al., 2021, p. 6). Wong Soon et al.'s (2021) research revealed that the pregnant women began to share the food literacy skills and knowledge they gleaned from their midwives. The pregnant women were inspired to make food changes and looked upon their "midwives as positve change influencers" (Wong Soon et al., 2021, p. 6). While Wong Soon et al.'s (2021) food literacy study championed midwives as positive influencers, Horsey et al.'s (2022) study provided a future-focussed approach to food literacy.

Horsey et al.'s (2022) future-view approach to food literacy explored research that might inform future research and policy for Pacific Island nations. According to Horsey et al. (2022), Pacific Island nations are experiencing malnutrition caused by poor food literacy. Additionally, Pacific Island nations have some of the highest global obesity rates Horsey et al. (2022). This research also emphasised that the cycle of food insecurity led to food illiteracy (Horsey et al., 2022). In those ways, Horsey et al.'s (2022) research assisted in designing targetted food literacy strategies that improved support for food security by addressing malnutrition and by upholding healthier food behaviours. Notwithstanding that, Horsey et al. (2022) also suggested that food literacy was not a topic that was well understood by Pacific Islanders. Expanding on that, they proposed that only 10% of Pacific Islanders correctly identified all three food groups[5]

[5] The three food groups according to the Pacific Guidelines for Healthy Living (Horsey et al., 2022, pp. 1-2) are bodybuilding (protein-rich foods such as fish and eggs), protective (fresh, locally grown fruit and vegetables, such as bananas and cabbage), and energy foods (starchy staples such as taro and rice).

as noted within the Pacific Guidelines for Healthy Living (Horsey et al., 2022). Compounding this, Horsey et al. (2022) explained, many Pacific Islanders lacked the ability to find and use sound nutrition information. Considering that view, the earlier research of Baumhofer et al. (2020) is illuminating.

Baumhofer et al.'s (2020) research explored the dietary patterns of Pacific Island Americans of Samoan and Tongan descent in a study titled the Pacific Islander Health Study (Baumhofer et al., 2020). That research explored the food consumption, behaviours, and habits of Pacific Island participants in making their food choices. Baumhofer et al. (2020) found that demographic factors, including age, gender, and ethnicity, influenced food consumption. Additionally, Baumhofer et al. (2020) found that younger research participants tended to consume dairy foods, carbonated drinks, snacks, and takeaways. That contrasted with the consumption patterns of older research participants, who tended to consume carbohydrates, meat, vegetables, fruits, and traditional foods. Baumhofer et al.'s (2020) research also found that gender influenced food consumption patterns, inasmuch as men ate more than women. However, men tended to eat more traditional foods than women. Compounding that, Baumhofer et al. (2020) found that unmarried participants tended to eat less healthy foods than their married counterparts. Consequently, Baumhofer et al.'s (2020) findings provided a valuable insight into the socio-economic and socio-cultural factors impacting food choices and food intake, and the resultant food insecurity. Most importantly, the research revealed an important issue for Pacific Islanders in the USA in that "ethnically specific dietary pattern[s]" posed a high-risk of obesity-related illness (Baumhofer et al., 2020, p. 305). Those risks emphasised the negative impacts of Western diets for Pacific Island peoples. Adding to Baumhofer et al.'s (2020) research, Kaufusi (2020) explored the dietary experiences of Tongan Americans prior to their entry into the USA.

According to Kaufusi (2020), the traditional Tongan diet consisted of fresh fish, vegetables, fruit, taro and yam, and limited amounts of meat. With that intake, Kaufusi (2020) observed that indigenous Tongans exuded strength, health, and fitness and were admired for their physique. As residents in the United States, Tongans were exposed to Western foods that were high in saturated fat, salt, sugar and cholesterol (Kaufusi, 2020). Kaufusi (2020) found that, over time, unhealthy food consumption promoted unhealthy food-related illnesses including being overweight or obese, and diabetes. As a minority ethnicity in the United States of

America, Kaufusi's (2020) participants were a "hidden population" classified as "invisibles" (pp. 8–9). As Kaufusi (2020) explained, being considered in those ways relegated his participants' access to and knowledge about wider socio-cultural institutions in inequitable ways, particularly their access to the public health system. Kaufusi's (2020) research is important not only because it exposed the dietary experiences, behaviours, and habits of the Tongan American community, but also because it showed that fairness and equity within access to healthcare was vital if efforts were to be made to reduce participants' weight issues, obesity, and risk of experiencing diet-related diseases.

In Tonga, Veatupu et al.'s (2019) research explored the variety and types of foods consumed by Tongan schoolchildren in their everyday environments (home, school, church, outside of home). The researchers had the children use a wearable camera, which recorded the children's daily activities. The project was a partnership between the researchers, the Departments of Health and Education of the Tongan Government, schools, and parents. The research aim was to explore the reasons for the rise in people suffering from overweight or obesity, and having or developing chronic diseases. Veatupu et al. (2019) classified the schoolchildren's food in two ways: "core foods and non-core foods" (Veatupu et al., 2019, p. 3). Core foods included bread, cereals, fresh fruit, vegetables, and meat. Those foods were healthy options. Contrasting that, processed, sugary and snack foods represented non-core/unhealthy foods. Veatupu et al.'s (2019) research highlighted food literacy's role in enabling people to make informed food choices. Additionally, the research was important for food literacy because it provided insight into the dietary patterns of Tongan children. However, this research also highlighted the role of children in research as unreliable sources of information. Because children were reliant on their parents for their food sources, supply, preparation and cooking, the participant children's diet mirrored the food choices of their carers, not the children themselves. Given that parents were part of this research, it is possible that what their children ate was influenced by the parents' own research participation. Indeed, it may be possible that parents engaged in an unspoken competition to provide the 'best foods' for their children. However, the research did not acknowledge that possibility. Nonetheless, Veatupu's et al.'s (2019) research found that Pacific Island people lived in an "obesogenic environment" (Veatupu et al., 2019, p. 12) in which obesity was encouraged and being obese was considered a cultural norm. Given Western influences on the Tongan diet, and the obesogenic environment, Reeve et al.'s (2022) research provided additional insight.

Reeve et al.'s (2022) research explored the relationship between shifts in Pacific Island nations' consumption dietary behaviours and attitudes. Supporting Veatupu et al.'s (2019) research, the work of Reeve et al. (2022) explored the transition from a traditional healthy diet of fresh fruit and vegetables to one reliant on highly processed food products that were high in salt, fat and sugar. These unhealthy food-related options contributed towards chronic diseases and high mortality rates in Pacific Island communities. Additionally, Reeve et al. (2022) linked the lack of food literacy to changes in global food systems and socio-economic issues. On that basis, Reeve et al. (2022) promoted the notion that Pacific Island nations required government intervention in the form of legislation and policies that addressed issues of overweight, obesity, and chronic diseases. In that way, Reeve et al. (2022) realised the need for food literacy education.

Conclusion

Food literacy, within a Tongan context, is a complex topic. Foundational considerations impacting its complexity involve the contestation of food literacy's definition. Synthesising food literacy's definition using the work of several authors (Kammholz et al., 2021; Perry et al., 2017; Rowat et al., 2021; Thompson et al., 2021; Truman et al., 2017; Vidgen & Gallegos, 2014) reveals that food literacy can be defined as the ability and confidence to access, plan, manage, source, select and eat healthy food through provision, sharing of food knowledge, information, and the skills needed to navigate the food system, in order to safeguard diet quality and to enhance food resilience in individuals, societies and communities. Given that synthesis and considering my own research within this dissertation, I propose a contemporary definition of food literacy as follows:

Food literacy is defined as a tool to encourage, to build, and to protect the diet quality of individuals, communities, and nations through provisioning individuals with a collection of inter-related knowledge, skills, and behaviours to be food proficient, food secure and food resilient. This is to empower individuals to plan, manage, purchase, select, prepare, cook, and eat food to meet dietary needs, and to determine food intake and balance.

Further adding to food literacy's complexity are the myriad of academic positions on it. While the data in Appendix 3 reflects food literacy's evolution, in concluding my literature review I engage in a further synthesis. From Appendix 3, I distilled 29 meta-themes dominating

contemporary considerations of food literacy within academic literature gleaned from my literature review. Those themes are noted in Table 7.

Table 7: Twenty-nine Meta-themes Distilled from Literature

No.	Meta-themes	Conflated Meta-themes	Major Themes
1.	Food literacy definition and concepts, practical food skills and knowledge (Thompson et al., 2021).	Food literacy importance. Food skills and knowledge.	Food literacy progressive role, Proficient food skills.
2.	COVID pandemic impacted consumption patterns (Saals et al., 2022).	COVID food consumption.	Reflect disparities.
3.	COVID impacts over-reliant food tourism (Fountain, 2021).	COVID food consumption.	Reflect disparities.
4.	COVID challenges to consumption behaviours and everyday routine, e.g., home, workplace, school (Gerritsen et al., 2021).	COVID food consumption.	Reflect disparities.
5.	Global impact of COVID on consumer behaviour (Zwanka & Buff, 2021).	COVID food consumption.	Reflect disparities.
6.	COVID fuelled unhealthy consumption behaviours (Rajkumar, 2022).	COVID food consumption.	Reflect disparities.
7.	Food literacy role and concepts, better understanding food literacy behaviours (Rowat et al., 2021).	Food literacy importance. Food literacy understanding.	Food literacy progressive role. Proficient food skills.
8.	Food literacy role, food literacy concepts, practical food skills and knowledge (Vidgen & Gallegos, 2014).	Food literacy importance and understanding.	Food literacy progressive role. Proficient food skills.
9.	Food literacy understanding, food behaviours, beneficial skills (Kammholz et al., 2021).	Understanding food literacy.	Proficient food skills.
10.	Food literacy concepts and knowledge foster understanding and skills (Truman et al., 2017).	Understanding food literacy.	Proficient food skills.
11.	Food literacy attributes, confidence in applying practical food skills and knowledge (Perry et al., 2017).	Understanding food literacy.	Proficient food skills.
12.	Agricultural industrialisation, introduction of pesticides and chemicals posed health risks (Nash, 2004).	Pesticides and chemicals impact health.	Reflect disparities.
13.	Disengagement from food source (Vileisis, 2008).	Food literacy outcomes.	Reflect disparities.
14.	Food system dominated by powerful corporates; food industrialisation adds to social and health costs (Lang, 2003).	Foods industrialisation health impact.	Reflect disparities.
15.	Food resilience concept (Rutter, 2012).	Food literacy outcomes.	Reflect disparities.
16.	Food literacy importance for nutrition, consumption behaviours (Vidgen & Gallegos, 2013).	Food literacy importance. Food literacy understanding.	Food literacy progressive role. Proficient food skills.
17.	Relationship health literacy and health outcomes (Sørensen et al., 2012).	Food literacy subordinate role. Food literacy, health related outcomes.	Food literacy progressive role. Reflect disparities.
18.	Food literacy with links to health, nutrition, media (Truman et al., 2020).	Food literacy outcomes.	Reflect disparities.
19.	Food literacy relationship and food insecurity (Begley et al., 2019).	Understanding food literacy. Food literacy outcomes.	Food literacy progressive role. Reflect disparities.
20.	Pacific Island nations – food's socio-cultural roles (Haden, 2009).	Food culture.	Food's socio-cultural role.
21.	Food's socio-cultural roles, food security relationship, food sharing concepts ('Ahio, 2011).	Food's socio-cultural role. Food literacy outcomes. Food security concepts.	Food's socio-cultural role. Reflect disparities.
22.	Concepts of obligation in Tongan culture (Tofuaipangai & Camilleri, 2016).	Food tradition and culture.	Food's socio-cultural role.

23.	Role of midwives as positive influencers to foster food literacy messages (Wong Soon et al., 2021).	Understanding food literacy. Food literacy outcomes.	Proficient food skills. Reflect disparities.
24.	Food literacy awareness, to address chronic health issues among Pacific people (Horsey et al., 2022).	Understanding food literacy. Food literacy outcomes. Government strategies.	Proficient food skills. Reflect disparities. Government mediation.
25.	Dietary patterns, behaviours of Pacific Islander Americans (Baumhofer et al., 2020).	Food culture.	Food's socio-cultural role.
26.	Dietary behaviours contribute to chronic diseases (Kaufusi, 2020).	Food literacy outcomes.	Reflect disparities.
27.	Consumption behaviours in obesogenic environment (Veatupu et al., 2019).	Government strategies. Food literacy outcomes.	Government mediation. Reflect disparities.
28.	Dietary risks and chronic diseases, consumption of nutrient-poor food (Reeve et al., 2022).	Government strategies.	Government mediation.
29.	Competing agendas posed challenges to government commitment to reduce chronic diseases (Dodd et al., 2020).	Government strategies. Food literacy outcomes.	Government mediation. Reflect disparities.

Within Table 7, I initially distilled 11 themes (refer column 3). From those 11 themes I obtained five central themes (refer column 4). They are:

- Food literacy's progressive role, emphasising food literacy's growing importance.
- Developing proficient food skills, demonstrating an understanding and application of food literacy.
- Food's socio-cultural role provisions a sense of belonging and connectedness.
- Food literacy outcomes reflect different consumption behaviours.
- Government mediation as strategies mitigating diet-related illnesses.

Given my distillation of the literature, the future direction of food literacy in Pacific Island nations including Tonga suggests that intervention strategies are needed. Those strategies might come from government (Begley et al., 2019; Dodd et al., 2020; Reeve et al., 2022; Veatupu et al., 2019), or private sources like the parents of school children working in partnership with schools to spread food literacy messages (Kammholz et al., 2022; Reeve et al., 2022; Veatupu et al., 2019).

Notwithstanding any intervention, Pacific Island nations, including Tonga, continue to live in an 'obesogenic environment' encouraging obesity (Veatupu et al., 2019). Compounding that, many Pacific Island nations are lowly positioned in terms of socio-economic development (Begley et al., 2019; Reeve et al., 2022). Consequently, they experience food poverty and the abundant eating of nutrient-poor food ('Ahio, 2011; Begley et al., 2019; Dodd et al., 2020; Horsey et al., 2022; Veatupu et al., 2019; Wong Soon et al., 2021). Resultantly, Pacific Island

peoples lack the opportunity to practice food literacy behaviours promoting nutrient-rich food consumption because their experience of food poverty hinders them from achieving food security and food resilience, and accordingly that negatively impacts their health ('Ahio, 2011; Begley et al., 2019; Dodd et al., 2020; Horsey et al., 2022; Veatupu et al., 2019; Wong Soon et al., 2021). Consequently, a concerted intervention strategy is required, possibly from government, that is committed to social responsibility in strengthening healthy food behaviours in Pacific Island nations including Tonga. The aim of that strategy might include a reduction in Pacific Island people being overweight or obese, and in food-related chronic diseases and their consequent mortality rate (Dodd et al., 2020; Horsey et al., 2022; Reeve et al., 2022; Veatupu et al., 2019). Toward that goal an abundant corpus of research literature exists (refer Appendix 3).

Chapter 4: Methodology

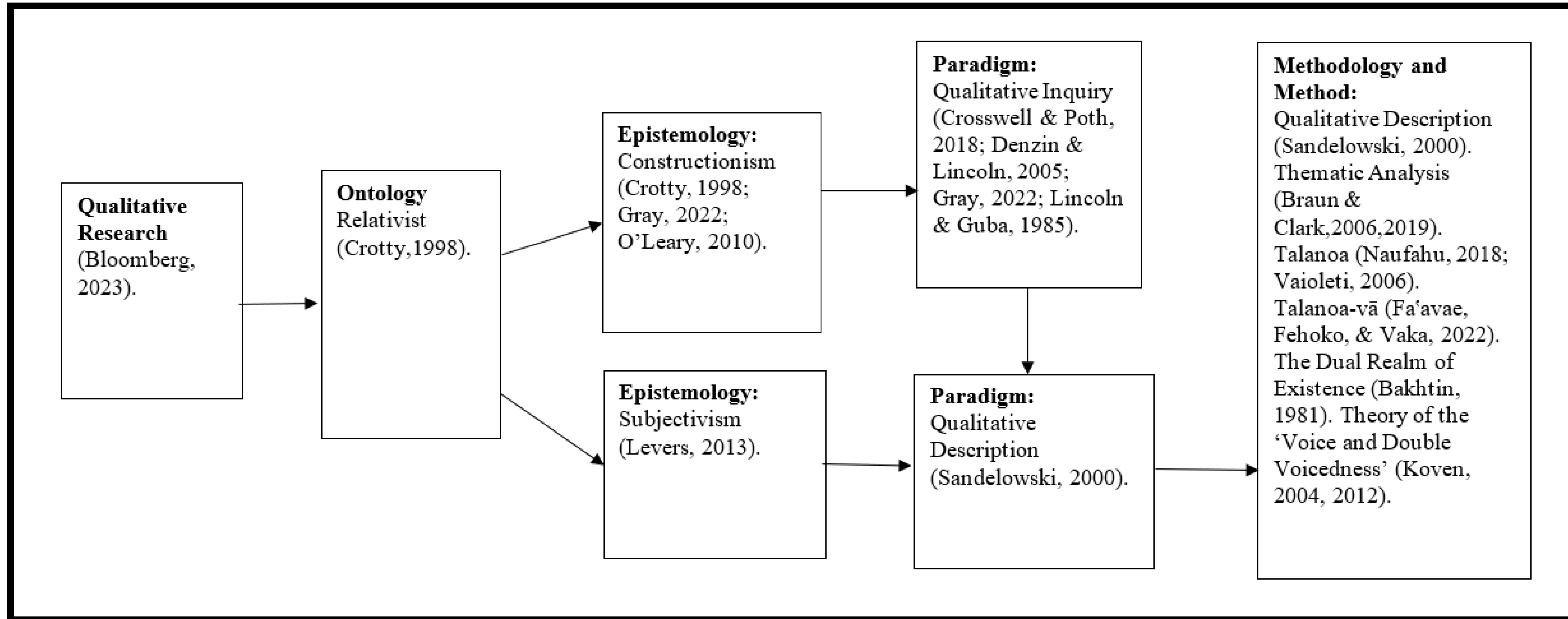
Introduction

For Slevitch (2011), methodology refers to the “aims and principles of scientific investigation” (p. 75). Considering that, methodology dictates the choices, approaches, strategies, and action plans guiding how a researcher frames research questions and decisions on processes and methods (Grant & Giddings, 2002). My research topic, food literacy and barriers to food literacy for Tongan migrants, takes a qualitative research approach. I adopted a qualitative approach because my research addressed the ‘what’ and ‘how’ within my topic in ways that, in turn, reflected its subjective conceptualisation by my participants (Bloomberg, 2023, p. 69). Consequently, the purpose of my choice of qualitative research facilitated the subjective voice and experiences of those participants.

