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Supporting document 2

Social Science Evidence Summary: Consumer demographics, practices, contexts, and understandings of kava beverage in Australia and New Zealand

12-Month Review of Proposal P1057 – Review of the Kava Standard

Executive summary

Food Standards Australia New Zealand undertook a rapid systematic evidence summary to inform the 12-month review of Proposal P1057 – Review of the Kava Standard by examining available evidence on consumer demographics, practices, contexts, and understandings of kava beverage in Australia and New Zealand. This report outlines the methodological approach to the evidence summary and summarises the available evidence.

Searches of electronic databases and hand-searching were used to identify 19 documents for this evidence summary. The evidence summary includes peer-reviewed articles published in academic journals as well as grey literature, such as government reports and unpublished theses. The majority of the studies were conducted among the Tongan population of Auckland, New Zealand, and many used small samples and qualitative methods. This is appropriate to the subject under consideration, as kava is a beverage most commonly consumed among Tongans in New Zealand. Findings across studies were narratively synthesised. The evidence summary focused on contemporary practices of kava consumption in Australia and New Zealand, and therefore excluded studies that relied on data prior to the year 2000 or from nations beyond Australia and New Zealand.

The key findings are summarised below, grouped by research question:

What population subgroups in Australia and New Zealand typically consume kava beverage?

- In the most recent data available (2007-08) in New Zealand, 6.3% (5.5-7.0 95% CI) of adults aged 16-64 years had ever used kava in their lifetime. Kava consumption was found to be most prevalent among men (9.2%) and Pasifikans (11.7%).
- A separate study found that kava consumption was more prevalent among the Tongan subpopulation (up to 57.4%) compared to the Samoan subpopulation (up to 12.8%) and smaller samples of Cook Islanders (up to 6.7%), and other Pacific groups (16.4%) living in and around South Auckland.

- In New Zealand, most kava consumers (81.5%) had first consumed kava when they were aged 18 years or older. However, a significant minority (18.5%) had first consumed kava when they were aged 17 years or younger, and 6.5% had first consumed it at age 14 years or younger.
- In Australia, where kava has been strictly regulated since 1997, the most recent data available (from 2010) found that very few people (less than 2%) over the age of 12 years report having had the opportunity to consume kava. Similarly few (1.4%) Aboriginal and Torres Strait Islander people reported having consumed kava in the past year. However, surveys conducted in 2002 of two remote Aboriginal communities in Eastern Arnhem Land, where kava was introduced as an alternative to alcohol in the 1980s, found that there was a large proportion of kava consumers in these communities (up to 71% of men and 46% of women).

How is kava beverage typically consumed, and in what contexts? Is kava beverage commonly mixed with alcohol at the time of consumption?

- Kava is typically prepared according to historically safe practices and consumed in both formal and informal social contexts that are informed by Pasifika cultural customs. There is some evidence that these customs may be adopted by non-Pasifika consumers.
- Three small-scale studies of Tongan kava consumers found that, in this subpopulation, kava is often consumed in informal, prolonged weekend drinking sessions, during which twenty or more cups of kava are drunk. These sessions may extend for up to 12 or 13 hours, during which fifty or more cups of kava may be drunk.
- Kava is not typically mixed with alcohol within the same cup or bowl. However, there is evidence that it is sometimes alternated with or followed by alcohol, with the practice more common in commercial kava bars and among younger consumers.

What do Australians and New Zealanders understand about kava beverage? For example, do they know how kava beverage can adversely affect health?

- Kava is an integral part of cultural identity and community for some Pasifika communities, such as Tongans, and can also play a role in identity formation for some Māori and Pākehā (New Zealand European) consumers.
- Kava is often regarded as a preferable alternative to alcohol among the Tongan community in New Zealand, as it is believed to be physiologically safer, associated with more socially acceptable behaviour, and is consumed in a safe, culturally appropriate, and familiar social environment. Parents may as a result encourage their children to consume kava rather than alcohol.
- Kava is believed to have health benefits in the areas of stress relief, sleep, and the prevention or relief of illness or pain. Kava is also acknowledged to have negative effects on health; primarily headaches, sleepiness/lethargy, and reduced sex drive.
- Kava is considered to be relatively safe to consume before driving, compared to most other drugs, by both consumers and non-consumers. Consumers who drive within three hours of consuming kava consider kava to have less of an impairment on driving than consumers who do not drive within three hours and non-consumers.

- Kava is acknowledged to have potential negative social effects as a result of the tiredness and lethargy it can cause, which can reduce heavy users' involvement in familial, community, and economic life.