Empowering my research methodology is its underpinning research philosophy (refer Chapter 2, “Theoretical and Conceptual Frameworks”) and my recognition of the interconnection between my theoretical and conceptual frameworks and my methodology. Notwithstanding that, Appendix 4 presents an overview of the methodologies that I considered for my research but abandoned in favour of a qualitative paradigm, specifically, qualitative description (Sandelowski, 2000).

In the following sections, I present my methodology, and method. As noted above, methodology refers to the academic theories and principles guiding my research approach (Grant & Giddings, 2002). Method references the application of those theories and principles as a means to collect and analyse data (Grant & Giddings, 2002). In that way, method is the application and adaption of methodology. Key to understanding my method is my use of thematic analysis (Braun & Clarke, 2006, 2019), talanoa (‘Otunuku, 2011; Fa'avae, Faleolo, et al., 2022; Naufahu, 2018; Vaioleti, 2006), talanoa-vā (Faʻavae, Fehoko, & Vaka, 2022) and Koven’s (2004, 2012) theory of voice.

Table 8: Overview of the Link Between Theoretical/Conceptual Frameworks



I begin this chapter by outlining each theoretical perspective. Then, I explore its application within my research, as method. Complementing that, I present a diagrammatic overview of my methodology and method (refer Table 8, above). That amalgam, discussion, and practice facilitates not only the voice of my participants but also the research data required to respond to my research questions (refer Chapter 5, “Findings”, and Chapter 6, “Discussion and Conclusion”).

Methodology: Qualitative Description

This section discusses qualitative description (Sandelowski, 2000) as methodology. Qualitative description, according to Sullivan-Bolyai et al. (2005), is a method that seeks to understand the subjective experiences of participants and provides data-rich information in everyday language that is easily understood. Sandelowski (2000) advised researchers using qualitative description to stay close to their data as qualitative description is comparatively less interpretive because it relies on the participants’ voices. In that way, qualitative description offers a researcher flexibility because it presents honest participant accounts (Sandelowski, 2000, pp. 334-335) in the participants own words. Although, qualitative description is perceived to be the “crudest form of inquiry”, its ability to address the ‘who’, ‘what’, and ‘where’ of events and experiences makes it an agile methodology maximising the voices of people who are often at the margins of society (Sandelowski, 2000, p. 334). Although qualitative description is less interpretive than other qualitative paradigms, its advantage is that, within that ‘lack’, researchers do not “move far from or into their data” (Sandelowski, 2010, p. 79) because the emphasis is on the participants’ voices.

Applied Methodology: Method

Within an overlay of talanoa (Vaioleti, 2006) and talanoa-vā (Faʻavae, Fehoko, & Vaka, 2022), my application of qualitative description (Sandelowski, 2000, 2010) was operationalised by my use of participant questioning techniques. My primary research and data collection involved face-to-face interviews that maximised structured, semi-structured, and unstructured questions (Bryman, 2016). Structured questions often elicit closed responses; however, their advantage is realised in fact-finding. A structured question might be ‘Can you tell me your gender identity?’ Such a question would be consistently asked of all research participants (Bryman, 2016). In using semi-structured interview questions, a researcher gathers more information because a semi-structured question promotes a wider range of participant responses (Bryman,

2016). Finally, unstructured questions might evolve as extensions of structured or semi-structured and reflect a more ‘freehand’ approach to participant questioning. Using unstructured questions can add research depth, given that unstructured questions often probe a participant in deeper ways than structured or semi-structured questions might. However, whatever question type I used, the question was framed within the wider construct of talanoa and talanoa-vā.

Talanoa

Talanoa is an informal and dynamic way to tell stories, and to relate experiences (‘Otunuku, 2011; Naufahu, 2018; Vaioleti, 2006). Talanoa comprises two words, ‘tala’ denoting talk and ‘noa’ denoting anything or nothing (Vaioleti, 2006, p. 23) or ‘the space’ (Fa'avae et al., 2016; Fa'avae, Faleolo, et al., 2022; Naufahu, 2018; Vaioleti, 2006). Considering those meanings, participants in talanoa engage in ‘small talk’ before moving onto the intended topic. Talanoa is the “practice of storying, to talk” (Faʻavae, Fehoko, and Vaka, 2022, p. 97). That is achieved without a rigid framework in face-to-face encounters (‘Otunuku, 2011, p. 24; Fa'avae et al., 2016; Fa'avae, Faleolo, et al., 2022; Tecun et al., 2018; Vaioleti, 2006). Consequently, talanoa provides researchers and their participants with a very human interaction within which they can relate, recognise, and negotiate the cultural “distance and differences” between researcher and participants (Vaioleti, 2006, p. 25).

Talanoa has been used as a research methodology and research method within Pacific-based research (‘Otunuku, 2011; Fa'avae et al., 2016; Fa'avae, Faleolo, et al., 2022; Naufahu, 2018; Tecun et al., 2018; Vaioleti, 2006). Talanoa recognises the importance of Pacific Island cultures, society, kainga, and identity (Vaka et al., 2016). According to Vaioleti (2006), Fa'avae et al. (2016) and Fa'avae, Faleolo, et al. (2022), when undertaking Pacific research, there is no one-size-fits-all Western research method that can be applied to address Pacific research encounters. This is because Pacific people have unique epistemologies reflecting their ways of being and becoming through their lived realities and experiences (Vaioleti, 2006). Consequently, when addressing Pacific issues, the use of talanoa is culturally appropriate, sensitive, and relevant because social interactions will be more authentic and, consequently, more meaningful conversations can be realised (‘Otunuku, 2011; Fa'avae et al., 2016; Fa'avae, Faleolo, et al., 2022; Naufahu, 2018; Vaioleti, 2006).

Applying Talanoa

According to Neill (2018), engaging talanoa taught him the:

> value of listening, and the enjoyment of being part of a group, [the] value of taking time and [to] enjoy the moment, and the appreciation of unforced conversation [that] would get me further than might a hurried or overly direct one. (Neill, 2018, p. 65)

For me, talanoa was about building a relationship within a conversation that evolved over time. Those conversations took into account the sensibilities of my Tongan participants and, in doing so, enhanced my mindfulness in recognising that 'not everyone is like me.' Rather than rushing in, I metered my questioning within protracted conversations that allowed me to get to know my participants within and outside of my research inquiry. Those actions, as I consider and write about them now, were completely logical. Setting aside the ethnicity of my participants, I realised that researchers must engage their participants, rather than rush in with a list of questions, get some answers, and rush away! In research the depth of a participant's narrative facilitates quality findings. My lesson from using talanoa is that its principles are pan-cultural and should be embraced by all qualitative researchers.

Talanoa-vā

Talanoa-vā has been used as a research methodology emphasising the researcher's appreciation of the people of Oceania, their land, culture and knowledge (Faʻavae, Fehoko, & Vaka, 2022). The notion of vā relates to the social and cultural spaces where Tongans, through time (denoted by "ta" in Tongan language) and relational space (denoted by "vā") (Baice et al., 2021, p. 77), consider their ancestral land, people, and environment and within that negotiation make sense of their world (Tecun et al., 2018, p. 159). Considering that, vā (the relational space) between speakers, which "brings us closer to the people and away from [an] individualistic view" Faʻavae, Fehoko, & Vaka, 2022, p. 103) and talanoa provide researchers with meaningful conversations and in-depth sharing. Consequently, vā recognises the importance of good relationships between researchers and their Pacifica participants (Havea et al., 2020; Tecun et al., 2018). Engaging in talanoa-vā enables researchers and participants to achieve balance and harmony by recognising their own unique lived experiences (Tecun et al., 2018).

Applying Talanoa-vā

In applying talanoa-vā within my method, I emphasised the importance of vā, the relational space, within my creation of good relationships between my participants and myself (Havea et

al., 2020; Tecun et al., 2018). This was important because participants are valued for their insider knowledge, and the valuable data that they contribute towards research (Havea et al., 2020; Ka'ili, 2005). In this way, engaging in vā connected the social and cultural spaces that allowed me to reflect, analyse, probe, and gather meaningful data, as realised within my participants' perspectives. Talanoa-vā empowered me to understand my participants' view of the world, and their sense of belonging to their Tongan community, particularly within considerations of kainga (kinship/family). Engaging talanoa-vā as a research method enabled my Tongan participants to feel comfortable, safe, and understood. Similarly, as a non-Pacifica researcher, my use of talanoa-vā eased my own anxiety and discomfort because I was able to engage in ordinary conversations that put me at ease, making my questioning of my participants more relaxed and empathetic. Within my participants' talanoa, I realised that they negotiated a "dual realm of existence" (Bakhtin, 1981, p. 325) and I now turn to exploring this concept.

The Dual Realm of Existence

For Bakhtin (1981), the dual real of existence had nothing to do with food literacy. Rather, Bakhtin used the phrase to describe how, within medieval European carnivals held before Lent, people reversed social roles. That reversal meant that high-status individuals and peasants reversed roles of power in symbolic ways for the carnival's duration. Outside of carnival time, such behaviours were not tolerated, because the church and religion dominated people's lives. However, during carnival that domination waned. Consequently, Bakhtin coined the phrased "dual realm of existence" (Bakhtin, 1981, p. 325) to describe that situation. Understanding that, I broadly transferred the notion to my own participants' lived experiences because, as Tongan migrants, they negotiated a dual realm of existence between "lea fakatonga" (Garellek & Tabain, 2020, p. 406), the Tongan way of "anga fakatonga" (West, 2009, p. 816) and the Western way of "anga fakapalangi" (West, 2009, p. 820). Considering that provided my research with a valuable portal for understanding.

Applying Bakhtin's (1981) Dual Realm of Existence

In applying Bakhtin's (1981) dual realm of existence to my research, I acknowledged that my participants were impacted and influenced not only by their lived experiences in Tonga, but also by their lives as migrants to Aotearoa New Zealand. In that way, recognising their "dual realm of existence" (Bakhtin, 1981, p. 325) provided a valuable knowledge portal that added

considerable depth to what my participants told me. Extending those benefits was my incorporation of Koven's (2004, 2012) work on speaker role and position.

Theory of 'the Voice and Double-Voicedness'

As my contact with my participants progressed, I became aware that one of my participants Soana Muimuiheata held a bachelor's degree in nutrition. This prompted me to consider, upon analysing her interview transcript, how her information and 'voice' might differ from that of my other two participants. By comparison, I noted that these other two participants told their stories in vernacular language.

In discussing my concern at my 'discovery' of a different voice, my supervisor recommended that I explore the research of Koven (2004, 2012). Doing that, I found that Koven proposed a tripartite 'voice' model. Within that model, speakers move between their current interaction, (their research interview) and the story they wish to share within what Koven (2012) termed their "narrated event" (p. 154). Considering that, Koven (2012) recognised that storytellers inhabit three different speaker roles, "narrator, interlocutor and, character [voiced roles]", and their combination within conversation (Koven, 2012, p. 153). It is within those 'voices' that Koven (2004) realised that narrative delivery responds to "the larger context of the interview or conversation in which the story is told" (p. 480). For Koven, the narrator role is revealed within narration when the speaker takes "on the role of storyteller, obtaining an extended turn at talk in which he/she narrates" (p. 480). Koven's (2004) interlocutor is revealed within "the larger context of the interview or conversation in which the stories are told" (p. 480). Interlocutors are also known "conversationalists" in as much as their "commentary breaks from and/or comments on the narrative; meta-narration" (p. 486). Koven's (2004) final voice is that of character. For Koven (2004), characters relate stories punctuated with direct quotes and share the "thoughts, feelings, words and deeds" (p. 483) of participants. Compounding these positions, Koven (2004) also suggested that narrator, interlocutor, and character 'voices' "can be performed alone, or, simultaneously with[in] the other two roles" (p. 484). That amalgam defined Koven's (2012) notion of participants being "multi-voiced" (p. 153), or double-voiced (p. 484), a construct not dissimilar to Bakhtin's (1981) polyphony.[6]

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[6] "Russian linguist and literary critic Mikhail Bakhtin used this word, literally meaning many voiced to describe literary writing that managed to liberate the voice of its characters from the domination of the authorial or narratorial voice" (Oxford University Press, 2023b, para. 1).

Applying Koven's (2004, 2012) Speaking Position

Identifying the speaking positions of my participants was an important way to understand 'where they came from' by the words they used and the ways in which they presented their speech. What my participants had in common was that they are all Tongan migrants living in Aotearoa New Zealand, and that they were all bi-lingual, speaking fluent English and Tongan. While my participants' voices could be considered vernacular, within their common and everyday narrative and expression, the application of Koven's (2012) considerations added to a deeper appreciation of what my participants told me. Indeed, my embrace of qualitative description (Sandelowski, 2000) and its emphasis on the participant voice highlighted the ways in which Koven's (2004, 2012) work added depth to my dissertation by giving me tools to gain insight into my participants' 'voice.' Exemplifying that, Lemisio and Tatiana often took on the narrator's role, simply telling a story by "obtaining an extended turn at talk in which he/she narrates" (Koven, 2004, p. 480). Contrasting that, Soana often spoke in "double voiced" ways (Koven, 2004, p. 484) and, as an interlocutor, applied a tripartite speaking position within which "story tellers can inhabit: narrator, interlocutor and character [roles]" (Koven, 2012, p. 153).

Reflecting Soana's uniqueness were sentences like:

> *So, it's like the meaningful of food, related to something, whether you relate, eat well to live well, that's when you age well, eat well for your whānau and there's wrap-around service that has to be link in order for you to make it meaningful to somebody. Eating is a basic need [that is] different from nutrition. Nutrition is about the study of food, so there are two different things.*

Sentences like that, for me, set Soana apart from my other participants, because Soana incorporated the knowledge and language inherent to her degree in nutrition. Considering that, and the voices of my other two participants, realised another level of uniqueness in my dissertation since Lemisio and Tatiana tended to use their narrator's voice, whereas Soana transitioned between double-voicedness as narrator, interlocutor, and character.

Data Collection in Interviews

My research used face-to-face interviews that maximised structured (Taylor et al., 2016), semi-structured (Taylor et al., 2016), and unstructured (Taylor et al., 2016) interview questioning techniques within recorded, in-depth participant interviews. As Taylor and Bogdan (1998)

noted, qualitative researchers focus on people, their worldviews, and the meanings people attach to places and things that help them make sense of their world (Berger & Luckmann 1966, 1967, 2011). Reflecting those considerations and Sandelowski's (2000, 2010) recommendations, I recorded and present my participants narratives in their own words.

My average interview time ranged from 30 minutes to an hour and a quarter. That time did not include talanoa. However, I engaged talanoa at every meeting with my participants. I engaged in small talk designed to make my participants feel comfortable, not rushed, or anxious. Prior to meeting my participants, we had agreed on a mutually convenient interview location and time. At our meeting I warmly greeted my participants, offering them a choice of non-alcoholic beverages. Integrating casual conversation, and after a good time of generalised talk, I began to introduce my interview questions. To my surprise, some participants asked for another interview opportunity. For me that was a welcome 'reward.' I felt that my engagement in talanoa and my questioning approach suited my participants, by making them comfortable enough to suggest that they would like to tell me more!

My combination of interview techniques promoted interview flexibility and encouraged open conversations that exposed meaningful participant information. In that way, my interviews engaged talanoa throughout my encounters with my participants. Our sharing of stories, thoughts and ideas provisioned deep and rich information (Faʻavae et al., 2016; Vaioleti, 2006).

When interviewing my research participants, I engaged in talanoa-vā as a sign of respect to my research participants; this included respect for their social and cultural spaces, and the high value I placed upon my participants sharing their lived experiences. As researcher, I tried to listen attentively and actively, to ask questions where appropriate, and to elicit, probe and to encourage my participants' responses. In so doing, I created and maintained a comfortable conversation flow, and took time to listen to my participants story telling. According to Cammock et al. (2021), talanoa provides a space (vā) for participant involvement, respect and relationship building. In so doing, it recalled something I had read from my supervisor, Dr. Lindsay Neill "to allow your participants to tell you what they want to tell, and not tell you what you want to hear". In that way, "knowledge provides a base for appreciating how people come to know, participate and understand their own worldviews and the worldview of others" (Neill, 2018, p. 15).

My interview participants were Tongan migrants, born in Tonga, but currently living in Aotearoa New Zealand. Their details are noted in Table 9.

Table 9: My Research Participants

Name	Gender Self-Identification	Age	Employment	Tonga/Aotearoa New Zealand Links
Lemisio Uhi	Male	52	Security and maintenance for 16 years at AUT.	Born: Tongatapu, Tonga. Migrated to New Zealand in 1997.
Tatiana Kisi Lavaka	Female	57	A teacher in Tonga, Cleaner at AUT.	Born: Vava‘u, Tonga. Migrated to New Zealand in 2005.
Soana Muimuiheata	Female	40s	Dietitian/Consultant for 30 years.	Born: Tongatapu, Tonga. Migrated to New Zealand in 1987 for education.

Participant Considerations

While Koven's (2004, 2012) theories added a depth of understanding to my research, the choice of my group of participants exemplified "purposeful sampling" (Åstrøm, 2020, p. 250). As Åstrøm (2020) proposed, purposeful sampling is defined as the selection of participants who are experts in a specific topic and therefore can provide deep, rich, and meaningful data. Applied to my research, purposeful sampling reflected my choice of three Tongan-born migrants to Aotearoa New Zealand whose subjective lived experiences and knowledge could provide unique insights into my research topic. Considering that, my participants' accounts are simultaneously emic and etic (Schuckert, 2023). An emic perspective is, as Schuckert (2023) explained, an insider's cultural view. Yet, my participants are also etically positioned consequent to their migrant status. My migrant participants' etic perspective was realised in them having an outsider's cultural knowledge and understanding (Schuckert, 2023). In those ways, my participants, like many other Tongan migrants, live and experience a "dual realm of existence" (Bakhtin, 1981, p. 325). That realm merges anga fakatonga and anga fakapalangi (West, 2009), adding depth and uniqueness to my research narrative.

Data Analysis: Thematic Analysis

Key to my process and my understanding of what my participants told me was my use of Braun and Clarke's (2006) six-phase thematic analysis. Thematic analysis is a way to identify themes and patterns of meaning across a dataset in relation to research questions. Vaismoradi et al.

(2013) identified thematic analysis as a flexible and beneficial research tool providing a rich, detailed, and complex data. The six phases of thematic analysis are noted in Table 10, below.

Table 10: Phases of Thematic Analysis

Phase	Processes
1.	Gained familiarity with data collected from participants' interview, transcribed notes, and potential ideas.
2.	Initial codes generated from relevant data aligned to the research questions.
3.	Codes collated, themes searched and identified. Process repeated to locate other themes and ensure all potential themes were identified.
4.	All themes reviewed and re-checked against original data.
5.	Themes named and defined. Themes re-analysed, and each of the themes re-defined to distil themes.
6.	Report distilled themes, drawing out references to the research questions and literature.

Note. Adapted from Braun and Clarke (2006, 2019).

Beginning this process, after recording my interviews I transcribed their content. Then, I read my transcripts multiple times. That process made me familiar with their content. Then, I used the six phases of thematic analysis (Braun & Clarke, 2006, 2019) to distil my research data themes from my participants' interview transcripts. To progress that distillation, I manually coded the texts to generate ideas from the interview transcripts. In doing that, I adhered to the six phases of thematic analysis (Braun & Clarke, 2006, 2019). As codes that were similar evolved, I merged them together. Later, I aligned my coded themes to my research questions, reinforcing their relevance and the reliability and robustness of my research. With that exercise, and with no more emergent themes, I considered that I had reached a point of data saturation, inasmuch as no further themes were revealed. Overall, I generated 31 themes within my research participants' transcripts. These themes were distilled, with similar themes merged and renamed. Themes sitting outside of the ambit of my research questions provided sources for future research and, in some cases, issues to consider in relation to research limitations (refer Chapter 6, "Discussion and Conclusion"). Again, I reviewed and refined my themes. Eventually eight themes were framed and noted in Table 11 (refer Chapter 5, "Findings"). Table 11 provides an overview of initial themes distilled from participants' interviews. From that process I created Table 12 (refer Chapter 5, "Findings") that also included the information I needed to not only answer my research questions but also complete my findings chapter (Chapter 5) and my discussion and conclusion chapter (Chapter 6).

Research Ethics

Ethics permission was required for my research because it involved the gathering of primary research data. An EA1 Ethics Application was made to the Auckland University of Technology Ethics Committee (AUTEC) in November 2022. Research permission was granted by AUTEC, under approval number 22/386, on May 2, 2023 (refer Appendix 5). Appendix 6 provides my participant information sheet, while Appendix 7 presents my participant consent form.

Chapter 5: Findings

Introduction

This chapter presents my research findings gleaned from my three participants interviews that were audio-recorded, transcribed, and then thematically analysed (Braun & Clarke, 2006, 2019) (refer Table 10). I provided each of my participants with a copy of their transcript. This allowed them to correct any errors, add to what they had told me or request other emendation. Despite that, none of my participants made any changes. However, as I indicated in Chapter 4, one of my participants requested another interview opportunity. During that interview, my participant provided additional information, particularly the names of traditional Tongan food crops grown in the bush. Additionally, he elaborated upon his first interview. That provided me with an opportunity to ask this participant more questions.

To generate my Findings, I engaged in the following process. After I established my themes, I created Table 11 containing 31 themes. Then I refined my initial 31 themes (refer column 2) and then located them in relation to my research questions (refer column 3).

Table 11: Initial Themes Distilled from Participants' Interviews

	Themes	Distilled themes	Refinement to research questions
1.	Food literacy, verbal communication.	Food literacy explanation.	Understandings of food literacy.
2.	Food literacy interpretation.	Food literacy meaning.	Understandings of food literacy.
3.	Know their food, how to use food.	Food knowledge, and skills. Food practical knowledge.	Understandings of food literacy.
4.	Food literacy and Tongan language	Food literacy and Tongan language.	Understandings of food literacy.
5.	Fakalato – balance, opportunities, standard, customs, and practice, fakalato is lacking.	Fakalato explanation. Barrier to food literacy. Connection to family, community church.	Considerations of fakalato. Barrier to food literacy. Social economic and cultural factors.
6.	Tongan food culture – food memories of home, parents working in bush, natural ingredients from land.	Connection to family, community, church. Consumption pattern.	Food, belonging and connectedness. Food's consumptive socio-cultural role.
7.	Food and method employed –food skills.	Food knowledge, and skills.	Understandings of food literacy.

	Themes	Distilled themes	Refinement to research questions
8.	Use of pesticides, chemicals, imported food, vegetables, diseases brought to the country.	Diseases. Imported food. Impacted health.	Food and diet-related diseases.
9.	Transformed Tongan food culture to non-traditional.	Consumption pattern. Impacted health. Imported food.	Food's consumptive socio-cultural role. Food and diet-related diseases.
10.	Many diseases in Tonga – high blood pressure, diabetes, sugar, and asthma.	Impacted health.	Food and diet-related diseases.
11.	Knowledge about food – type of food good for diabetes and weight loss, asthma – cause by fatty foods and starch.	Food knowledge and skills. Food practical knowledge.	Understandings of food literacy.
12.	Tongan main food types – starch, staple food – know what starch is – their carbohydrates.	Food knowledge and skills.	Understandings of food literacy.
13.	Food as driving force – metaphor healthy body, healthy life.	Food knowledge and skills.	Understandings of food literacy.
14.	Use bushland (farmland, plantation) metaphor – as own food factory.	Food knowledge and skills.	Understandings of food literacy.
15.	Rear animals for purpose – horse as motorcycle, dog as barrier to protect land.	Food knowledge and skills.	Understandings of food literacy.
16.	Two types of industries – Tonga fishing and farming.	Delimited opportunities.	Socio-economic and cultural factors. Barriers to food literacy.
17.	Food grown feed humans and animals, No food wastes.	Food waste. Food knowledge and skills.	Understandings of food literacy.
18.	Traditional way of offering food to people need food, sharing food. Tongan tradition, culture, belief sharing culture. food memories – lu sipi.	Connection to family, community, and church. Food sharing. Consumption pattern.	Food, belonging and connectedness. Food's consumptive socio-cultural role.
19.	Changing food trends. Western influence, eating junk food, love eating, do nothing – less physical activity, lazy – not working. Chicken imported from USA and China – injected for faster growth.	Consumption pattern. Impacted health. Imported food.	Food's consumptive socio-cultural role. Food and diet-related diseases.
20.	Food categories daily foods, special occasion food, feast food.	Food knowledge and skills. Food practical knowledge.	Understandings of food literacy. Food's consumptive socio-cultural role.
21.	Know when to plant, what to plant. What to plant to prevent bugs and fungus growth.	Food knowledge and skills. Food practical knowledge.	Understandings of food literacy.

	Themes	Distilled themes	Refinement to research questions
22.	Food combination – starchy food and less physical activity to burn off starch. Not food to consume now.	Food knowledge and skills. Less physical activity.	Food's consumptive socio-cultural role. Food and diet-related diseases. Understandings of food literacy.
23.	Government provide aid – modern machinery.	Less physical activity. Impacted health.	Food's consumptive socio-cultural role. Food and diet-related diseases.
24.	Convenience foods – love eating, love buying, more foreigners running stores.	Imported foods. Impacted health.	Food's consumptive socio-cultural role. Food and diet-related diseases.
25.	Frequency meal pattern, three meals and more.	Consumption pattern Impacted health.	Food's consumptive socio-cultural role. Food and diet-related diseases.
26.	Regular three meals promote strong body.	Food knowledge and skills.	Understandings of food literacy.
27.	Barriers such as culture, lack of fakalato, budget, To achieve fakalato, there is a barrier for poor people. Ability to put fakalato into action is itself a barrier.	Barriers to food literacy.	Barriers to food literacy. Socio-economic and cultural factors.
28.	Food classification. Food groups – carbohydrates, meat, and vegetables.	Food knowledge and skills. Food practical knowledge.	Understandings of food literacy.
29.	Food and nutrition.	Food and nutrition Food knowledge and skills.	Understandings of food literacy. Food and nutrition. Socio-economic and cultural factors.
30.	Exposed to excessive eating convenience. Availability.	Impacted health. Consumption pattern.	Food and diet-related diseases. Food's consumptive socio-cultural role.
31.	Food stories	Connection to family, community, church.	Food, belonging and connectedness. Food's consumptive socio-cultural role. Socio-economic and cultural factors.

Then, I created Table 12, below, which refines and explicates Table 11. Table 12 presents eight themes, four major themes and four sub-themes. I created this table by re-reading, reviewing, and re-analysing of my themes in Table 11, cognisant of the processes I undertook in creating my themes in the first place. In creating Table 12, I used the distilled themes in column 3 of Table 11 and the refinement of themes framed in column 4. Table 12 directly links my themes to my research questions. As Table 12 reveals, my major themes and sub-themes derive from that process, and I use them to respond to my research questions.

Table 12: Distilled Themes and Their Links to My Research Questions

<table>
<tr><th>Distilled Themes</th><th>Major Themes</th><th>Sub-Themes</th><th>Interconnected themes linked to respond to my research questions</th></tr>
<tr><td>Food literacy explanation.
Food literacy meaning.
Food literacy knowledge and skills.
Food practical knowledge.
Food literacy Tongan language.
Food and nutrition</td><td>Understandings of food literacy.</td><td>Food and nutrition.</td><td rowspan="4">Research Question 1:
Ways in which food literacy is experienced:
understanding food;
food provides senses of belonging and connectedness displayed in food's consumptive socio-cultural role and practice;
considerations of fakalato in achieving balance.

Research Question 2:
Academic knowledge focuses on food literacy and the insights provided by Tongan participants.

Research Question 3:
Agent of change seen in notion of fakalato and involvement of family, church, and community to foster the empowerment of positive food literacy messages.</td></tr>
<tr><td>Fakalato explanation</td><td colspan="2">Considerations of fakalato.</td></tr>
<tr><td>Consumption pattern.
Connection to family, community, church.
Diseases.
Imported food.
Impacted health.</td><td>Food consumptive socio-cultural role.</td><td>Food, belonging and connectedness.
Food and diet-related diseases.</td></tr>
<tr><td>Delimited opportunities.
Food sharing.
Less physical activity.
Barriers to food literacy.</td><td>Barriers to food literacy.</td><td>Socio-economic and cultural factors.</td></tr>
</table>

On the basis of Table 12, this chapter contains the following headings and sub-themes:

- Exploring Participant Findings: Understandings of Food Literacy (sub-theme: Food and Nutrition).
- Considerations of Fakalato.
- Participant Notions of Food: Food's Consumptive Socio-cultural Role (sub-themes: Food, Belonging and Connectedness, Food and Diet-related Diseases); and
- Participant Perceptions of Barriers to Food Literacy (sub-theme: Socio-economic and Cultural Factors).

These headings are important because they not only reflect what my participants told me but also provide the information needed to respond to my research questions (refer Chapter 6,

“Discussion and Conclusion”). Given that my research is a qualitative study maximising qualitative description (Sandelowski, 2000), the present findings chapter presents, in accord with that paradigm, my participants’ voices in direct quotes. In that way, my dissertation reflects the ‘spirit’ of Sandelowski’s (2000) qualitative considerations. Given that, it is timely to remind readers of my research questions.

My primary question asked:

- In what ways is food literacy experienced by Tongan migrants in Aotearoa New Zealand?

Supporting that question my secondary questions asked:

- What is the current state of academic knowledge surrounding food literacy of Tongan migrants in Aotearoa New Zealand?
- What agents of change could positively impact the food literacy of Tongans in Aotearoa New Zealand?

Exploring Participant Findings

Understandings of Food Literacy

Notions of food literacy are central to my research. Consequently, my participants’ understandings of food literacy are important in appreciating the nexus of vernacular knowledge/opinions and relevant literature (refer Chapter 3, “Literature Review”). Those considerations, like my other findings, will be discussed in the following chapter, Chapter 6, “Discussion and Conclusion”.

However, for some participants, ideas around food literacy reflected the knowledge passed between generations. Lemisio demonstrated that suggesting:

> *food literacy is about verbal instructions. It comes from parents to us. Most of the food is passed on by communication. We don’t sit down and write down all the ingredients. Our knowledge is natural and habitual. We know that forever.*

Reinforcing that, Lemisio continued:

> *I speak from the Tongan side, like a proverbs warning. One of our poems says – eat with your knowledge (kai aki ho ilo) not with your taste (kae’ikai aki ho ifo). Taste, that is our worst enemy, taste is like our disease. Knowledge is about life.*

Lemisio's consideration of food literacy reflected the Tongan way, anga fakatonga, inasmuch as he reinforced the importance of community and sharing knowledge though the casual verbalisation of family encounters. In that way, Lemisio told his story from his lived experience by telling his narrative in the 'there and then' (Koven, 2004, 2011) and as an interlocutor within the 'here and now' (Koven, 2004, 2011). Lemisio moved between voices, and socio-temporal spaces. Lemisio's "double voicing" (Koven, 2004, p. 482) was reinforced by his narrative reliance on the denotative and connotative meaning within his poetic recall.

For Tatiana, food literacy was about the foods she ate and their family associations. As she recounted:

> *our food depends on what we grow. My dad grows and sells pineapple, and buys us fish, or he goes fishing at nighttime. He grows carbohydrates in the bush, plantain, cassava, that's what we ate. We cooked our food in the afternoon for dinner.*

Soana's considerations of food literacy included the idea that:

> *Food literacy is about your understanding and the interpretation of what you know, the literature, there is the literacy. So, when you talk about food literacy, it is about food, what's your literacy? How well do you know food, and then food literacy comes in.*

For my participants considerations of 'food literacy' were bound within their perception that food literacy is a socio-cultural construction (Berger & Luckmann, 1966). However, their construction of food literacy was metered within two key realms: family vernacular knowledge and the realisation of extant literature and its application within dietary knowledge. In that way, my participants' considerations of food literacy were mediated not only by interactive knowledge, sourced within their history, but also within a contemporary overlay of new dietary knowledge and application realised in literature. For Tatiana, the understanding of food literacy included what kinds of food were grown, where they were grown or sourced, and how those foods facilitated revenue. In those ways, the definitions of food literacy from Tatiana and Lemisio tended to reflect the Tongan way, anga fakatonga. Soana expanded that view. She considered literature and how literature needed to be both thought about and enacted. Considering that, Soana's definition is double-voiced (Koven, 2004) because she evoked traditional Tongan 'thinking' within an overlay that considered literature, and its advice, and required actioning to reflect her knowledge as a dietitian. Consequently, Soana's position reflected the combination of interlocutor, situating the "here and now" (Koven, 2004, p. 482)

and interweaving it with her academic voice of knowledge as reflected in her reference to literature. Another theme reflecting my participants' understandings of food literacy was their knowledge of food and nutrition.

Food and Nutrition

My participants associated food knowledge with food's nutritional value in pragmatic ways. Lemisio realised that food and nutrition were about knowledge – specifically, knowing your food, possessing food knowledge, and recognising food's value within healthy eating. His knowledge reflected the Tongan worldview and the Tongan way, anga fakatonga:

> *they know exactly what kind of food and how to use the food without looking at documents we have all the carbohydrates, yam, cassavas, … protein, the third is vegs, we grow our food.*

Lemisio linked nutrition with traditional cooking practices, particularly avoiding 'artificial' things. He commented:

> *umu is the way of cooking, use banana leaves. [It] can create flavours, keep food moist and longer. No other things artificial, use whatever we have in the world, rocks, soil, plant, and food. All this gives you healthy life when you cook your food.*

For Tatiana, the association between food literacy and nutrition also reflected the Tongan way, anga fakatonga, particularly the link between what is grown and what is consumed:

> *our parents prepare our food from what they grow in the ground. Our culture, eat our own food like carbohydrate[s] and a meat.*

Tatiana evidenced her knowledge of food's nutritional value by exemplifying how her family cooked in the islands, in a one-pot dish that was filled with food's natural goodness:

> *one pot means everything [in one pot], we got carbohydrate, the protein meat and vitamin C, all the three food groups in one pot. One pot [is a] different kind of food, three main foods, got all the vitamins.*

Soana's understanding of food and nutrition's link to food literacy was reflected in her food knowledge:

> *in Tonga or through [the] Pacific region, we classify food as three food groups, health and protective that's fruits and vegetables, body building our protein, energy food, that's our carbohydrate and our fats. Local food is so good for your bowel. Island food is rich [in] fibre content. When we talk about healthy eating, everybody knows that, yeah, they can sing it out. Nutrition is about the study of food and how our body handle it.*

My three participants' food and nutrition knowledge and ability to identify food groups emphasised their understanding of nutrition within food literacy. Although the three participants are similar in that their speaking positions were as narrators as Tongan migrants, there was a distinction. For instance, Tatiana and Soana spoke in a double-voiced ways (Koven 2004, 2012). Tatiana's speaking position was interwoven with local knowledge within narration and interlocutory positioning. Soana's speaking position was interwoven with expert knowledge and narration. Lemisio was set apart from both Tatiana and Soana because, within narration, he emphasised the Tongan way, anga fakatonga.

For my participants, their key messages clearly linked food and nutrition to understandings of food literacy. Key to those understandings were notions of food, its sourcing, cooking methods, food's nutritional value gleaned within their knowledge and understandings that denoted their subjective experiences within the Tongan way, anga fakatonga, and career knowledge. In those ways, my participants' understandings of food and nutrition within food literacy extended their considerations of fakalato.