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1 Introduction

Kava (*Piper methysticum*) is a psychoactive plant that has been identified as a “cultural keystone species” for many Oceanic and Pacific peoples (Aporosa 2019, p.2). Believed to originate in Northern Vanuatu around 3,000 years ago (Lebot et al. 1992), kava was dispersed around the Pacific by early maritime travellers and has become an integral part of the dynamic and evolving cultural practices of many Pacific societies (Aporosa 2019; Lebot et al. 1997). Historically, kava beverage in Pacific communities has been prepared by cold water infusion from fresh or dried roots of the kava plant to produce a brew in a communal bowl (Lebot et al. 1997). Prepared in this manner, kava beverage has been consumed for more than 1,000 years and both kava and kava beverage are often regarded as important icons of national and/or ethno-cultural identity among Pacific communities (Aporosa 2019).

In late 2021 and early 2022, Food Standards Australia New Zealand (FSANZ) prepared urgent proposal P1057 to consider whether the kava provisions of the Australia New Zealand Food Standards Code (the Code) needed to be amended following the Australian Government’s decision to allow the commercial importation of kava from 1 December 2021 under Phase 2 of the Pacific Step-up Kava Pilot.

In March 2022, the FSANZ Board agreed amendments to the Code to:

- Make explicit the current prohibition on the use of processing aids and food additives in the manufacture or processing of dried or raw kava root and kava beverages, and
- Require that kava is sourced from Noble varieties of the kava plant, which have a history of safe use.

FSANZ has 12 months to assess the amendments and re-affirm them or prepare a new proposal to consider further changes to the standard. To inform this work, FSANZ undertook a rapid systematic evidence summary to examine the available evidence on consumer demographics, practices, contexts, and understandings of kava beverage in Australia and New Zealand.

The evidence summary investigated three research questions:

1. What population subgroups in Australia and New Zealand typically consume kava beverage?
2. How is kava beverage typically consumed, and in what contexts? Is kava beverage commonly mixed with alcohol at the time of consumption?
3. What do Australians and New Zealanders understand about kava beverage? For example, do they know how kava beverage can adversely affect health?

2 Methods

FSANZ undertook a rapid systematic search for literature on consumer demographics, practices, contexts, and understandings of kava beverage in Australia and New Zealand. It includes peer-reviewed articles published in academic journals as well as grey literature, such as unpublished theses.

Literature was identified by searching six online databases for peer-reviewed studies published in English between January 2000 and May 2022, and hand-searching the reference lists and citing studies of obtained studies.

The evidence summary focused on contemporary practices of kava consumption in Australia and New Zealand, and therefore excluded studies that relied on data prior to the year 2000 or from nations beyond Australia and New Zealand. The year 2000 was adopted as the lower limit, as it was the year that the kava Standard was adopted into the joint Australian New Zealand Food Standards Code (the Code). Prior to this date, the Australian Food Standards Code included a kava Standard (O10) that regulated kava as a food in Australia. This standard prohibited kava from being used as an ingredient in foods, whereas New Zealand did not regulate kava under the New Zealand Food Regulations. Standard O10 was used as the basis for the development of the joint Australian New Zealand kava standard (Standard 2.6.3) in 2000.

A total of 19 full-text documents were included in the evidence summary. The evidence from each study was collated thematically under the research questions in order to present a narrative overview of the available evidence. Literature search, evidence synthesis and write up was conducted by one FSANZ officer. The draft evidence summary was internally reviewed by FSANZ staff members. More detail on the literature search strategy and research review process are available in [Appendix 1](#).

3 Findings

3.1 Consumer Demographics

This section seeks to answer Research Question 1: What population subgroups in Australia and New Zealand typically consume kava beverage? It reports on the proportion of people consuming kava, and any demographic factors associated with use. The available studies only considered the demographic factors of sex, age and ethnicity.

Important Note: The figures for kava consumption in Australia should be interpreted in the context of Australia's strict regulatory environment for kava in the period during which these figures were collected. Australia has regulated the importation of kava since 1997, when importation was prohibited without a permit except for 2 kilograms that incoming passengers could bring into Australia for personal use. In 2007, a complete ban on selling or importing kava was instituted in the Northern Territory. In December 2019 the amount of kava passengers could bring into Australia was increased to 4 kilograms and in December 2021 the commercial importation of kava was permitted with no limit on quantity, however it still remains illegal to sell or import kava in the Northern Territory.

In contrast, there are no regulatory controls on the sale of kava in New Zealand. When used as a food kava is regulated under the NZ Food Act 2014, which applies the labelling and

compositional requirements for kava in the Code. Before the joint Code came into effect, kava was not regulated in New Zealand.