Considerations of Fakalato

Another basic understanding that my participants shared was found in their views on fakalato. As my literature review (refer Chapter 3) noted, fakalato is a contested term, yet a term that has an association with food literacy. For Lemisio, fakalato meant many things:

> *That word means a lot to us. That is our life, our life to fakalato everything. Fakalato makes everything in balance, a way of doing things. Fakalato means [that] everything [is] fulfilled.*

Lemisio also noted a generational change in meaning:

> *In this generation, fakalato means different things. that is why for migrants here [in Aotearoa New Zealand] fakalato is used in different ways, [and is applied] to our life, our health, education, those things we lack in the island.*

For Lemisio, that contrasted with notions of fakalato in Tonga:

> *In Tonga, fakalato is about a standard. For example, in year 13 in Tonga, the government sends the top 5 students, out of 2000, to an overseas university.*

Narrowing his view to food, Lemisio finally added that:

> *Because we [are]talking about food, most of our foods [are] missing from the island. Because most of the people kill it or destroy it by chemicals, we can't fakalato all our food in the island. Not everyone can achieve [fakalato], no, [especially] when it comes to poor people.*

For Tatiana, fakalato could be explained as follows:

> *Fakalato [is]like my parents, all doing things for the kids' needs and wants. Parents work hard to gain for kids to growing well, growing healthy. If parents can't grow everything for them, the kids can't [get] stronger, they may go hungry. That's what fakalato means to me, it's an everyday word.*

Soana added that fakalato was about:

> *Having enough. Fakalato [is]about food security, to be able to meet the requirement, to have enough supplement. That is my understanding of fakalato.*

However, Soana elaborated upon her understanding of fakalato in Aotearoa New Zealand:

> *In New Zealand, faakai means eat too much. When you talk about food security that is different, having enough, lato means enough, is meeting your requirement, want, fakalato pre-verb to have enough to meet it, lato just can be a descriptive word of what you have. [Fakalato] is a traditional word. I don't use it every day [because] it's a phrase that you need to explain. In [the] context of my role and understanding, I would use simpler language.*

My participants' experiences and narratives reinforced the contested nature of fakalato for Tongan migrants. Because my participants were unclear about fakalato's meaning, its use within considerations of food literacy among Tongans helps to explain the wider lack of understanding of the relationship between food literacy, diet, and health.

For Lemisio, fakalato held potent meaning. Fakalato reflected his life and its balance in holistic ways. Fakalato conveyed multiple meanings, inasmuch as food is not fakalato if an ingredient is absent. In that way, Lemisio's comment that "food is nothing" signified the importance of balance. As he related, a "big event is fakalato if we are provided with yam". That reinforced the Tongan way, anga fakatonga because he noted that "everyone grow yam in [the] bush".

Tatiana's considerations of fakalato reflected her parents. For Tatiana, fakalato was about "parents making sure that their children's needs and wants are met so that the children will grow up healthy." Fakalato is an everyday word for Tatiana realised within her parents' provision of food and its wider sharing.

For Soana, fakalato was a context-dependent word. She realised its cultural complexities and its contemporary meaning. Consequently, Soana advocated the use of "more simpler language".

Within considerations of the ideas of Koven (2004, 2012), my participants spoke in much the same voices they had previously used. Soana considered her academic knowledge, and tempered that with narration and interlocutory positioning (Koven, 2004). Within her "double voicing" (Koven, 2004, p. 482) awareness, Soana recognised that, often, her audience needed, as she noted, "more simpler language" [and] "it's a phrase that you need to explain". Contrastingly, Lemisio and Tatiana relied on story narration, based on their lived experiences. However, all participants' positioning on fakalato included the consideration of context within the word's use. Key to those understandings were my participants' considerations of food.

Participant Notions of Food

Food's Consumptive Socio-cultural Role

My participants realised that food signified more than the nutrition required to sustain bodily function, growth, repair, and energy. Reflecting that, Lemisio shared some of his experiences:

> *when my sister had [her] newborn child, as [a] male [I] have to give her food. When my wife born my first child, my sister don't cook the food, she prepare a bed and blankets, that is how we explain who we are and how we get together as a family. [The] male has a job to do [that] is different to female, us male[s] we cook the food, female they are the one[s] who eat our food. Traditionally, [we] offering food to people that need food, they [just] need to ask. That is who we are as a community. We donate food to those having funerals or weddings. We offer food and meat. As a community, some event that is how we offer/donate food.*

Tatiana shared a similar theme proposing that:

> *[It's the] Tongan way, we share food, we love our neighbours: one community. When we go to [an]other place, [they] prepare some food whatever they have. They give. We eat whatever [is] given.*

Soana realised the importance of traditional food customs, but she also recognised that takeaway convenience foods impacted traditional foodways:

[We] try to use what we have in the island[s], to keep to Tongan traditional customs. However, even [for] our traditional Sunday meal, people will go to the Tongan takeaway to buy those foods.

In those ways, my participants recognised the ways in which food had changed for many Tongans. My participants were cognisant of and practiced gender-based food rituals, realised the importance of food in creating and maintaining community, and understood the politeness of eating what was supplied to a guest. However, within those recognitions, the convenience of takeaway food had, for some, permeated the most sacred of shared meals for many Tongans, the Sunday meal. Considering my participants' observations, in recognising change, within tradition, my participants also revealed how contemporary living impacted traditional diets. In doing so they also revealed their "dual realm of existence" (Bakhtin, 1981, p. 325), reinforced within the Tongan way, anga fakatonga, the maintenance of relationships including tauhi vā and kainga. In those ways, my participants' considerations of food extended into themes of belonging and connectedness.

Food, Belonging and Connectedness

For my participants, food evoked a sense of belonging and connectedness that extended into their wider notions of identity. That, for Lemisio, was realised by his observation that:

without those foods we don't feel we are Tongans/we are non-Tongans, for example when the rugby league came to New Zealand everyone got a Tongan flag running around, but no one speak the Tongan language. How can you identify you are Tongan? Same with food, ... but the way we explain our values that is part of our life about food ... traditional ceremony ... we use food to define, to describe, to show people who we are. Food can tell who you are and who I am.

Tatiana considered notions of food within nostalgia for Tongan food and places. Key to her recognition of food's importance was food's sensual attributes, particularly those emphasising her olfactory sense. Additionally, she considered how globalised products like lamb had influenced traditional Tongan cuisine in dishes like lu sipi:

Tonga food is fresh, bigger like banana is bigger, smell of the food Tonga smell fresh, bring from the bush on that day, eat that day fresh. Cook straight away, add sauce in Tonga only coconut, cook outside under the tree, [it's the] island way.

Lu Sipi is a traditional Sunday food cooked underground [in an] umu. It is cooked before we go to church. When church finishes, by time [we] come back [the] lu sipi is cooked and ready for eating. We grow lu [taro leaves] in the

plantation. Sipi [lamb] is from New Zealand. We can use 1 kg lamb for [our] whole family. We cut the leaf, take it home, the lu, sipi on top of [the]taro leaf, put onion, tomato on top, whatever you get, …use banana leaf. In New Zealand, we use [aluminium] foil for lu sipi and cook it in [a] stove.

Soana extended Tatiana's considerations of lu sipi, realising that although the dish was common on a Sunday in Tonga, it was not a traditional food item:

Lu Sipi is not a traditional dish, it is a common dish, lu taro leaf and what is inside, lu sipi, beef (lu pulu). It is a common dish, not a traditional dish … lu sipi (mutton flap) is not Tongan food, [it is] imported, [but] it is a common food on a Sunday. The meat is imported, [so it's not] Tongan food.

While lu sipi evoked contestation and reflected the influence of imported product on the Tongan diet, Soana proposed that the etiquette of eating was also a consideration that reflected how food, belonging and connectedness was also an important consideration that linked diet to health outcomes. As Soana reflected:

When I talked to my participants, who were mainly leaders, church leaders, church ministers, high professional, education, and health. We know what we need to eat, but we don't do it. The church minister shared this. That's like when they go to a feast, and see the top table, they eat to acknowledge, and to honour the food that's being provided. They know for sure that it's not good for their diabetes, but to give honour and appreciate the effort that people provide because for them it's part of their sacrifice.

For my participants, food, belonging, and connectedness were integral considerations of the Tongan way (anga fakatonga), the building of relationships (tauhi vā), and kinship (kainga). Those realisations placed food as a key component within Tongan and Tongan migrant culture. While Soana's academic knowledge reflected a double-voiceness, situating her in the 'here and now' (as interlocutor) (Koven (2004), my remaining participants situated themselves in the 'there and then' through their own narrative position (Koven, 2004). Yet, despite those positions and realisations that food was more than a necessary energy source, all my participants were familiar with food and diet-related diseases.

Food and Diet-related Diseases

While food is a socio-cultural 'tool', Lemisio recognised its potential to cause harm to health. My other participants also commented upon the link between health and diet. Thus, all of my participants were aware of that connection. Lemisio connected food and diet-related illness by

considering non-traditional Tongan foods, chemicals, and the types of disease common to many Tongans. He suggested that:

> *non-traditional food in Tonga impacts the lives of Tongans. For example, how many people are dead from diabetes in Tonga because of food[s] imported into Tonga? Most of the plant[s] or food[s] rely on chemicals, rather than [being] natural. However, chemical use speeds [the] crop to grow fast and produce fruit. Most of the crops are using chemicals and people are having bad habits and get sickness, [and] diseases. Food [is] linked to diseases [including] high blood pressure, diabetes, and asthma. Starch and eating fatty foods cause asthma [and that] causes a lot of trouble.*

Lemisio explained how strategic planting avoided chemical use:

> *for example, we plant vegetables, we plant own Tonga spring onion everywhere, the strong smell keeps away the bugs, bacteria, we don't spray or chemicals. As I recall my stories growing up, every time we go to the plantation we have bananas, we have everything.*

Contrasting that 'ecological balance' Lemisio shared his personal story of the link between pesticides, chemicals, and health, within the need to eat, and provide income:

> *and then suddenly we have so many diseases, so many things happen, things we didn't normally know where it is coming from, that time everything start changing, and then because my dad pass away from result of using chemicals to spray around plantation so many fungus and diseases. If we don't, we don't have any food, because when we plant and grow, we have two options to sell to get money or to eat half for our daily food.*

Lemisio also realised that many traditional Tongan foods were now imported into the country. He recalled:

> *our traditional food so many yams, cassava even siaine (bananas) now coming from overseas, imported food comes together with diseases. Imported chicken from USA and China, major supplier of chicken China, majority of chicken injection so [the chickens] grow fast.*

Compounding that for Lemisio was the negative impacts of Western fast-food culture and its link to disease. He noted:

> *since 1990s things changing. Island people expose[d] to Western culture, maybe easy life. Everyone follow[s] Western culture. Island people eat junk food and do nothing. Now people in the island love eating, do nothing, love buying, that is why so many foreigners running the stores, in Pacific countries owner of the dairy is Chinese.*

> *I think old generation, starch good for physical strength, [Tongans]are strong people, do physical work, love their food, burn off the starch. This generation driving, not much physical work, use machine, problem now no physical work to burn off the starch. Even in Tonga not enough physical work but have machinery, no walk, driving to the bush. Now more people get cancer, diabetes because of situation in Tonga.*

Lemisio shared advice that reminded me of Brillat-Savarin's (1825/2009) most famous quote[7] when he identified food as a metaphor for body:

> *food is driving machine for your body, if you want a healthy life, you have to look after yourself especially what you are going to eat, also to balance what you are eating and your health.*

Tatiana connected the ways in which migrants contributed to unhealthy diets in Tonga. Tatiana also contrasted that with the good health of her father who still lives in Tonga. Tatiana recalled that:

> *people migrate to Australia, America, New Zealand. They send money back [to] buy non-Tongan foods, like rice and flour. Then Tongans make and cook a pie or cook [a] cake. The carbohydrates have change[d]. Tongan food manioke (cassava) has been replaced by non-Tongan food. My dad [is] 85, he plant[s] pineapple and works in the bush. He eat[s] three times a day and has become healthy. Some people work whole [the whole] day and did not eat. They become sick not doing three meals a day.*

Soana contributed that food was readily available and that, consequently, it was easy to over-indulge:

> *we eat an excess of everything. In fact, we eat too much. In Tonga obesity is worse now than in Tongan 20 years ago. Now we are always exposed to food. There is so much food available in Tonga and in here [Aotearoa New Zealand], we are exposed to a lot of food, we just keep eating. Just like me, I was eating in a meeting yesterday at 10 am. Then, I went to work and there was some food brought over, we ate. Then, an hour later, some people brought us some food. We ate again. Then, from work, I went to a function at 5 o'clock. At 6 o'clock [they] gave us food. When I got home after seven, I still eat my dinner … that's the excess of food that we eat.*

The narratives from my participants illuminate their subjective lived experiences and their speaking positions (Koven, 2004, 2012). Lemisio's talanoa situated him in the 'there and then'

[7] "Tell me what you eat, and I shall tell you what you are" (Brillat-Savarin, 1825/2009, p. 15).

as a narrator whose narratives reflected his emphasis on the Tongan way, anga fakatonga. Reflecting that are quotes including: “We plant own Tonga spring onion everywhere; the strong smell keeps away the bugs and bacteria.” Lemisio’s speaking position as an interlocutor in the ‘here and now’ also revealing his double-voicedness (Koven, 2004, 2012). Additionally, Lemisio’s narration using food as metaphor – for example, “Food is driving machine for your body” – provided insight in that, through his interaction, meaning was verbally and socially constructed and transmitted, reinforced, and emphasised, revealing how Tongans come to make sense of the world around them (Berger & Luckmann, 1966).

Soana’s narrative is set apart from the other participants because of her double-voicedness (Koven, 2004, 2012). Best exemplifying that was her speaking position as dietitian when she noted that “in Tonga obesity is worse now than in Tonga 20 years ago … that’s the excess of food we eat.” Similarly, this linked Soana’s narration and interlocutory positioning in her observation that over-indulgence and how eating is recognised as a form of polite recognition have negative health implications. Exemplifying that are quotes including: “When they go to a feast they eat to acknowledge, and to honour the food that’s being provided. They know for sure that it’s not good for their diabetes.” Woven within Tatiana’s narrative is her voice as narrator reflecting the ‘there and then’ (Koven, 2004, 2012) and as an interlocutor within the ‘here and now’ (Koven, 2004). In those ways, Tatiana is double voiced (Koven, 2004). Her narrative is interwoven with local knowledge (Koven, 2004) reflecting wider awareness. Exemplifying that is her quote that “Tongan food has been replaced by non-Tongan food.”

For my participants, food had a direct connection between diet, health, and obesity in Tonga. For them, contributory factors including non-traditional Tongan foods, traditional Tongan foods, imported foods, chemicals, and pesticides, in combination contributed to diet-related disease. Additionally, the influence of Western culture, particularly its convenience lifestyle combined with a lack of physical activity, and eating to excess, corner stoned my participants’ inputs. In considering these points, it was also important to understand my participants’ perceptions of the barriers to food literacy.

Participant Perceptions of Barriers to Food Literacy

Barriers to food literacy, and my participants' understanding of them, were important to my research because barriers to food literacy inhibit positive food literacy outcomes. Lemisio's input linked food literacy and fakalato:

> *Tongatapu – main job, farming, fishing ... not everyone can achieve, no when it comes to poor people (in relation to fakalato lack).*

For Lemisio, limited job opportunities were a barrier to food literacy, and the balance he realised within fakalato. His perception was that 'lack' contributed to an absence of fakalato. He commented:

> *in different ways, or life, our health, our education because those things we lack in the island.*

Tatiana surmised that barriers to food literacy could be overcome, a theme reflecting the Tongan way, anga fakatonga. Tatiana realised that parents, belief, community, and cultural values were important. She suggested:

> *our parents grow our food, we work hard in the bush. Our food depends on what we have. We got small money low income, but we know when we do the sharing [that] God give[s] us strength … because that's our belief. Sharing is the main thing that God give … that's Tongan culture, love each other.*

Soana suggested that taking action was a barrier in itself. She proposed that people should

> *talk about knowledge. What to eat? Healthy eating, putting [it] into practice, that's the barrier. How can we create a supportive environment for people to be able to practice that in order to relate to their health condition or their life condition?*

While my participants expressed different views about barriers to food literacy that incorporated themes of inequitable employment opportunities, lack of education, the Tongan way, anga fakatonga, traditional culture and systems of belief, those domains could also be considered within another word: fakalato. If we consider fakalato as 'balance,' then themes of inequitable employment opportunities, lack of education, the Tongan way, anga fakatonga, traditional culture and systems of belief provide the pivot points that simultaneously inhibit, yet maybe also provide the 'keys' for a better understanding of food literacy for my Tongan migrant participants. Consequently, the Tonga way (anga fakatonga) of maintaining relationships (tauhi vā) and kinship (kainga) may be important vectors for aiding food literacy

for Tongan migrants in Aotearoa New Zealand. Considering that, Koven's (2004, 2012) positioning is also an important consideration because different speaking positions could promote potent messages delivered in multiple audience-friendly ways. Consequently, considerations of my participants' double-voicedness, as narrator and interlocutor, alongside 'the professional voice' (as noted within Soana's commentary), are also vital considerations if effective food literacy changes are to be realised, and diet-related diseases reduced. Yet, within those possibilities comes the consideration of wider socio-economic and cultural factors.