New Zealand

Two studies were found that provided quantitative information on the prevalence of kava consumption in New Zealand, and demographics associated with its use. In addition, five qualitative studies were found that provide supporting evidence in respect of the trends identified in the quantitative studies (Aporosa 2015, Fehoko 2014, Henry and Aporosa 2021, Nosa and Ofanoa 2009, Taufa 2014). Four of these studies are based in the Tongan subpopulation of New Zealand.

Overall Prevalence

In the most recent New Zealand Alcohol and Drug Use Survey to have included data on kava (conducted in 2007-08), 6.3% (5.5-7.0 95% CI) of adults aged 16-64 years (n= 6,784) had ever used kava in their lifetime (Ministry of Health, 2010, p.138).

The New Zealand Alcohol and Drug Use Survey used a multi-stage, stratified, 'probability proportional to size' sample design, with increased sampling of Māori and Pacific Islander populations in order to ensure sufficient numbers to enable accurate estimates for all groups. Note that 'Pacific' was defined as a single ethnic population group, with no subpopulations identified, due to sample size issues. Results were weighted so that estimates of population totals, averages and proportions are representative of the total resident population of New Zealand as at the 2006 Census.

Sex

In the same New Zealand Alcohol and Drug Use Survey, after adjusting for age, men were significantly more likely to have ever used kava (9.2%, 7.9-10.6) than women (4.5%, 3.5-5.4) ($p < 0.05$) (Ministry of Health, 2010, p.138).

This is supported by a qualitative study of twenty Tongan women's perspectives on kava use in Auckland, in which women were observed to be rare consumers of kava (Taufa 2014, p.95). However, ethnographic evidence from long-term participants in kava consumption suggests that the male associations of kava common to Pasifika cultures may not be as influential among Māori and Pākehā drinkers, or may be waning among certain groups in the Pasifikan diaspora. Aporosa (2015, p.69) notes that he "frequently see[s] Māori and [...] Pākehā female kava drinkers in... venues across Hamilton and Auckland" and that it appears that kava consumption among women in these groups "is unaffected, or not concerned by, the masculine discourse and concepts associated with Pasifika kava consumption." Henry and Aporosa (2021, p.183) note that women-only *kava kalapu* [clubs] are increasing in Pacific communities in New Zealand. This may mean that the proportion of women drinking kava will increase if kava consumption becomes more widespread.

Age

The New Zealand Alcohol and Drug Use Survey found that, for adults aged 16-64 years who had ever used kava, the median age at which they had first consumed it was 23 years, and, as shown in [Table 1](#) below, the majority (81.5%) of people had first tried it when they were aged 18 years or older. A significant minority (18.5%), however, had first consumed kava when they were 17 years or younger (Ministry of Health, 2010, p.140), with 6.5% having consumed it at 14 years of age or younger.

Table 1: Age of first use of kava, among people aged 16-64 years who had ever used kava (unadjusted prevalence). Sourced from Ministry of Health (2010, p.140).

Age of first use of kava	Prevalence (%) (95% CI)
14 years or younger	6.5 (3.6-10.7)
15-17 years	12.0 (8.3-15.7)
18-20 years	23.0 (17.3-28.6)
21 years or older	58.5 (52.4-64.6)

A separate qualitative study that examined kava beverage consumption among 12 Tongan-born men aged 30 to 75 years living in Auckland, New Zealand found that the median age for beginning kava drinking was between 17-20 years (Nosa and Ofanoa 2009).

There is ethnographic evidence that young men often first attend kava drinking sessions with their fathers or grandfathers before they are eighteen years old. In a qualitative study of twelve New Zealand-born Tongan males, Fehoko (2014) found that seven had first participated in kava with their father or another father figure, at an age of 10-15 years old (when quantified). This could involve consuming kava. For example, one participant said:

I entered the faikava [kava gathering] at the age of 10 years old with my grandfather, and when I sat down I got a cup of kava to drink. When I got it, I tried to keep my distance so I don't have to drink it, but I had a feeling that if I didn't drink it he would probably give me a beating (in Fehoko 2014, p.58).

In Taufa's (2014, p.94) study of Tongan women's perspectives on kava use, the women agreed that young men would start using kava with their fathers from the age of about 15 years.

Ethnicity

The broad ethnic group that had the highest proportion of people who had used kava in their lifetime was Pasifika (Ministry of Health, 2010, p.139). 11.7% (8.3-15.1) of Pasifikans had used kava in their lifetime, compared to 6.3% (5.3-7.2) of Pākehā and 5.6% (4.1-7.1) of Māori. After adjusting for age, Pasifikan men were over twice as likely to have ever used kava in their lifetime, compared with men in the total population. However, as shown in Table 2 below, the estimated number of users was highest in the Pākehā population, and ethnographic evidence suggests that a growing number of Māori and Pākehā are taking up the practice of kava drinking (Aporosa, 2015).