Socio-economic and Cultural Factors

For my participants, consideration of socio-economic and cultural factors played an integral role in their sharing of their lived experiences. Lemisio cited the lack of employment opportunities and socio-economic deprivation:

> *everyone doing the same thing, same routine, same plant, same job every day, we just go to the farm do the same thing, two things industry in Tongan that we can survive – food and fishing, plant as much as you can, no tax, no limit.*

Soana considered the barriers of culture, putting things into action, and the involvement of family, church, and community. She proposed that:

> *culture is the big barrier for food literacy for us, more like the barrier … the literacy for us. Food literacy, food knowledge what you know not necessarily what you put into action, because what I found from my studies it's like the transformational change is about the hard acceptance of the knowledge, the information and translate it into action, that is the hard thing and to put into action. Our mind knows what, kind of, what's good, what's bad but to put it into action, it actually requires more than that. So, you will require the family, the church, the community.*

Soana reflected on barriers:

> *I think we know too much nutrition knowledge in the way of, like, food, we know a lot of what's good, what's bad, what's high in fat, what's high in salt. But you know the social connection with it is actually way far out. That's the science and health meaning of it.*

Furthermore, Soana indicated that the barriers also included the

> *social economic factors that determine us … our culture, the affordability, the way we live, what food means to us in our culture, not necessarily the nutrition value of it, but it's more like its significant cultural value.*

Soana presented a contrasting observation reflecting food's socio-economic and cultural role:

> *so, when we come to think about food and culture, when we celebrate things with our food, … but then the food that we use is not the cultural value food. It's just any food. So, the quantity is actually not defined by the quality of the food. So, you can provide 20 piglets not necessarily that you only have 100 people, but you still provide that because the more piglets you provide, it shows the status in the community whether you can afford it. So, so, it's all those underlying factors that determine what's the function is about.*

Asked whether the government had done enough on food literacy in Tonga, Soana reiterated that it is the Tongan people who constitute a food literacy barrier:

> *I don't think it will be ever enough, at the end of the day the initiative and the action have to come from the community. People don't do anything until they got diagnosed with the disease. It's not really like life and death. So, there's the pain that somebody go through, that's actually the severity is the total determination of what the practice is. So, it's not about what the government put in, it's actually what the group and the family and the church need to do. Because those kinds of issues will actually going to come back. You don't need money for that. You just need people, like food budget, it is actually a big issue for us, but people don't worry about their budget. They just live to enjoy what's there.*

Soana indicated that people's concept of health in itself was a barrier:

> *it's only when you know that you got some health conditions then you think about it … you know people, the literacy of people taking tablets, like, if I talk about people who are on medication for diabetes, once they start their medication, they think they need to eat more to compensate from the drugs they are taking, so it's more like this. So that's the understanding that needs to be explained.*

These quotes revealed, recognised, and emphasised that socio-economic and cultural factors were the biggest barrier to achieving positive food literacy outcomes for my Tongan migrant participants. Reflecting that, Soana spoke within a double voice (Koven, 2004), as a professional and an expert in diabetes, and as an interlocutor in the 'here and now' (Koven, 2004, 2012). Diabetes is a negative health indicator prevalent in Tonga, the Pacific Islands and Pacific peoples in Aotearoa New Zealand. Soana spoke from her professional role helping people who have diabetes and also from her own lived experience. Additionally, Soana revealed that she had always been interested in health because her mother was unwell, had a heart condition and later developed diabetes. Consequently, the narratives from my research participants suggest that the findings revealed data rich information, providing a depth of

knowledge, insight, and understanding. Considering that, my participants' perceptions of barriers to food literacy were important for providing insight into my participants' consideration of food literacy.

Summary of Research Findings

Table 15, below, takes into account this chapter's themes (refer columns 1 & 2) and my research questions (refer Chapter 1) to provide the key themes (refer column 3) that I carry forward from my findings into Chapter 6, "Discussion and Conclusion". Those themes provide key insights into the responses to my research questions.

Table 13: Summary of Research Findings

Major Themes	Sub-themes	Summary Research Findings
Understandings of Food Literacy	Food and Nutrition	• Food literacy is informed by verbal instructions from parents to children. • Food literacy in Tonga is not written, food knowledge is natural and habitual. It is part of the Tongan way. • Reflecting that, a participant noted "To eat with knowledge and not with taste." • Food is prepared from what is grown. Knowing the source of food is important. Growing food also provides income. • Food literacy combined an interpretation of what participants knew, literature, and food knowledge. • Participants recognised three food groups: healthy and protective (fruits and vegetables), body building (proteins), and energy-giving foods (carbohydrates and fats). • One-pot cooking and umu use were nutritious and often contained the three food groups. • An understanding that eating three meals a day promoted good health alongside hard work.
Considerations of Fakalato		• Fakalato holds multiple meanings – applied to life, health, education, employment. • Fakalato means everything is fulfilled, a balance. • If food is missing an ingredient, fakalato is not achieved. • Fakalato is having enough, when applied to food security. • Fakalato is meeting the needs and wants of family. • Fakalato is not an everyday word, it needs to be explained and clearly put into context. • Fakalato is hard to achieve when people are poor.
Food's Consumptive Socio-cultural Roles	Food, Belonging and Connectedness	• Food reflects the identity and traditions of home and family and is a point of nostalgia and an aide-memoire for participants. • Gender-based food rituals help create order and maintain tradition. • Food not only nourishes the body, but it also serves many purposes, as a social construction defining and creating

		community, honour, recognition, respect, politeness, and sacrifice.
Major Themes	**Sub-themes**	**Summary Research Findings**
Food's Consumptive Socio-cultural Role	Food, Belonging and Connectedness	• Food reflects sharing in Tongan culture within family, community, and church. • Food traditions and customs reinforce Tongan culture. For example: Tongan households often eat lu sipi on Sunday, together after church.
	Food and Diet-related Diseases	• Many Tongan traditional foods have been replaced by non-Tongan unhealthy foods, for Tongans in Tonga or Tongan migrants. • Older Tongans recognise the importance of starch-based traditional foods and the energy needed for hard work in the bush. • The lack of physical activity combined with eating starch-based food means that energy is stored as fat, rather than burnt off in physical activity. • Foods imported into Tonga introduce pesticides and chemical sprays potentialising harm to health. • Chemical sprays used in Tongan food production potentialise harm to health. • Many traditional Tongan food crops are imported to Tonga.
Participant Perceptions of Barriers to Food Literacy	Socio-economic and cultural factors	• Fakalato reflected in employment opportunities that are largely confined to fishing and farming in Tonga. Low socio-economic status reflects a lack of employment options. • In order to achieve fakalato, many Tongans migrate for a better life, education, employment, and health opportunities. • Education is until Year 13 in Tonga. There are no universities in Tonga and only the top five students are sponsored by government for overseas education. • Socio-economically and culturally, Tongans are impacted in multiple ways: within the way they live, affordability, and what food means to them. • Culture is a barrier for food literacy because culture prevents Tongans from achieving positive food literacy experiences and outcome. For many Tongans, food is viewed for its cultural value rather than its nutritional value. • Although food budget is an issue, many Tongans are not worried about that budget, but live to enjoy what is available. • Food literacy change requires the involvement of people, church, and community not necessarily just government intervention.

Next, I conclude my dissertation with Chapter 6, my Discussion and Conclusion chapter.

Chapter 6: Discussion and Conclusion

To begin this chapter, I present Table 14. Table 14 combines the information from Table 7, "Twenty-nine Meta-themes Distilled from Literature" (refer Chapter 3, "Literature Review") with that of Table 13, "Summary of Research Findings" (refer Chapter 5, "Findings"). Consequently, Table 14 provides the basis for my discussion in the present chapter. In Table 14, I have also added my research questions (refer Chapter 1). Overall, therefore, this table collates the relevant information from my literature review, the general information presented in Chapter 1, "Introduction", and my research findings.

Table 14: Relevant Academic Literature, Findings, and Research Questions

Academic Literature	Participant Findings	Research Questions
Food literacy requires the navigation of the food system, and includes and considers practical skills, knowledge, and behaviours needed to plan and make healthy food selections and choices, and to prepare and consume food that meets recommended nutritional requirements.	Food literacy reflects the Tongan way, anga fakatonga, within verbal communications. Food literacy reflects nostalgic memories of belonging and connections to the land, family, community, and ancestors. Food literacy is experienced within both the Tongan culture and within professional knowledge.	In what ways is food literacy experienced by Tongan migrants in Aotearoa New Zealand?
There is a lack of academic knowledge pertaining to food literacy of Tongan migrants. Most of the published journal material relates to specific issues popular in high-income countries. Topics include public health, environment, nutrition and dietetics, occupational health, social sciences, general education, and educational research.	Participants' understandings of food literacy is located within their Tongan culture in the Tongan way, and knowledge is shared within family, church, and community. One participant holds a nutrition qualification and has academic knowledge of food literacy and exposure to experiences with diabetic patients. Academic knowledge about the food literacy of Tongans in Tonga is limited, as Tonga and Pacific Island nations fail to feature in academic literature about high-income nations. This reflects the low socio-economic status of Pacific Island nations. Therefore, there is a clear need to promote food-related academic research in Pacific Island nations.	What is the current state of academic knowledge surrounding food literacy of Tongan migrants in Aotearoa New Zealand?

Notions of food literacy are dynamic and contested. Additionally, the limited number of academic journals on Pacific Island countries' food literacy tends to focus on government as the mediating agent of change.	My participants revealed that people need to take responsibility for their health and for positive food literacy outcomes.	What agents of change could positively impact the food literacy of Tongans in Aotearoa New Zealand?

However, before exploring that information I would like to present several other points of interest arising from my considerations of ontology and epistemology (Crotty, 1998; O'Leary, 2017), the social construction of reality thesis (Berger & Luckmann, 1966), symbolic interactionism (Blumer, 1969), qualitative description (Sandelowski, 2000), thematic analysis (Braun & Clarke, 2006, 2019), talanoa and talanoa-vā (Faʻavae, Fehoko, & Vaka, 2022; Naufahu, 2018; Vaioleti, 2006) the dual realm of existence (Bakhtin, 1981), and theory of the voice and double-voicedness (Koven, 2004, 2012).

Discussing Ontology and Epistemology

In discussing ontology, the nature of human being and reality (Grant & Giddings, 2002) and epistemology, how we view truth and acquire legitimate knowledge (Slevitch, 2011), what my participants shared with me about their understandings of food literacy reflected their multiple realities and subjective lived experiences within their "dual realm of existence" (Bakhtin, 1981, p. 325) in both Tonga and Aotearoa New Zealand. Those realities and experiences were compounded by my participants "emic" (Schuckert, 2023, p. 506) and "etic" (Schuckert, 2023, p. 506) positioning as migrants. In those ways, my participants presented a unique and meaningful contribution to my research, one adhering to the principles of qualitative description (Sandelowski, 2000, 2010). At the base of my participants' realisations of knowledge and reality was their cultural identity as Tongans and, within that identity, the iterative process of being and becoming Tongan, albeit it latterly in Aotearoa New Zealand. For my participants, realisations of knowledge and reality helped them make sense of their world (Berger & Luckmann, 1966) within their "dual realm of existence" (Bakhtin, 1981, p. 325), and with their voice (Koven, 2004, 2012) they conveyed that information to me. My conversations with my participants were made 'real' within my own awareness and practice of talanoa and talanoa-vā (Faʻavae, Fehoko, & Vaka, 2022; Naufahu, 2018; Vaioleti, 2006). Consequently, my research engaged multiple realities, and multiple levels of participant and researcher knowledge and awareness.

Discussing the Social Construction of Reality Thesis and Symbolic Interactionism

As Chapter 2, "Theoretical and Conceptual Frameworks", noted, within our subjective experience of everyday live, reality is a socially constructed process (Berger & Luckmann, 1967, 2011) manifest through social interaction and inherent in symbolic interactionism (Carter & Fuller, 2016; Mead, 1934, 1974). For my participants, reality, interaction, and the transfer of knowledge and cultural practices were mediated by their being and becoming Tongan, as well as their being and becoming Tongan migrants in Aotearoa New Zealand. Consequently, constructing their worldview (Berger & Luckmann, 1966) and interacting within that construction (Carter & Fuller, 2016; Mead, 1934, 1974) not only reflected their participant positions as insiders with an "emic" perspective and as outsiders with an "etic" viewpoint (Schuckert, 2023, p. 506), but also indicated the ways in which, through interaction, knowledge and meanings were reinforced, created and recreated (Mead, 1934, 1974). That highlights Carter and Fuller's (2016) observations that key to symbolic interactionism is the recognition that language promotes interaction and the development of shared and dynamic meaning. For my participants, much of Carter and Fuller's (2016) insight was realised within dynamic notions of anga fakatonga, kainga, tauhi vā, lea fakatonga, and anga fakapalangi. Notwithstanding that was the importance and contested meaning of fakalato (refer "Discussing Participant Consideration of Fakalato" later in this chapter).

Discussing Methodology and Methods

Qualitative Description

My use of qualitative description (Sandelowski, 2000) promoted my gathering of data-rich information that, within the spirit of qualitative description, I presented in my participants' voice by using direct quotes. Within my use of talanoa (Vaioleti, 2006) and talanoa-vā (Faʻavae, Fehoko, & Vaka, 2022), qualitative description allowed me to explore the "what [and] how" within the lived subjective experiences of my participants' narratives (Bloomberg, 2023, p. 69). That exploration empowered my participants' voice. Giving voice to participants who are often marginalised is a key concept with qualitative description (Sandelowski, 2000, 2010). Considering that, and the depth of data I gleaned from my participants, qualitative description, talanoa, and talanoa-vā, were ideal methodologies and methods, alongside thematic analysis (Braun & Clarke, 2006, 2019) for my research and its response to my research questions.

Discussing Thematic Analysis

In my use of the six phases of thematic analysis (Braun & Clarke, 2006, 2019), I was able to generate, distil, and refine themes gathered from my participants' transcripts (refer to phase one to phase three in Table 10). Then, within the thematic analysis, I refined those themes, narrowing them down to the major themes and sub-themes constituting the base for this chapter's discussion (refer to phase four to phase six in Table 10). Consequently, my use of thematic analysis realised data collection and data analysis within a methodical and logical process. Thematic analysis complemented my use of talanoa (Vaioleti, 2006), talanoa-vā (Faʻavae, Fehoko, & Vaka, 2022) and symbolic interactionism (Carter & Fuller, 2016; Mead, 1934, 1974) because their use facilitated my understanding of how my participants made sense of their worldviews (Berger & Luckmann, 1966), given my constructionist stance. In that way, using thematic analysis complemented my methodology and my philosophical position. Consequently, the usefulness of Braun and Clarke's (2006, 2019) thematic analysis as an analysis tool was evidenced by my gathering of meaningful, subjective data-rich, deep information.

Discussing Talanoa and Talanoa-vā

My use of talanoa and talanoa-vā (Faʻavae et al., 2016; Faʻavae, Fehoko, & Vaka, 2022; Havea et al. 2020, Naufahu, 2018; Tecun et al., 2018; Vaioleti, 2006) enabled me to realise the uniqueness of my participants, particularly how they viewed the land, their culture, knowledge, and reality within their socio-cultural space (Baice et al., 2021; Faʻavae, Fehoko, & Vaka 2022). As I retrospectively review my realisations of those domains, I have seen that their use and my understanding and appreciation of talanoa and talanoa-vā was evidenced not only in my interactions, but also in my gathering of meaningful data and my in-depth insight into how my participants came to make sense of their world (Berger & Luckmann, 1966). Talanoa and talanoa-vā also reinforced my appreciation of the ways in which Tongan culture is, as Hofstede (2011) noted, collectivist (refer Table 2, "Attributes of Collectivist Cultures").

Notwithstanding that, I suggest that for my participants, the constructs of talanoa and talanoa-vā were compromised within their experiences of the anga fakatonga (the Tongan way) and exposure to anga fakapalangi (the Western way) (West, 2009). That duality was realised for my participants as they negotiated their "dual realm of existence" (Bakhtin, 1981, p. 325). Yet, it is that very duality that positions my participants as unique contributors to my research. Using

talanoa and talanoa-vā eased my discomfort, given Vaioleti's (2006) observation that "some New Zealand research for Pacific people can be culturally invasive" (p. 22). By exploring Neill's (2018) research, I came to know, understand, and embrace both constructs in meaningful ways for my participants and myself. Consequently, through my use of talanoa and talanoa-vā with my participants, I realised that Tongans were already practicing Tongan food literacy within the holistic construct of anga fakatonga. Their understanding of food literacy was evidenced by the food and nutritional knowledge comprising their traditional dietary consumption, which was low in fat, and high in fibre. In that sense, Tongans were already eating healthily within constructs of anga fakatonga. However, it is their exposure to energy-dense foods and the Tongan predisposition to being obese as a signifier of status ('Ahio, 2011; Hardin et al., 2018; McCabe et al., 2013) that creates the contemporary link between diet and disease.

Discussing The Dual Realm of Existence

A consideration of Bakhtin's (1981) dual realm of existence made it clear that my participants and I occupied unique positions because of our migrant status. That status meant that our worldviews were realised with two cultural domains. For my participants those domains were Tonga and Aotearoa New Zealand. For me, the domains were Malaysia and Aotearoa New Zealand. While my research was enhanced by applying Koven's (2004, 2012) constructs of voice, that could have been expanded to consider their quotes in detail. However, that was not possible due to word limits and time (refer "Research Limitations" and "Future Research Opportunities" later in this chapter). Nonetheless, the concept of the dual realm of existence showed that my participants held multiple realities and that their subjective experiences were socio-temporally located and mediated. That, for me, realised the unique space that my participants occupied and how maximising their knowledge and realities within that space could inform my topic in deep and meaningful ways that capitalised upon their positions as "emic" and "etic" research contributors (Schuckert, 2023, p. 506). Considering that made me realise how my participants navigated their dual realms of existence in Tonga and Aotearoa New Zealand. That consideration was further enhanced by Koven's (2004, 2012) theory of voice.

Discussing Koven’s (2004, 2012) Theory of Voice

Koven’s (2004, 2012) theory of voice and double-voicedness, with its emphasis on speaker positioning, combined with talanoa (Vaioleti, 2006), talanoa-vā (Faʻavae, Fehoko, & Vaka, 2022) and Bakhtin’s (1981) “dual realm of existence” (p. 325) have created a unique perspective within my research. While qualitative description (Sandelowski, 2000, 2010) is predicated on an emphasis on the participants’ own voice, considering those approaches to that voice, within my research, suggest that depth, meaning and positioning has been recognised. In that way, what my participants told me has been explored in ways surpassing the verbal message alone. Consequently, my research has extended Sandelowski’s (2000, 2010) conceptualisation of qualitative description in meaningful ways that consider the overarching notions within what my participants told me. I recommend that more be done with Koven’s (2004, 2012) theory of voice in the Tongan migrant research space, but also recognise that my research has made a very basic start in that endeavour.

Discussing My Research Findings

Considering Tables 13 and 14, I now present discussion of my research findings (refer Chapter 5). That discussion links what my participants told me to existing knowledge as presented in my literature review (refer Chapter 3). Within that process, this section utilises the themes identified in Table 12 (refer Chapter 4) as section headers facilitating discussion. Specifically, this chapter continues within the following section headings:

- Discussing Participants’ Understandings of Food Literacy: Food and Nutrition.
- Discussing Participants’ Consideration of Fakalato.
- Discussing Food’s Consumptive Socio-cultural role: Food, Belonging and Connectedness; Food and Diet-related Diseases.
- Discussing Participants’ Perceptions of Barriers to Food Literacy, Including Socio-economic and Cultural Factors.
- Research Questions and Responses.
- My Dissertation’s Contribution to Knowledge.
- Opportunities for Change.
- Research Limitations; and
- Future Research Opportunities.

Finally, I conclude this chapter with a closing reflective statement.

Discussing Participants' Understandings of Food Literacy: Food and Nutrition

My participants linked food literacy with food and nutrition. Exemplifying that, my participants realised food literacy within considerations of food knowledge, food skills, food groups, methods of cooking (such as the umu), and one-pot cooking that maximised food's nutritional value. Those understandings were reflected in literature. Specifically, Rowat et al. (2021) defined food literacy as the inclusion and consideration of nutrition, practical skills in food management, food selection and food preparation. Additionally, food literacy as Vidgen and Gallegos (2014) defined it included the everyday practicalities associated with navigating the food system and the intake of food that was consistent with nutritional recommendations and knowledge. Their construct also included the skills and behaviours required in making healthy food choices so as to be able to plan, manage, select, eat food to meet recommended nutritional requirements. Wong Soon et al.'s (2021) study also reflected my participants' positioning because, through role modelling, food literacy skills improved, and people realised their own potential for self-efficacy and empowerment.

Those positions reflected my participants' resilience in the context of food, despite the impact of Western culture, a position reflecting Vidgen and Gallegos's (2014) suggestion that "empowering individuals, communities and nations to protect diet quality and dietary resilience over time" (p. 54) is of prime importance. My participants reflected these themes in very basic and sometimes poetic ways including: "Eat with your knowledge, not with your taste. Taste is our worst enemy, taste is like our disease. Knowledge is about life." Here the meaning is clear: energy-dense foods, including high-fat foods may appeal to Tongan taste buds, but overriding that is the common sense of traditional knowledge whereby food was considered fakalato (balanced). In those ways, and as my research has suggested, the Tongan traditional diet was already fakalato, and it has been the importation of Western, energy-dense foods that have created the link between diet and disease for many Tongans. Interestingly, academic perspectives on food literacy were not directly mentioned by my participants. They suggested that food literacy was part of traditional Tongan oral history, a point aligned with the insights of Rowat et al. (2021) and Vidgen and Gallegos (2014) about the link between local knowledge, food literacy, and nutrition within considerations of fakalato.

Discussing Participants' Consideration of Fakalato

The Tongan word 'fakalato' is a contested term not only in literature (refer Chapter 3), but also in its vernacular Tongan use (refer Chapter 5). In Chapter 3, fakalato was aligned with food security and held wide ranging meanings, particularly for 'Ahio's (2011) research participants. Evidencing that was my participants' linking of fakalato to food literacy within the ways in which Tongan parents meet the food needs of the children so that their children will grow well, be healthy, and not go hungry. Additionally, participants perceived fakalato within notions of balance related to life quality, and educational and employment opportunities. Those considerations differed from literature. Consequently, they provide a valuable insight into the ways in which fakalato as balance might be introduced into Tongan culture. Notwithstanding that opportunity, and my participants' notions of fakalato, Begley et al. (2019) revealed that poor food literacy contributed to food insecurity. That point extended 'Ahio's (2011) notion that food insecurity was realised within the consumption of cheap, fatty, and processed meats combined with a decrease in the consumption of the traditional Tongan diet. That situation had negative, diet-related health consequences for many Tongans ('Ahio, 2011). Additionally, that situation contradicted the notion of fakalato within the traditional Tongan diet. Compounding that, and as my participants highlighted, the traditional Tongan foods have been replaced by imports. That situation creates a void between Tongan people and food production using their own land. Again, that situation creates an imbalance between traditional and contemporary ways of life for Tongan migrants and other Tongans. Those considerations highlight the importance, diversity, and applicability of fakalato for Tongans.

'Ahio's (2011) research aligned food security with the word fakalato. However, my participants' understanding of fakalato was that, within their understandings of food literacy, fakalato evoked constructs of achieving balance. For my participants, balance related to considerations of life, health, employment, and education. Consequently, while 'Ahio (2011) aligned fakalato to food security, fakalato, for my participants, held much broader meanings albeit that both my participants and 'Ahio's (2011) research associate fakalato with notions of balance. In food consumption, my participants realised fakalato and balance when yam was served with a meal; without yam, fakalato was not achieved because yam is a 'must have' food at special events. In that way, balance can be achieved because yam is considered not only to be high in fibre content and good for health but also because of its significant cultural value. Contrastingly, imported foods are often high in fat and low in fibre, arguably have negative

health impacts. Considering how my participants view fakalato potentialises a way forward in creating better food literacy for Tongans (refer “Opportunities to Change” later in this chapter).

Discussing Food’s Consumptive Socio-cultural role: Food, Belonging and Connectedness; Food and Diet-related Diseases

In Chapter 5, my participants saw food as being more than nutrition, positioning it as materiality key to Tongan socio-culture, being, becoming and belonging, as well as a contemporary vector for diet-related disease. For my participants, food’s consumptive socio-cultural role reflected identity, and traditions connecting the home and family within a wider sense of Tongan community. In those ways, as an aide-mémoire, food for my participants realised ways of being and becoming Tongan within gender-based food rituals. Those activities realised, practically and meaningfully, the ways in which my participants simultaneously interacted (Mead, 1934) and made sense of their world (Berger & Luckmann, 1966) through food. In those ways, for my participants, food’s socio-cultural role defined traditional anga fakatonga, tauhi vā, kainga, and vaevae manava, fatongia, and contemporary expressions of fakapalangi, reflecting the dynamic nature of modern life for many Tongans.

Those cultural connections were supported by literature, specifically Morton’s (1998) realisation of “anga fakatonga” (Morton, 1998, p. 1) and ʻAhio’s (2011, p. 52) linking of food with tauhi vā, kainga, and vaevae manava. Those connections, within literature, suggested that older Tongan’s tended to gravitate toward a more traditional diet, whereas younger Tongans preferred a contemporary Western diet ('Ahio, 2011). Yet, within that dietary amalgam, a non-traditional Tongan diet is clearly linked to diet-related disease ('Ahio, 2011) and can also be realised as a disruption to traditional cultural expressions, rituals, and ways of being and becoming, including Tongan identity ('Ahio, 2011). My participants agreed with those notions suggesting that imported non-traditional foods compromised the health of Tongans by contributing to diabetes, high blood pressure, and asthma. Similarly, my participants realised that a non-traditional diet was also associated with an individualistic worldview that contrasted with Tongan collectivist culture (Hofstede, 2011). That change also compromised traditional cultural rituals and Tongan identity, a finding aligning my research to Brillat-Savarin’s (1825/2009) comment: “tell me what you eat, and I shall tell you what you are” (p. 15).

Discussing Participants' Perceptions of Barriers to Food Literacy, Including Socio-economic and Cultural Factors

An important barrier to food literacy, for my participants, was their consideration of fakalato. As previously noted, my participants realised fakalato in several ways, such as Tongan parents meeting the food needs of the children so that their children will grow well, be healthy, and not go hungry. My participants also perceived fakalato within notions of balance related to life quality, educational and employment opportunities. Similarly, not being able to achieve fakalato evoked the unease of being unbalanced. However, their perceptions of fakalato have provided my research with a way in which the link between a non-traditional Tongan diet and disease may be better managed (refer 'Ahio, 2011).

Extending 'Ahio's (2011) notion of "vaevae manava" (p. 71) (food sharing), my participants realised that the traditional diet was fakalato, and that its nutritional balance had been achieved over time, given the foods grown in Tonga. For them, traditional Tongan food was a cultural experience and an identifier that created and enhanced their sense of community. Considering their views, changing Tongan food literacy requires the involvement of people, church, community over and above that of government agencies. Here, the views of my participants contrasted the literature, excepting the work of Wong Soon et al. (2021). Reflecting that difference, some authors (Begley et al., 2019; Dodd et al., 2020; Reeve et al., 2022; Veatupu et al., 2019) proposed that more government intervention was required, while others (Kammholz et al., 2021; Reeve et al., 2022; Veatupu et al., 2019) advocated that private sources including parents, schools, universities or non-charitable organisations might enhance Tongan food literacy. In this way, Kammholz et al. (2021) realised that enhancing food literacy knowledge within Pacific Island populations would enable individuals to have better control and understanding of their daily food practices in making healthy food choices. That consideration sits alongside my research recommendation that fakalato at an individual and community level provides a positive way forward in food literacy for Tongan migrants, and other Tongans. Aligning with my participants' views was the research of Wong Soon et al. (2021). Wong Soon et al. (2021) noted that her participants were involved in food preparation at home and, in those ways, exhibited their understandings of food knowledge and food skills. Like my migrant participants, the pregnant women in Wong Soon's et al. (2021) research were responsible for their own nutrition and that of their families. Consequently, they engaged positive food literacy skills.

Research Questions and Responses

Here, I directly respond to my research questions cognisant of the information in Chapter One, "Introduction", Chapter Three, "Literature Review", Chapter Five, "Findings", and Chapter Six "Discussion and Conclusion".

Research Question One

In what ways is food literacy experienced by Tongan migrants in Aotearoa New Zealand?

Food literacy, for Tongan migrants to Aotearoa New Zealand, is experienced within their "dual realm of existence" (Bakhtin, 1981, p. 325), traditional cultural knowledge, and anga fakatonga (West, 2009, p. 820), mediated by western eating patterns within anga fakapalangi (West, 2009, p. 820). Within those domains, and for my participants, considerations of kainga and tauhi vā were important. For my migrant participants, food literacy was verbally communicated, something handed from parents to children, as part of the oral history of Tongan food identity. Considering food literacy evoked, for my participants, nostalgic memories of belonging and connections to the land, family, community, and their ancestors. Given that, and for the moment ignoring the harm imported energy-dense foods have caused, it could be argued that the traditional Tongan diet has equipped Tongans with the food literacy skills they need, and that imported foods have subverted food literacy knowledge for migrant Tongans.

Research Question Two

What is the current state of academic knowledge surrounding food literacy of Tongan migrants in Aotearoa New Zealand?

The current state of academic knowledge on food literacy has tended to focus on its definition. Food literacy's contestation was noted in my literature review (refer Chapter 3). Considering that contestation, and my own research, I propose that food literacy could be defined as:

> the ability to be adaptable, to be flexible, to make informed, responsible, and appropriate healthy and nutritious food choices and decisions within acquired, learned, and shared knowledge, skills, and behaviours that equip individuals and groups with the confidence and practical skills to navigate their daily food practicalities within the constraints posed by contemporary domestic and global food systems. Within that skill set, food literate individuals and groups manage their budget, plan, purchase, select, prepare, cook, and eat food in accordance with their socio-cultural customs and roles within family and community balance (fakalato).

In creating that definition, I considered the academic work of Vidgen and Gallegos (2014), Kammholz et al. (2021), Perry et al. (2017), Rowat et al. (2021), Thompson et al. (2021) and Truman et al. (2017). Additionally, I took into consideration what my participants told me about their understanding and experiences of food literacy. In creating my definition of food literacy, my dissertation not only clarifies the current contestation, but in doing so makes a significant contribution to academic knowledge. Key to my considerations of food literacies definition is the notion of fakalato.

While my revised definition of food literacy brings greater clarity, Saals et al.'s (2022) study revealed unhealthy food consumption and shopping behaviours; meal disruption and frequency, and the panic buying of food triggered by the news of a global COVID pandemic as noted by Rajkumar's (2022) research. Notwithstanding the notion of fakalato (balance), the literature reflecting Tongan and Pacific Island considerations of food literacy noted the disengagement of many Tongans from agricultural practices (Vileisis, 2008), coupled with the importation of food previously produced indigenously as well as high-energy foods (Haden, 2009). Contemporary literature also emphasised the use of pesticides and chemicals and how they, in conjunction with agricultural industrialisation, caused harm to the health of many Tongans (Nash, 2004).

Consequently, the current state of academic knowledge surrounding the food literacy of Tongan migrants in Aotearoa New Zealand involves a chronology of themes reflecting Western influence (Haden, 2009), the changing emphasis toward a culture of individualisation ('Ahio, 2011), the industrialisation of food production (Lang, 2003) and associated negative food literacy outcomes that have compromised nutrition and health, and are compounded by socio-economic deprivation (Kammholz et al., 2021). This has resulted in a lack of food resilience (Begley et al., 2019; Horsey et al., 2022) and compounding food insecurity ('Ahio, 2011). Over time, the chronology of themes that progressively increase food insecurity are issues that connect with food-related behaviours (Kammholz et al., 2021), and nutrition and health deficits and other nutritional issues (Horsey et al., 2022), such as overweight, obesity, and the development of NCDs including diabetes, hypertension, and cardiovascular disease (Kammholz et al., 2021; Vidgen & Gallegos, 2014).

In the literature, food literacy advances were also linked to positive outcomes in food security (Vidgen & Gallegos, 2014) and food resilience (Vidgen & Gallegos, 2014). Food insecurity (Begley et al., 2019) was linked to dietary risk factors including overweight, obesity and developing NCDs (Vidgen & Gallegos, 2013) through poor dietary health (Sørensen et al., 2012; Truman et al., 2020; Vidgen & Gallegos, 2014). Additionally, the current academic knowledge surrounding the food literacy of Tongan migrants in Aotearoa New Zealand also considers food literacy's socio-cultural role ('Ahio, 2011; Baumhofer et al., 2020; Haden, 2009), food tradition and culture ('Ahio, 2011; Haden, 2009; Tofuaipangai & Camilleri, 2016), and individuals as positive influencers of empowerment. Empowerment and the dissemination of positive food literacy messages was revealed in Wong Soon et al.'s (2021) research, while the creation of food literacy awareness was noted within the work of Horsey et al. (2022), Vidgen and Gallegos (2014) and Wong Soon et al. (2021). Additionally, the dietary patterns (Kaufusi, 2020) and consumption behaviours (Veatupu et al., 2019) promoting negative health impacts and chronic diseases were studied in the research of Dodd et al. (2020), Reeve et al. (2022) and Veatupu et al. (2019).

Given that current academic literature reveals that chronic disease is on the rise, and as highlighted by my Tongan participants, that Tongans in Tonga are more obese now than 20 years ago combine to reflect the fact that Tongans promote an obesogenic lifestyle (Veatupu et al., 2019) that in-turn makes many Tongans overweight (Veatupu et al., 2019), obese (Veatupu et al., 2019), and prone to chronic diseases (Dodd et al., 2020; Reeve et al., 2022; Veatupu et al., 2019).

Research Question Three

What agents of change could positively impact the food literacy of Tongans in Aotearoa New Zealand?

From my participants' perspective, one of the most potent agents of change is the notion of fakalato. For them, fakalato held multi-layered meanings that were applicable to life quality, health, education, and employment. Considering that view positions the application of fakalato as a strategy and development tool that will realise positive food literacy practices for both Tongans and Tongan migrants in Aotearoa New Zealand. Considering fakalato as an agent of change suggests that a recognition and merger of contemporary and traditional Tongan

mindsets is required. That merger must negotiate the differences between a collectivist and individualist Tongan identity, and the situation where the Tongan Government may need to step back and allow community, church, and other Tongan groups to play active roles in creating positive food literacy change via fakalato. In that way, and using a communal emphasis within considerations of fakalato, a bottom-up model can be created, contrasting the current governmental top-down approach. Such an approach could pave the way for Tongans to maximise their sense of community and identity for the health benefit of all Tongans.

My Dissertation's Contributions to Knowledge

Building upon the responses to my research questions in the previous section, Table 15 notes my dissertation's contributions to academic knowledge.

Table 15: My Dissertation's Contribution to Academic Knowledge

1.	Presenting a unique methodological framework that highlighted what my participants told me.
2.	Supporting the notion that qualitative description maximises the participant's voice.
3.	Presenting a concise overview of Tongan food culture.
4.	Proposing that the best way forward for food literacy needs to include the Tongan community, people, and church.
5.	Demonstrating that 'experts' need to use audience-appropriate language. The contested nature of fakalato exemplifies confused language.
6.	Arguing that the Government of Tonga need not shoulder the diet/disease nexus alone.
7.	Showing that the Tongan embrace of being and becoming Tongan be promoted over and above constructs of Western identity.
8.	Demonstrating that notions of food literacy, considering the healthy Tongan traditional diet, could be considered a contemporary form of colonialism.
9.	Arguing that the consideration of oral history as a form of knowledge transfer may need more recognition within the academy.
10.	Showing that a bottom-up model may be more useful than a top-down government model. A bottom-up model maximises many of the traditional elements of Tongan culture and is a natural part of Tongan life and culture.

Opportunities for Change

Based on the contributions to academic knowledge listed above, Table 16 set out the opportunities for change arising from this research.

Table 16: Opportunities for Change

1.	Using fakalato as a bottom-up model, with its strength anchored within people, church, and community, as an alternative approach that emphasises traditional Tongan values, rather than a government top-down model.
2.	Using fakalato as a strategic development tool to connect food to food literacy practices, identity, senses of belonging and connectedness for Tongans in Tonga and for migrant Tongans.
3.	Promoting the wider use of the word fakalato to identify its contextual meaning within contemporary Tongan life.
4.	Challenging the Tongan obesogenic environment, by promoting fakalato within lifestyle and diet.
5.	Drawing attention, via fakalato, to the dangers inherent in energy-dense foods like turkey tails and energy-dense foods' link to disease.
6.	Changing consumption habits, behaviours, and lifestyle by considering traditional Tongan identity and those ways of being and becoming.
7.	Enhancing the quality and quantity of academic research in Tonga on food-related issues including food literacy.
8.	Making food-related research accessible and readable for non-academic Tongans.
9.	Emphasising Tongan identity, traditional culture and anga fakatonga
10.	Creating written histories from the oral knowledges of people like my participants.

Research Limitations

While I have taken a comprehensive theoretical approach to my research, I identify the following research limitations and their solutions in Table 17, below.