Table 2: Ever used kava in lifetime, among total population aged 16-64 years, by ethnic group (unadjusted prevalence and estimated number of adults). Sourced from Ministry of Health (2010, p.139).

Ethnic Group	Prevalence (%) for total adults (95% CI)	Estimated number of adults
European/Other	6.3 (5.3-7.2)	130,100
Māori	5.6 (4.1-7.1)	18,300
Pasifika	11.7 (8.3-15.1)	18,100

Ethnic Group	Prevalence (%) for total adults (95% CI)	Estimated number of adults
Asian	3.9 (1.8-7.1)	8,600

A separate study of Pasifikan men in South Auckland found that Tongans were the cultural group that had the highest prevalence of kava consumption. Port (2014) used data from the Pacific Islands Families Study to analyse patterns of kava usage over a ten year period. The Pacific Islands Families study is a longitudinal study following a birth cohort of 1,398 Pacific children and their parents since the children were born at Middlemore Hospital in South Auckland in the year 2000. It collects self-reported data through structured interviews with mothers, fathers (defined as male secondary caregivers for the child), and children. Port's (2014) analysis of the Pacific Islands Families study uses data reported by 1,532 Pasifikan fathers in Year 1 (2001) and 1,432 fathers in Year 11 (2012) of the study. Of 199 Tongan fathers enrolled in year 1 of the study, and 197 Tongan fathers that were still in the study in year 11, 24.1% and 57.4% of respectively consumed kava (see Table 3 below).

Table 3: Kava users cross-tabulated by ethnicity. Sourced from Port (2020, p.28).

Ethnic Group	Kava Users Study Year 1 (2001)	Kava Users Study Year 11 (2012)
Samoan	3.9% (17/440)	12.8% (48/375)
Cook Islands	0% (0/73)	6.7% (6/89) ¹
Tongan	24.1% (48/199)	57.4% (113/197)
Other Pacific	5.6% (3/54)	16.4% (9/55) ¹
Total	8.9% (68/766)	24.6% (176/716)

Australia

Two quantitative studies were identified that provide data on prevalence of kava use within the whole Australian population and the Aboriginal and Torres Strait Islander population. The National Drug Strategy Household Survey (AIHW, 2011) used a national, multistage, stratified area random sample design, with over-sampling of smaller states and territories (Tasmania, the Australian Capital Territory, and the Northern Territory) and Queensland in order to produce reliable estimates of the entire Australian population. Results were weighted to account for the imbalance of the sampling, in order to bring the under- and over-sampled states and territories in line with the population.

¹ For the Cook Islands and 'Other Pacific' ethnic groups, the number of fathers involved in the study increased between Year 1 and Year 11. This is likely due to the social definition of father deployed in the study, which referred to the male secondary caregiver rather than necessarily the biological father. As this longitudinal study follows the children rather than the parents, there could be an increase in male secondary caregivers over the course of the study.

The Aboriginal and Torres Strait Islander Health Performance Framework (Australian Institute of Health and Welfare & National Indigenous Australians Agency, 2020) is a report that analyses the available data on 68 measures of Aboriginal and Torres Strait Islander health. Measure 2.17 provides an overview of drug and other substance use, including kava. Data for this measure is drawn from the National Aboriginal and Torres Strait Islander Health Survey (Australian Bureau of Statistics, 2019), which used a multi-stage sampling process to ensure the representativeness of the final sample across Australia.² The Torres Strait Islander population was over-sampled to ensure data of sufficient quality was available.

In addition, three quantitative studies were found that described prevalence among smaller populations: a survey of 73 Tongan men in South-West Sydney (Maneze et al. 2008), and two surveys of remote communities in eastern Arnhem land (Clough 2003 and Clough et al. 2002).

Overall Prevalence

In the most recent National Drug Strategy Household Survey that reported disaggregated data on kava in Australia (conducted in 2010), 1.9% of the sample aged 14 years or older (n = 26,648) reported having had the opportunity to consume kava in the past 12 months (AIHW, 2011, p.15). Note, however, that this measure only reports on the opportunity to consume kava, not actual consumption. It may therefore be an over-estimate.

Sex

In the same Australian National Drug Strategy Household survey, 1.4% of females and 2.5% of males reported having the opportunity to consume kava (AIHW, 2011, p.15).