Table 17: Research Limitations and Recommended Solutions

Research Limitation	Recommended Solution
Small sample size (3 participants)	Complete research with a larger sample
Research conducted in Aotearoa New Zealand	Researching migrant and indigenous voices could yield more information
Limited word count	A 60-pt. dissertation is limited to 30k words. To adequately cover this topic a larger word allowance is recommended.
Limited time frame for research completion	As a part-time student, I had only one year to complete this study. A longer time, and larger sample size, may yield deeper results.
Contested domains (defining food literacy/fakalato)	While contestation exists, research like mine can help to clarify contested domains by seeking the opinions of non-academic research participants.
Being a non-Pacifica researcher	While I engaged strategies for my participants (talanoa and talanoa-vā), I am aware that non-Pacifica researchers can lack cultural awareness.
Research conducted to emphasise and reinforce migrant and indigenous voices	Applying Bakhtin's (1981) dual realm of existence recognising that migrants navigate two realms. Applying Koven's (2004, 2012) notion of voice to illuminate migrant speaker positioning, thus promoting a deeper understanding of their narrative.

While there were limitations to my research, I also identified the future research opportunities, as set out in the next section.

Future Research Opportunities

Based on current research and my own research findings, Table 18 presents future research opportunities related to my topic.

Table 18: Future Research Opportunities

1.	Research exploring the diverse meanings of fakalato.
2.	Conducting comparative research within indigenous Tongan *and* migrant Tongan communities on food literacy.
3.	Research exploring how traditional Tongan culture can inform food literacy.
4.	Research exploring how can the churches and the Tongan community can share food literacy messaging.
5.	Considering research exploring food literacy, given the traditional Tongan diet, as a form of colonisation.
6.	Researching Tongan opinions on the link between diet and disease.
7.	Research considering how desirable body sizes in Tonga and Western diets combine to create diet related diseases.
8.	Considering researching the appropriateness of sending high-fat foods (like turkey tails) to Pacific Island nations, given that Australia and New Zealand offer many Pacific Islands a 'duty of care.'
9.	Research exploring ways in which Tongans can achieve a large body mass in ways that do not promote diet-related disease, particularly considering the traditional Tongan diet.
10.	General research within Tongan communities (indigenous and migrant) by Tongan researchers.
11.	Targeted research on aging Tongan cohorts on food literacy and fakalato.

Finally, I conclude Chapter 6 and my research dissertation with a short reflective statement.

Concluding My Dissertation: A Reflective Statement

When I began my research journey, I had 'high thoughts' that my research output would make a difference outside of the academy. Now, I have come to realise that doing research is not so much about making that difference, but that it is about learning, being critical, questioning, and being reflective. Considering those themes has taught me that learning, being critical, questioning, and being reflective were not only applicable to my topic, but also applicable to me, Cheng See Nancy Khaw. Consequently, in completing this work, I have not only learnt about food literacy, but also myself, particularly my deficits. However, my abilities to question and to be critical have grown consequent to the completion of this work. It may be an odd thing

to write, but I do not think anyone can complete a dissertation without learning something about themselves. I suggest that learning makes them not only a better scholar and student, but also a better person. Given the ups and downs of my dissertation journey, as it comes to its close, I am rewarded not only by my topic knowledge, but also about what I have learnt about myself.

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Appendices

Appendix 1: Language and Religion

The Tongan Language

According to Garellek and Tabain (2020), the Tongan language, lea fakatonga, is spoken by 184,000 people worldwide. Tongan is a Polynesian language spoken mainly in Tonga (Garellek & Tabain, 2020, p. 406). Lea fakatonga and the Niuean language are closely related (Garellek & Tabain, 2020, p. 406). Both languages belong to the "Tongic linguistic sub-group" (Pepa, 1997, p. 107). That commonality suggests that Tongans may have colonised Niue (Pepa, 1997). Notwithstanding that, lea fakatonga also holds a linguistic relationship to the Western Polynesian languages of Samoa and Tokelau, the Eastern Polynesian languages of the Māori, Tahitians, and Hawai'ians (Garellek & Tabain, 2020). Reflecting Austronesian Lapita origins, the Tongan language is incorporated into part of the Malayo-Polynesian language family tree (Haden, 2009; Klamer, 2019; Ratuva, 2019). Malayo-Polynesian components are found within the Japanese language, the Korean language, and the Malagasy languages spoken by the peoples of Madagascar, the Philippines, Hawai'i, Aotearoa New Zealand Māori, Samoa, and Malaysia (Haden, 2009; Hannan, 2009; Klamer, 2019; Peterson, 2009; Shichirō, 1976; Smith, 2017; Smith & Wesley-Smith, 2021). In those ways, the Tongan language, and food (noted in Chapter 1: Tongan Food and Rituals) have a common base.

Tongan socio-culture reflects the importance of the Tongan language. Before the arrival of Western settlers, Tongan society was organised into three distinct levels, i.e., chieftains, nobles, and commoners (Philips, 1991; Taumoefolau, 2012). Each class used language differently (Taumoefolau, 2012). Reflecting that, different levels of respect are accorded to the king (Tu'i), and chiefs ('Eiki), chiefly attendants (Mātapule) and commoners (Tu'a) (Kaeppler, 1971b; Metuamate, 2018). Additionally, hierarchy and ranking are reflected in naming conventions. For instance, a noble would not be known by their own name alone. Rather, and exemplifying that, Vaea is simultaneously a name and title, but that person would be recognised as Lord Vaea (Metuamate, 2018, p. 145). While individuation within class structure is important, the Tongan language fosters a sense of community. That community is bound as much in kinship (blood ties) as it is to notions of extended family outside of blood connections. Consequently, within language, notions of kainga (family) and tauhi vā (the building of relationships) are reinforced (Tu'itahi, 2005).

In those ways, the Tongan language is key to identity formation, cultural knowledge, and connectedness (Teisina, 2011; Tu'inukuafe, 2019). Today, Tonga has two official languages, Tongan and English (Garellek & Tabain, 2020). That amalgam connotes that the Tongan language defines Tongan identity but that within an overlay of English, and a royal structure based on English ideals, many Tongans straddle a linguistic and cultural "dual realm of existence" (Bakhtin, 1981, p. 296). That realm is compounded by considerations of religion.

Tongan Religion

Before Christianity was introduced to Tonga, Tongans revered their own Gods, deities of trees and sky (Kaeppler, 1971a). Key to that system of belief was sky-god Tangaloa ʻEitumatupuʻa (Kaeppler, 1971a). Oral tradition has it that Tangaloa ʻEitumatupuʻa climbed down from the casuarina tree that linked heaven and earth. There he lived with woman from an ancient Tongan tribe. From that pairing, a child that was half-man and half-god, named Ahoʻeitu, emerged. Later, Ahoʻeitu became the first Tuʻi Tonga.[8] Additionally, pre-Christian Tongans also worshipped IIaheva the earth goddess, spouse of ʻEitumatupuʻa (Coulter & Turner, 2020). Tongans also worshipped Tuna the eel, God of trees. Worshiping in those ways reinforced the traditional Tongan way, anga fakatonga (Coulter & Turner, 2020; Morton, 1998). However, and consequent to the arrival of Westerners, missionaries employed religion as a means to detach Tongans from their traditional indigenous ways and beliefs. Those ways, the missionaries believed, were not desirable (Haden, 2009).

When "Tonga established a Christian monarchy in 1875, Christianity became Tonga's primary religion" (Alex, 2021, p. 37). Christianity, and a royal family based on English royal family considerations, sought to unite Tongans and to protect the nation from foreign powers (Alex, 2021; Bade, 2021; Bott, 1981). Additionally, Christianity reinforced notions of community and sharing; however, anga fakatonga (the Tongan way) was slowly substituted with anga fakapalangi (the Western way) (Metuamate, 2018). Consequently, Tongan traditional beliefs and culture became diluted in comparison to pre-European times (Philips, 1991; West, 2009). For many Tongans that duality realised their "dual realm of existence" (Bakhtin, 1981, p. 325).

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[8] Tuʻi Tonga is the first King, descendant of god Tangaloa, and is styled as divine ruler of Tonga (Kaeppler, 1971a, p. 206).

Appendix 2: Kava

Kava is made by adding water to ground kava root (*Piper methysticum*) (Apo' Aporosa, 2015; Hamilton, 2015; Henry, 2022; Soares et al., 2022). Kava came to the Pacific with the Austronesian people (Haden, 2009; Soares et al., 2022). It is consumed as a social/communal beverage. Kava can also be used as a medicine, a herbal remedy for anxiety and stress, as well as for pain relief (Apo' Aporosa, 2015; Aporosa et al., 2021; Soares et al., 2022). While kava is non-alcoholic, physiologically it induces sleep, and relaxation by calming the mind. Unlike alcohol, kava has no hangover effects. Consequently, kava is a legal recreational drug, with supposed aphrodisiac qualities (Apo' Aporosa, 2015; Aporosa, 2019; Aporosa et al., 2021; Henry, 2022; Soares et al., 2022, p. 1; Tecun et al., 2020). Additionally, kava contains antioxidant and antibacterial properties and is a rich source of iron (Konishi et al., 2011; Minh et al., 2022).

According to Soares et al. (2022), kava has strong ceremonial and social connotations. As Henry (2022) suggested, kava drinking denoted and connoted themes of "community, respect, civility and inclusivity" (p. 208). Kava drinking in Tongan communities is a socio-cultural identity marker of pride in being Tongan. Consequently, kava signifies a sense of national Tongan pride (Fehoko, 2015; Henry, 2022). As Apo' Aporosa (2015, p. 62) observed, kava is a "visible means of affirming and demonstrating … Pasifika-ness." That demonstration is embodied and enacted within kava's consumption. Today, in Tonga, kava consumption is a common activity at weddings, funerals, birthdays, and other social community gatherings.

The Tongan kava ceremony is an important ritual. It always occurs with imbibers forming a circle of consumption (Newell, 1947), something that endures today (Statham & Heni-Statham, 2018). To begin a Tongan kava ceremony, the kava bowl or kumete (Feldman, 1980, p. 101) is placed before the kava mixer (toua). The kumete is wide and shallow, with three, four or more legs. A rope loop hangs the bowl for storage (Feldman, 1980; Newell, 1947). The bowl's legs raise the kava from the ground, a symbolic reflection of kava's semi-divine status (Newell, 1947). The toua signals the ceremony's formality, marking the ceremony's beginning, and closure (Newell, 1947).

Kava making and consumption are ritualised activities. According to Feldman (1980), the kava ceremony is gendered because men pound the kava root, the toua is usually female, while the

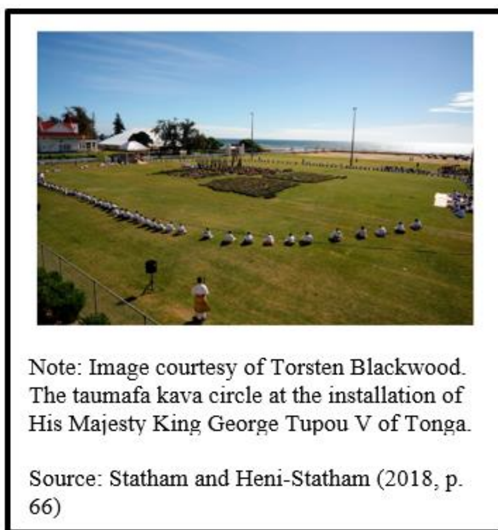
drinkers are male. In making the kava, the toua will knead the kava mixture with water poured by the pounder to the correct consistency and colour. The pounded kava, contained in cloth, is wrung out over the kava bowl (Feldman, 1980). Then, the drinkers each take a half shell coconut cup and hold it over the kava bowl. Then, the toua pours the kava from a coconut shell (Feldman, 1980). The kava drink is passed round the kava bowl until it reaches the drinker on the further end of the kava bowl. Men drink kava in one gulp without removing the cup from their lips (Feldman, 1980; Hamilton, 2015). In a formal kava drinking ceremony, a clap denotes half a cup, whilst clapping twice denotes a full cup (Feldman, 1980).

On formal occasions, kava is drunk from a folded banana leaf. On less formal occasions, kava is consumed from a halved coconut shell (Newell, 1947). This ritual of drinking kava is considered sacred, reflecting that the water used in kava production and its consumption symbolises consultation with the ancient gods in the pre-Christian era and, during the Christian era, a communion with the Christian god (Metuamate, 2018; Newell, 1947; Statham & Heni-Statham, 2018). Additionally, if a person within the kava circle wishes to show respect to another person, they present them with kava (Newell, 1947). In that way, kava drinking is ritualistic. Before Western influence, kava was poured on the ground as offering to the ancient Gods (Newell, 1947). Additionally, kava consumption also connoted communication with the supernatural, and the spirits of ancestors as sources of knowledge, spiritual power and mana (Apo' Aporosa, 2015; Turner, 1986, 2012). Within that, it is believed that the kava drinker symbolically becomes a sacrificial victim signifying death and life (Turner, 1986). Consequently, drinking kava is perceived to be life-enhancing as well as promoting general health and fertility (Turner, 2012).

“Uvea kava” is the Tongan ceremonial kava ritual (Turner, 1986, p. 203). In this ritual, as Turner (1986) observed, participants are seated in an arc in order of status, to the left and right of the chief. The chief presides over the kava ceremony. The chief or his attendant oversees the kava preparation by issuing formal commands. As Newall (1947) noted, such commands might include that the kava be placed in presence of the kava mixer, the strainer, and cups to be brought in, and the commencement of the ceremony. From that point the, kava is served in order of social rank (Turner, 1986).

According to Tecun et al. (2020), kava rituals are multi-faceted. Reflecting that, chiefs often use kava consumption to help negotiate fatongia and power. Offering kava and engaging in talanoa helps in the mediation of small conflicts. Additionally, kava rituals and consumption have changed over time. In ancient times, kava was consumed by goddesses, and Tongan women from various ranks (Tecun et al., 2020). When the Kingdom of Tonga adopted Christianity, kava consumption was a male-dominated domain. However, more recently, an increasing number of women are reconnecting with their Tongan culture and Tongan traditions by engaging in kava rituals and consumption (Tecun, 2017).

Figure 2: Kava: A Royal Drinking Ceremony



Note: Image courtesy of Torsten Blackwood. The taumafa kava circle at the installation of His Majesty King George Tupou V of Tonga.

Source: Statham and Heni-Statham (2018, p. 66)

Kava and food consumption are important considerations for many Tongans (Pollock, 2009; Soares et al., 2022). Like many other peoples, Tongans associate kava and food with memories of family, shared beliefs, culture, and as a marker of their identity (Minh et al., 2022; Tecun et al., 2020). In that way, food and beverages like kava are actant materiality[9] (Woodward, 2007) and a potent aide-memoire.[10] Yet, Western dietary influences, including energy-dense foods, and urbanisation have negatively impacted the health of many contemporary Tongans and Pacific Islanders.

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[9] Actant materiality refers to "inanimate things within the environment [that] act on people, are acted upon by people and [through which] symbolic meaning [is] derived" (Woodward, 2007, p. 10).

[10] Aide-memoire is defined as an aid to help us remember (Oxford University Press, 2023a).

Appendix 3: Summary of Authors and Their Food Literacy Findings

Author	Relationship to literature review	Country researcher(s) based	Findings
'Ahio, L.L. (2011).	Food security awareness of Tongan mothers and Tongan health workers. Study more in-depth knowledge	New Zealand.	Tongan healthcare workers to educate Tongan communities. Food educational programme to be culturally appropriate for each and all Pacific communities.
Baumhofer, N. K., Panapasa, S. V., Francis Cook, E., Roberto, C. A., & Williams, D. R. (2020).	Dietary patterns of Pacific Islander Americans.	United States of America.	Explore dietary patterns and behaviours of Pacific Islander Americans of Samoan and Tongan descent. Socio-demographic factors that account for their consumption behaviours and habits. Links to food literacy.
Begley, A., Paynter, E., Dhaliwal, S. S., & Butcher, L. M. (2019).	Explores food literacy and how poor food literacy impacts food insecurity.	Australia.	An important relationship between food literacy and food insecurity. The need for effective food programmes to support and promote food security. Links to food literacy, relationship to food security, food resilience.
Dodd, R., Sparks, E., Webster, J., Reeve, E., George, A., Buresova, D., Vivili, P., Tin, S. T. W., & Thow, A. M. (2020).	Explores the politics of food in Pacific Island nations.	Australia	Examines government policies, food environments and relationship to nutrition and non-communicable diseases. Recognises tension between government and non-governmental agencies and the need to support global trade. Links to food literacy and challenge of being food secure.
Fountain, J. (2021).	Explores the impact of COVID-19 on food tourism.	New Zealand.	COVID-19 revealed the lack of resilience and overdependence on food tourism.
Gerritsen, S. Egli, V., Roy, R., Haszard, J., Backer, C. D., Teunissen, L., Cuykx, I., Decorte, P., Pabian, S. P., Van Royen, K., & Te Morenga, L. (2021).	Home-cooked meals. Explores changes to consumption behaviour, purchasing behaviour, food preparation and cooking skills.	New Zealand, Belgium, The Netherlands.	Impact of COVID-19 lockdown disrupted normality of daily activities. Workplaces replaced with work from home, schools closed for online studies at home, restaurants were closed and replaced with more home-cooked meals, and grocery shopping was limited. Impact of COVID-19 lockdown revealed unhealthy consumption behaviours, unhealthy shopping behaviours, promoted stress and anxiety. Links to food literacy concepts, food resilience, and food insecurity.
Haden, R. (2009).	Food culture. Non-Pacific researcher.	Australia.	Insights into historical and contemporary Pacific Island food culture. Link to food literacy and food knowledge.