Age

When disaggregated by age (as shown in *Table 4* below), 1.4% of people aged 14-19 years had the opportunity to consume kava, compared to 3.7% of people aged 20-29 years, 2.6% of people aged 30-39 years, and 1.2% of people aged 40+ years.

Table 4: Offer or opportunity to use kava in the previous 12 months, by age, 2010 (per cent). Sourced from AIHW (2011, p.16).

Age group	% reported having had the opportunity to use kava in previous 12 months
14-19 years	1.4
20-29 years	3.7
30-39 years	2.6
40+ years	1.2

² It is important to note that this survey used different methodologies for questions of substance use, including kava, in remote and non-remote areas. In non-remote areas, participants had the option of answering these questions using a self-completed computer-based questionnaire. In remote areas, low English literacy led to the employment of verbal responses to direct questions asked by an interviewer, in an environment where other household members may have been present. Given that kava was an illicit substance at the time of the survey, social desirability biases may have inhibited accurate responses, and under-reporting of substance use may be more common in remote areas (Australian Bureau of Statistics, 2019).

Ethnicity

There is evidence of kava use in Pasifika communities within Australia. Maneze et al.'s (2008) survey of 73 Tongan men (mean age 42.6 years, SD 11.9) living in Macarthur in Sydney's South-West found that 90% (66/73) were regular kava drinkers. The mean age at which these men reported that they had started drinking kava was 21.5 years, although there was a relatively high standard deviation of 6.8 years. Those aged 41 years and older were found to drink more frequently and in larger quantities than younger men, although this was not statistically significant.

In the Aboriginal and Torres Strait Islander population, reported kava use has been steady over the last 11 years (from 2008-2019) at around 1.4% of the total population reporting having used kava in the previous 12 months, with little variance between remote and non-remote communities (Table D2.17.1, Australian Institute of Health and Welfare & National Indigenous Australians Agency, 2020). It is estimated that this figure is made up of 1.6% of males and 1.1% of females, although both of these figures have a relative standard error between 25% and 50%, and should be used with caution (Table D2.17.4, Australian Institute of Health and Welfare & National Indigenous Australians Agency, 2020).

In remote communities in eastern Arnhem land, where kava was introduced as an alternative to alcohol in the 1980s, smaller surveys have found that kava use was more prevalent. Two studies were conducted between 2000 and 2002 that examined kava use in single communities in East Arnhem land. The first was a cross-sectional study involving a representative sample of 101 people from a remote community (consisting of approximately 30% of the community population over 15 years of age) (Clough et al., 2002). It found that 52% of sampled males and 11% of sampled females reported being current kava users. The second was a study based on interviews with a random sample of 136 individuals between the ages of 16 and 34 years, as well as key informants in the form of local Aboriginal health workers who independently assessed whether a person was currently using kava and whether they had ever used it (Clough, 2003). This study disaggregated kava use by age and sex (as shown in [Table 5](#)), and found that up to 71% of males and 46% of females were currently consuming kava (in the 30-34 year age group), with a much lesser proportion of participants consuming kava in the youngest age group (16-19 years) (12% of males and 0% of females). Taking a simple average in order to produce a figure comparable to the study in Clough et al. (2002), 41% of sampled males and 33% of sampled females reported being current kava users.

Table 5: Kava users in a random sample of people aged 16-34 years (n=136, 70 males and 66 females) from one community in eastern Arnhem Land (2001-02). Sourced from Clough (2003, p.46).

		Age groups (number of participants by sex)			
		16-19 yrs (17m, 17f)	20-24 yrs (17m, 18f)	25-29 yrs (19m, 18f)	30-34 yrs (17m, 13f)
Ever used kava	Male	24% (n=4)	41% (n=7)	47% (n=9)	71% (n=12)
	Female	6% (n=1)	50% (n=9)	50% (n=9)	46% (n=6)
Currently using kava	Male	12% (n=2)	35% (n=6)	47% (n=9)	71% (n=12)
	Female	0% (n=0)	44% (n=8)	44% (n=8)	46% (n=6)

3.2 Consumption Contexts and Practices

This section seeks to answer Research Question 2: How is kava beverage typically consumed, and in what contexts? Is kava beverage commonly mixed with alcohol at the time of consumption?

3.2.1 How is kava beverage typically consumed, and in what contexts?

Nine qualitative and two quantitative studies were found that addressed the contexts and practices associated with kava consumption, of which six covered specifically Tongan subpopulations, five of which were in New Zealand and one of which was in Australia.

Social Contexts of Consumption

Kava is predominantly consumed within social contexts. Port's (2014) analysis of the longitudinal Pacific Islands Families study found that kava was predominantly drunk with friends, family, and community groups, with only a small number of kava users (3/68 or 4% in Year 1 of the study, and 4/173 or 2% in Year 11 of the study) drinking kava alone.

This is consistent with qualitative evidence of kava use in New Zealand (Aporosa 2015; Fehoko 2014; Taufa 2014), and Maneze et al.'s (2008) survey of 73 Tongan men in Sydney. However, it is important to note that some people who consume kava beverage for its perceived health benefits, such as aiding stress, anxiety, or sleeping (see the following section on Understandings of kava beverage), may consume it in small amounts on their own (Aporosa 2015).

There are two broad social contexts in which kava may be consumed: formal contexts, which have clear cultural protocols and tend to have limits on the amount of kava consumed, and informal contexts, which have less strict protocols and limits. Formal contexts include royal ceremonies, funerals, weddings, birthdays, anniversaries, and church functions. Informal contexts include *kalapu kava*, or commercial kava bars where attendees usually pay for kava by the cup, and *faikava*, or private kava gatherings within people's homes (Fehoko 2014; Ofanoa et al. 2020). The majority of research on kava in Australia and New Zealand concerns these informal contexts of consumption.

Medical anthropologist Dr Jonathan D. Baker has argued that, in these informal contexts of consumption, kava has undergone a process of "recreationalisation", which he defines as "the process by which something is translated into a context of use primarily focused on inducing intoxication or inebriation" (Baker 2012, p.239). For further discussion, see the section on kava as an alternative to alcohol in [Error! Reference source not found.](#)

The importance of the social aspect of kava consumption was underscored during the COVID-19 pandemic. Henry and Aporosa (2021) provide ethnographic information about virtual *faikava* being convened on digital platforms such as Zoom or Facebook to facilitate shared consumption of kava and subsequent *talanoa*. *Talanoa* means "a personal encounter where people story their issues, their realities and aspirations" (Vaioleti, 2006), and is a vital component of kava gatherings. Henry and Aporosa note that

[u]nlike communal *faikava* gatherings, virtual *faikava* consists of individual users setting up their kava mixing equipment and kava bowl at home, then connecting – via internet communication technologies such as Zoom, Facebook Messenger, WhatsApp and Viber – to one of a variety of online groups. Through these groups, users continue to engage in kava consumption and

faikava talanoa aimed at maintaining cultural connectedness... while complying with COVID-19 isolation requirements (Henry and Aporosa 2021, p.185).

This virtual *faikava* continues the emphasis upon the social or communal nature of kava drinking as a key aspect of its consumption even in an altered context. Although the virtual *faikava* was considered by many to be a lesser substitute for in-person gatherings, and in-person gatherings were resumed once COVID-19 restrictions eased, virtual kava gatherings have continued “as spaces for the meaningful and productive discussion of contemporary topics” (Henry and Aporosa 2021, p.187).

There is also evidence of a trend towards kava beverage being used as a means of facilitating learning in a variety of contexts. Henry and Aporosa (2021, p.183) argue that the “cultural classroom” of the *faikava* has “moved beyond Pacific specific spaces”. They reference kava’s use in rugby post-game debriefing sessions (see also Aporosa 2015) and tertiary institutions (see also Aporosa and Fa’avae 2021; Fehoko et al., 2021; and Taufa 2014).

Kava Beverage Preparation

Historically, kava beverage in Pacific communities has been prepared by aqueous extraction using fresh or dried roots of the kava plant to produce a beverage in a communal bowl. Fresh material is peeled before being chewed or ground until it is fine and fibrous, and infused with water. Dried material is ground finely, wrapped in cloth and infused in water. The beverage is then typically consumed immediately or shortly thereafter.

Ethnographic evidence suggests that the process by which kava is prepared for recreational use is very similar to its historical preparation – that is, as a water extract served from a large common bowl into smaller serving bowls or cups (Aporosa 2015; Baker 2012; Fehoko 2014). This is true in both commercial kava bars and private kava gatherings.

Frequency and Amount

Data from the Pacific Islands Families study in New Zealand (Port 2014) found that, of the 68 kava users in Year 1 of the study, 91% consumed “about once a week or less”. In Year 11 of the study, 78% of the 176 kava users consumed “about once a week or less”, with 21% consuming 2-3 times per week, and 1% consuming daily. In both years, the majority (around 87%) of kava users consumed 10 or more “drinks” (volume not specified) per session.