Author	Relationship to literature review	Country researcher(s) based	Findings
Horsey, B., Taylor, J., Hayman, A., Underhill, S., & Burkhart, S. (2022).	Food literacy in Pacific Island nations.	Australia, New Zealand.	Food literacy not well understood by Pacific Islanders. Continuous cycle of food insecurity can lead to food illiteracy. Improve food literacy by designing targeted food literacy strategy for Pacific Island nations.
Kammholz, G., Craven, D., Boodoosingh, R., Akeli Amaama, S., Abraham, J., & Burkhart, S. (2021)	Explores food literacy in adult Samoan population in Samoa.	Australia, Samoa.	Understanding of food literacy skills and knowledge beneficial in navigating food systems. Results revealed Samoan population lacked understanding of Pacific Island Food Guidelines. Links to food literacy and understanding food behaviours.
Kaufusi, V. F. (2020).	Explores the dietary behaviours of Tongan American communities.	United States of America.	Tongan Americans considered “hidden” population. The need for education programmes as coping mechanisms for this population group.
Lang, T. (2003).	Food industrialisation.	United Kingdom.	The food system is dominated by powerful corporations that impact the food system, i.e., food supply chain and food environment. Industrialisation poses social and health costs to humans and geographical environment. Links to food literacy and health and nutrition.
Nash, L. (2004).	Explores pesticide use and ill-health.	United States of America.	Using pesticides causes harm to human health and the environment. Industrialisation introduced new risks negatively impacting animals and human life. Links to food literacy.
Perry, E. A., Thomas, H., Samra, H. R., Edmonstone, S., Davidson, L., Faulkner, A., Petermann, L., Manafo, E., & Kirkpatrick, S. I. (2017).	Explores food literacy attributes.	Canada.	Food decisions demonstrate skill and confidence in food literacy application. Food literacy skills promote ability to make informed food choices. Food literacy influences eating behaviours. Food literacy as supportive development tool that monitors and evaluates food literacy outcomes. Links to food literacy.
Rajkumar, R.P. (2022).	Consumer behaviour and panic buying impacted by COVID-19.	India.	Explores phenomenon of COVID-19 and news media coverage triggering panic buying. Future research on media guidelines to reduce panic buying. Links food literacy’s impact on consumption behaviour, poor food choices, food resilience, and food insecurity.

Author	Relationship to literature review	Country researcher(s) based	Findings
Reeve, E., Lamichhane, P., McKenzie, B., Waqa, G., Webster, J., Snowdon, W., & Bell, C. (2022).	Dietary risks and chronic diseases.	Australia, Fiji.	Revealed that chronic diseases amongst Pacific Island nations are prevalent and risk-factors not reduced. Pacific Island nations do not consume enough fruits and vegetables.
Rowat, A. C., Soh, M., Malan, H., Jensen, L., Schmidt, L., & Slusser, W. (2021).	Explores understanding of food literacy, food systems for on-campus college students.	United States of America.	Promotes an integrated and holistic food literacy framework for on-campus students. Provides food education to enhance knowledge and skills to become food literate. Empowers students to take ownership of being responsible citizens. Promotes a better understanding of food choices, health and the geographical environment and being able to advocate, making a difference. Important role of food literacy and food literacy outcomes – food security, and food waste.
Rutter, M. (2012).	Definition and relationship of resilience.	United Kingdom.	Individuals respond to resilience differently. Link to food literacy and food resilience.
Saals, B., Boss, H. M., & Pot, G. K. (2022).	Explores meal disruption, nutrition, and meal frequency caused by the COVID-19 pandemic.	The Netherlands, United Kingdom.	The importance of maintaining regular meals to ensure regular nutrition intake. Timing of food consumption is key to health and well-being. COVID-19 restrictions impacted these routines: • Regular mealtimes replaced with irregular eating behaviour. • Eating healthy regular meals substituted by increased energy-dense snack consumption and alcohol consumption. Work pattern disruption, deprivation impacted by longer hours and less opportunity for exercise in working from home.
Sørensen, K., Van den Broucke, S., Fullam, J., Doyle, G., Pelikan, J., Slonska, Z., & Brand, H. (2012).	Explores health literacy and links to literacy.	The Netherlands, Belgium, Ireland, Austria, Poland.	Relationship between health literacy and health outcomes. Food literacy links to health literacy.

Author	Relationship to literature review	Country researcher(s) based	Findings
Thompson, C., Adams, J., & Vidgen, H. A. (2021).	Explores food literacy definition and concepts. Undertakes systematic review of food literacy.	Australia, United Kingdom.	Studies revealed that although the term ‘food literacy’ is widely used across disciplines internationally in academic literature, there are inconsistencies in its application, use and definitions. Therefore, it is important to have an internationally agreed and endorsed food literacy definition for consistency.
Tofuaipangai, S., & Camilleri, P. (2016).	Discussion on Western/Tongan concepts of obligation.	Tonga, Australia.	Promotes indigenous voices on traditional Tongan concepts of obligation. Reviews English/Western concepts of obligation and differentiates Pacific and Western constructs. Situates obligation within notions of food literacy, food security, health, and nutrition.
Truman, E., Elliott, C., & Lane, D. (2017).	Food literacy. Explores food literacy definition.	Canada.	Research focusses on knowledge. Identifies a gap on health-related outcomes.
Truman, E., Bischoff, M., & Elliott, C. (2020).	Explores literacy types – food, health, nutrition, and media.	Canada.	Promotion of an understanding of food literacy. Promoting better health-related decisions. Promoting better health choices. Important food literacy role.
Veatupu, L., Puloka, V., Smith, M., McKerchar, C., & Signal, L. (2019).	A record of dietary experiences in Ha‘apai, Tonga.	New Zealand.	Tongan children eat foods that are energy-dense; diet differs from their traditional Tongan diet. Results provide valuable insight to address diet-related health issues and imports of energy-dense foods.
Vidgen, H., & Gallegos, D. (2013).	Food literacy, health, and nutrition.	Australia.	Importance of food literacy and nutrition. Influence of consumption behaviours. Food literacy, health, and nutrition.
Vidgen, H. A., & Gallegos, D. (2014)	Food literacy, and food literacy definition.	Australia.	Food literacy as a term for daily practicalities. Benefits of food literacy can extend beyond health. Further research with links to food literacy, health, and food security.
Vileisis, A. (2008).	Explores kitchen literacy.	United States of America.	Importance of knowing food sources. People are disengaged from food sources. The hidden cost of food. Links to food literacy.
Wong Soon, H. N., Crezee, I., & Rush, E. (2021).	Explores the role of mid-wives as positive influencers for Samoan pregnant women surrounding food literacy.	New Zealand.	Mid-wives play a key role in inspiring food literacy messages to Samoan households by inspiring Samoan households about healthy eating, portion-size, and exercise via empowerment.
Zwanka, R.J., & Bluff, C. (2021).	Explores global impact of global COVID-19 on consumer behaviour.	United States of America.	Future research to determine if consumer behaviour will change or return to normal post-pandemic.

Appendix 4: Methodologies Considered, but Rejected

Method	Characteristics	Suitability	Reason
Narrative Inquiry	Narrative inquiry as a methodology and a method with a focus on narratives of individuals as narrated by the individuals (Creswell & Poth, 2018).	No	Not suitable and therefore not considered as narrative inquiry is more biographical in content.
Phenomenology	A methodology and a method to establish the meaning of common lived human experiences to discover the commonalities of human experiences of the phenomenon occurring in the world (Bloomberg, 2023).	No	Not considered because phenomenology does not fit within my study.
Grounded Theory	Grounded theory refers to a method of inquiry in which data, both qualitative and quantitative are gathered in order to create a theory (Charmaz, 2000; Denzin & Lincoln, 2005). The focus is on framework for further research, researchers engaged in discovery of a theory (Creswell & Poth, 2018).	No	My research is a dissertation and only requires qualitative research. Grounded theory includes both qualitative and quantitative research and is regarding discovery of a theory. Therefore, this method is not suitable.
Ethnography	This method involves field work and explores ethnic cultural groups within their own environment over a length of time. Researcher engages as the outsider seeking insider information (Gray, 2022).	No	Due to time constraint, it would not be suitable. However, it would have been a good opportunity to be able to immerse in culture for better understanding as my research topic is on Tongans in Tonga.
Case Study	Case study is a methodology and an object of study. Is an in-depth exploration which can be descriptive and exploratory, such as study trends over time (Creswell & Poth, 2018; Yin, 2018).	No	This is not considered because case study will not fit within the time frame of my dissertation. I am limited by word count and time.
Action Research	Action research is a methodology with a focus on action and research concurrently with participative approach (Gray, 2022).	No	Not considered as this methodology does not fit my research. My research is to hear the voice of my participants.

Method	Characteristics	Suitability	Reason
Qualitative Description	A methodology and a method of qualitative research, less theoretical, produces data-rich information (Sandelowski, 2000).	Yes	Considered this appropriate for my research topic as it is less theoretical, produced data rich information, and is straightforward.
Talanoa	A Pacific research methodology and method (Vaioleti, 2006).	Yes	My research engaged with Tongan participants. Talanoa is the appropriate methodology and method to conduct my research.
Thematic analysis	A research method for qualitative analysis using the six phases of thematic analysis of Braun and Clark (2006) to derive themes.	Yes	I used thematic analysis for analysing the data to derive themes from my participants' recorded interviews.

Note. Adapted from Bloomberg (2023); Braun & Clarke (2006); Charmaz (2000); Creswell & Poth (2018); Denzin & Lincoln (2005); Gray (2022); Sandelowski (2000); Vaioleti (2006); (Yin, 2018).

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Appendix 5: Ethics Application Approval

Auckland University of Technology Ethics Committee
(AUTEC)

2 May 2023

Lindsay Neill
Faculty of Culture and Society

Dear Lindsay

Re Ethics Application: **22/386 Barriers to food literacy for Tonga migrants living in Aotearoa New Zealand**

Thank you for your responses to AUTEC's conditions.

Your ethics application has been approved for three years until 2 May 2026.

Non-Standard Conditions of Approval

Non-Standard Conditions

1. If snowballing is occurring other people cannot recruit on behalf, only pass along the invitation to potential others who can get in touch with the researcher if interested in taking part.

Non-standard conditions do not need to be submitted to or reviewed by AUTEC unless requested but must be completed before commencing your study.

Standard Conditions of Approval

1. The research is to be undertaken in accordance with the Auckland University of Technology Code of Conduct for Research and as approved by AUTEC.
2. All public facing documents must have the AUTEC approval number and be of a high standard of spelling and grammar. Dates on the Information Sheet(s) and Consent Form(s) must be consistent.
3. Any amendments to the project must be approved by AUTEC prior to being implemented.
4. A progress report is due annually on the anniversary of the approval date.
5. A final report is due at the expiration of the approval period, or, upon completion of project.
6. Any serious or adverse events must be reported to AUTEC, this includes unforeseen issues that might affect continued ethical acceptability of the project.
7. AUTEC grants ethical approval only. You are responsible for obtaining management permission for access from any institution or organisation at which your research is being conducted and you need to meet all ethical, legal, public health, and locality obligations or requirements for the jurisdictions in which the research is being undertaken.

The application number and title need to be referenced on all correspondence related to this project.

All forms are available online http://www.aut.ac.nz/research/researchethics

For any enquiries, please contact ethics@aut.ac.nz
(This is a computer-generated letter for which no signature is required)

The AUTEC Secretariat
Auckland University of Technology Ethics Committee

Cc: chekha87@autuni.ac.nz

Auckland University of Technology, D-88, Private Bag 92006, Auckland 1142, New Zealand.
T: +64 9 921 9999 ext. 8316: E: ethics@aut.ac.nz: www.aut.ac.nz/researchethics

Appendix 6: Participation Information Sheet

Participant Information Sheet

Date Information Sheet Produced:

05 November 2022

Project Title

Barriers to food literacy for Tonga migrants living in Aotearoa New Zealand

An Invitation

Student researcher, Cheng See Nancy Khaw is an AUT staff member who is currently, studying towards the successful completion of a Master of Gastronomy Degree at Auckland University of Technology. Nancy's research is supervised by Dr Lindsay Neill. Nancy and Dr Lindsay Neill warmly invite you to participate in our research project that explores your views and experiences of food literacy in Tonga and Aotearoa New Zealand. Your participation in this research will help us to make a significant contribution to literature. However, your choice to participate or not is completely voluntary. Should you choose to participate, then change your mind, you are able to withdraw form this project.

What is the purpose of this research?

The purpose of this research is to explore barriers to food literacy in Tongan migrants living in Aotearoa New Zealand. This research addresses Tongan food literacy by emphasising the agents conspiring to create food literacies lack and ways in which it can be improved. Our research addresses those notions.

To help us find out about food literacy, we have designed the following research questions. Our primary question asks:

- In what ways is food literacy experienced by Tonga Island people in Aotearoa New Zealand?

Then, our two secondary questions inquire:

- What is the current state of academic knowledge surrounding food literacy of Tonga Island people in Aotearoa New Zealand?
- What agents of change could positively impact food literacy of Tongans in Aotearoa New Zealand?

The findings of this research will form my dissertation, a requirement to gain my Master's degree. Additionally, this research will be used for an academic journal article, and may be of interest to academics, nutrition, medical, anthropology, hospitality, sociology professionals.

We acknowledge the following definition of food literacy:

"Food literacy is the scaffolding that empowers individuals, households, communities, or nations to protect diet quality through change and strengthen dietary resilience over time. It is composed of a collection of inter-related knowledge, skills and behaviours required to plan, manage, select, prepare and eat food to meet needs and determine intake" (Vidgen & Gallegos, 2014, p. 54).

How was I identified and why am I being invited to participate in this research?

You have been identified and invited to participate in my research because you are known to the researcher and through existing relationships and networks. Your participation will benefit research through your sharing of stories, knowledge, opinions, which provides a unique and valuable insight.

How do I agree to participate in this research?

Aside from this sheet, as researcher I will formally invite you to participate in my research. We will give you two weeks to consider your participation. Each potential participant will be given a Participation Information Sheet outlining our research. After reading the Information sheet, we will fully answer any questions that you might have, now or at any time in the future.

To contact me to agree to participate in this research, you are more than welcomed to email me on: Nancy.khaw@aut.ac.nz

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After two weeks, we will contact you and ask if you are willing to participate in our research. Should you agree, then your acknowledgement of participation will be realised by your signing of the Consent Form. Signing the Consent Form formalises your participation.

Your participation in this research is voluntary (it is your choice) and whether or not you choose to participate will neither advantage nor disadvantage you. You can withdraw from the study at any time. If you choose to withdraw from the research, then you will be offered the choice between having any data that is identifiable as belonging to you be removed or allowing it to continue to be used in the research. However, once the findings have been produced, removal of your data may not be possible.

What will happen in this research?

Once you confirm your participation and sign the Consent Sheet, Nancy will contact you to arrange a meeting. That meeting will be the time when Nancy asks, and records, your responses to her questions. The meeting will be at a place and time best suited to you. Our meeting will last between 45 minutes and one hour. It will be audio-recorded. You will be asked a range of questions about food literacy and your experiences of it here in New Zealand, as well as in Tonga. None of the questions will cause you any discomfort, and you do not have to answer any question that might make you feel uncomfortable. From the recording, I will transcribe your interview. Then, I will send you a copy of your transcription. At that point you can check the accuracy of the transcription, add to, or delete content from it. Only your approved transcription will be used in this research.

What are the discomforts and risks?

There are no anticipated discomforts or risks in participating in this research. However, we are aware that in our research there may arise sensitive information. Toward that awareness, we protect you by making sure that you hold editorial control over your narrative. After receiving your transcription, you can say 'exclude this bit' or 'I need to change/amend/delete this bit'. Only your approved transcript will be used in this research

How will these discomforts and risks be alleviated?

We will respond positively to any request that you may make regarding your data. Additionally, we are keenly aware of accurately portraying cultural and other diversities in meaningful and respectful ways. Furthermore, the research is under the supervision of Dr Lindsay Neill. Dr Neill has wide research experience within diverse communities, individuals, and groups. Therefore, Lindsay is sensitive to cultural diversity and will ensure that Nancy is cognisant of this and its implications within her research.

What are the benefits?

Research participants will be empowered by their research interactions andtheir ability to tell their stories, share knowledge, express opinions and thoughts about the topic. In this way this research empowers minority voices and in doing so benefit the Tongan community.

As a researcher, I will benefit from the knowledge gleaned from you that I can utilise to complete my research, my degree and contribution to the academy in a positive way that highlights the voices of my participants.

How will my privacy be protected?

You will be identifiable in our research. However, you hold control over your transcripts and can amend or alter them as previously noted. That process allows for any participant to remove any confidential or sensitive information from their transcript.

What are the costs of participating in this research?

The cost to the participant for participating in this research is about an hour of their time.

What opportunity do I have to consider this invitation?

You have two weeks to consider your participation in this research. A longer consideration period may be accommodated should any potential participants require it. Any participant who has not responded within the 'consideration time' will be re-contacted and can reconsider their participation or not.

Will I receive feedback on the results of this research?

The participants will receive a transcript of their interviews and a summary of their research findings. The final dissertation can be accessed via the AUT Library Tuwhera.

What do I do if I have concerns about this research?

Any concerns regarding the nature of this project should be notified in the first instance to the Project Supervisor, *Dr Lindsay Neill, lindsay.neill@aut.ac.nz.at (+649)* 921 9999 ext 8442.

Concerns regarding the conduct of the research should be notified to the Executive Secretary of AUTEC, *ethics@aut.ac.nz* , (+649) 921 9999 ext 6038.

Whom do I contact for further information about this research?

Please keep this Information Sheet and a copy of the Consent Form for your future reference. You are also able to contact the research team as follows:

Researcher Contact Details:

Cheng See Nancy Khaw, chekha87@autuni.ac.nz

Project Supervisor Contact Details:

Dr Lindsay Neill, lindsay.neill@aut.ac.nz, (+649) 921 9999 ext 8442.

Approved by the Auckland University of Technology Ethics Committee on *type the date final ethics approval was granted*, AUTEC Reference number 22/386

Appendix 7: Consent form

Consent Form

For use when interviews are involved.

Project title: ***Barriers to food literacy for Tongan migrants living in Aotearoa New Zealand***

Project Supervisor: ***Dr Lindsay Neill***

Researcher: ***Cheng See Nancy Khaw***

- I have read and understood the information provided about this research project in the Information Sheet dated 05 November 2022.
- I have had an opportunity to ask questions and to have them answered.
- I understand that notes will be taken during the interviews and that they will also be audio-taped and transcribed.
- I understand that taking part in this study is voluntary (my choice) and that I may withdraw from the study at any time without being disadvantaged in any way.
- I understand that if I withdraw from the study then I will be offered the choice between having any data that is identifiable as belonging to me removed or allowing it to continue to be used. However, once the findings have been produced, removal of my data may not be possible.
- I agree to take part in this research.
- I wish to receive a summary of the research findings (please tick one): Yes○ No○
- I agree to be identified within this research YES/ NO

Participants signature: ....

Participants name: ....

Participants Contact Details (if appropriate):

....

....

....

....

Date:

Approved by the Auckland University of Technology Ethics Committee on 2 May 2023 AUTEC Reference number 22/386.

Note: The Participant should retain a copy of this form.

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