In a survey of 73 Tongan men in Sydney (Maneze et al., 2008), 90% (66/73) consume kava regularly. Of these, two thirds (50/66) drank kava on weekends, 16% (12/66) reported drinking regularly after work, and 16% (12/66) drank kava on ceremonial occasions such as weddings and funerals. Those men who reported drinking kava regularly did so on average two to four times a week, with 44% (29/66) reporting drinking 20 to 49 “cups” (volume not specified) per session, and 24% (16/66) reporting drinking more than 50 “cups” per session. The remaining 32% (28/66) drank less than 20 cups per session. More than half of the men consumed 20 or more cups per session at least twice a week, which tended to be in prolonged kava sessions on the weekend. There was an association between frequency of kava use and the number of cups drunk per session; as shown in [Figure 1](#) below those who consumed kava more often were more likely to consume more than 20 cups per session.

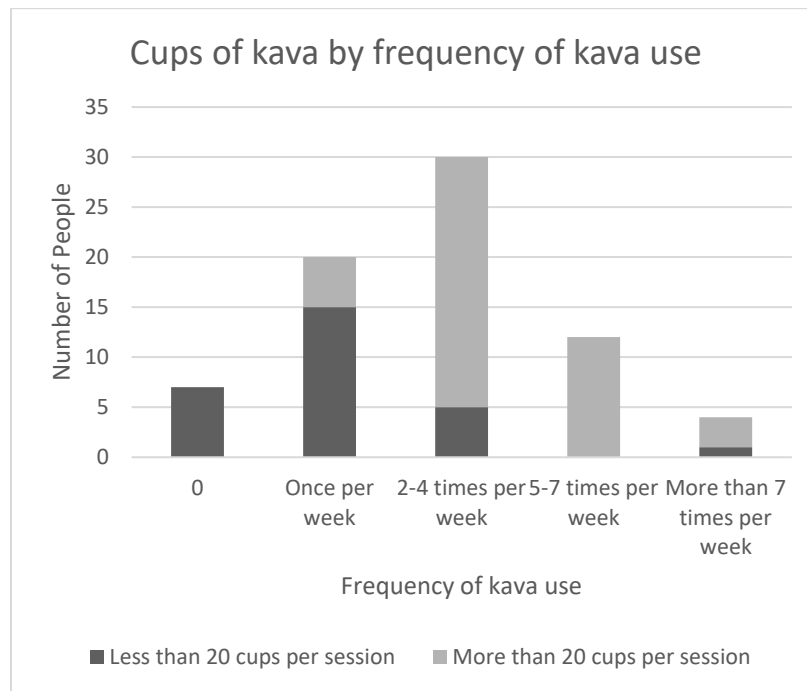


Figure 1: Quantity of kava consumed per session by frequency of kava use. Adapted from Maneze et al. (2008, p.315).

Prolonged kava drinking sessions were also found within the qualitative research among Tongan men living in New Zealand. In two separate studies of twelve Tongan men living in Auckland, Nosa and Ofanoa (2009) and Fehoko (2014) both found that they engaged in overnight drinking sessions of 12-13 hours, typically on the weekends. For example, one participant in Nosa and Ofanoa’s study (2009, p.100) said:

I am 75 years now, but when I was young (twenties), I consumed a lot... I started at 9pm and I left the place at about 4am. The weekends, we even drank kava from 9pm ‘til 10am the following day.

Cultural Customs

Although kava is increasingly being consumed within informal contexts, there is still an awareness of cultural protocols being associated with its consumption. Baker (2012, p.247) suggests that, even in the transformed and recreational contexts of kava consumption described above, “there is an awareness of the traditions associated with kava, even if little of this knowledge is incorporated into the actual protocols of drinking.” Baker (2012, p.247) also argues that it is kava consumption that occurs outside of social contexts, much of which he suggests “occurs through Internet sales and happens outside the Pacific”, that are the least informed by historical and present-day kava drinking practices.

This is evidence of cultural customs associated with *faikava*, or private kava gatherings. *Faikava* means “to prepare and drink kava together with due form or ceremony” (Churchward, 1959, p.21, cited in Fehoko 2014, p.3), and ethnographic evidence provided by Aporosa (2015, p.70) suggests that in New Zealand the customs associated with kava drinking among Pasifikans may be transferred to drinkers of European descent. For example, Aporosa quotes one kava drinker who says “One thing I appreciate is the semi-ceremonial way we drink...” and explains that they have acquired customary kava drinking utensils. Although they have formed a Pākehā-only kava club based in their homes, they say that they “still observe the same cultural aspects” because “drinking kava out of this context seems strange and not as enjoyable.” Aporosa observes that at particular kava bars, non-

Pasifika attendees “quickly adopt and engage in Pasifika behaviours and values.” This includes

offering small amounts of kava, sweets and fruit as a contribution to drinking sessions, sitting cross-legged on woven mats on the floor, showing respect to one another and the kava by clapping when receiving and finishing their cup of kava, using Pasifika words and phraseology associated with kava, and wearing sulu/lavalava and bula/aloha shirts or t-shirts depicting symbols of Pasifika culture...(Aporosa 2015, p.68).

However, there was also evidence that some people thought kava was being abused due to a lack of strict cultural protocols. In Taufua’s (2014, p.101) qualitative study of Tongan women’s perspectives on male kava use, one woman said,

Kavaholics have been made because of how they use kava so freely now in the *kava kalapu* [club]. Men can be there overnight and drinking hundreds of [cups of] kava and there’s no control. When you look back to how kava was used and respected in Tonga, in those days, there was no chance for them to be silly with the kava.

3.2.2 Is kava beverage commonly mixed with alcohol at the time of consumption?

Three studies addressed whether kava beverage is commonly mixed with alcohol at the time of consumption: one quantitative study, and two qualitative studies. All were conducted among the Tongan subpopulation in Australia or New Zealand.

Maneze et al.’s (2008) study of 73 Tongan men in Sydney found that 15% of respondents (n = 11) reported consuming alcohol during kava sessions, and of those beer was the preferred alcoholic beverage. The authors noted that this was less than the rate in Tonga (30%), and may have been influenced by many of the respondents being members of a church that prohibits alcohol.

Ofanoa et al.’s (2020, p.58) qualitative study of 104 Tongan men across 10 kava clubs in Tonga and New Zealand found that alcohol was often consumed in the same session as kava. In this case, it was used to “wash down/cleanse” their system after consuming a cup of kava.

Taufua (2014, p.140) found that the majority of her female Tongan participants, who were wives and relatives of male kava consumers, said that kava was not commonly mixed with alcohol. This was especially the case where kava consumption was associated with the Methodist church, which bans alcohol. However, where kava was more likely to be mixed with alcohol was in informal settings, especially some *kava kalapu* (commercial kava clubs) and amongst the younger generations. For example, some of Taufua’s participants said:

“Yes there is mixing... People will sometimes mix the kava with alcohol if the kava is running out. I don’t think they see it as a big issue you won’t find alcohol in formal settings, so yeah I’m talking about alcohol... it is only in informal setting because that wouldn’t fly in formal circles.”

“The younger ones will mix the alcohol and the kava, not so much the old school kava boys.”

“To be honest, I have never seen it mixed... With the younger generations, I know they’re more into alcohol but the older ones that consume kava regularly, I think it’s just kava.”

The Tongan women in Taufua’s (2014, p.142) study noted that there are often ill effects from consuming kava and alcohol in the same session, including vomiting, diarrhoea, and a faster rate of intoxication:

Kava and alcohol can turn effect your stomach and people can have bad experience when they have both of the kava and the alcohol, so they just stick to pure kava, and then sometimes, if they want more, they turn to the alcohol after, but that will make them get drunk faster.

Some qualitative data suggests that kava is often seen as an alternative to alcohol (see section on Understandings of Kava Beverage for more discussion). However, Port's (2014) analysis of the Pacific Islands Families study found no significant association between kava consumption and alcohol use in either direction.

3.3 Understandings of Kava Beverage

This section seeks to answer Research Question 3: What do Australians and New Zealanders understand about kava beverage? For example, do they know how kava beverage can adversely affect health?

3.3.1 What do Australians and New Zealanders understand about kava beverage?

Seven qualitative studies and one quantitative study were found that addressed Australian and New Zealanders' understandings about kava beverage. Of these, six focused specifically on the Tongan subpopulation in Australia or New Zealand.

Cultural Identity and Community

Pasifika

Kava is strongly associated with identity in Pasifika communities in Australia and New Zealand (Aporosa 2015, p.62). Aporosa (2015, p.83-85) argues that "the consumption of kava and the cultural practices that accompany it are considered to be one of the most potent and universally recognised markers of traditional Pasifika identity". A range of qualitative and quantitative research on kava consumption in Australia and New Zealand have found that kava gatherings are an important location for intergenerational cultural learning and identity formation in Pasifika communities.

In Maneze et al.'s (2008) survey of 73 Tongan men in Sydney, 69% (50/73) reported drinking kava for socialisation, 55% for tradition, 52% for preservation of culture, and 8% for medicinal purposes. Fehoko (2014, p.57) reports that many of his participants entered the *faikava* at a young age with their father or another father figure with the explicit purpose of helping them to connect with Tongan culture and language. Fehoko (2014, 2015) and Henry and Aporosa (2021) have both discussed how *faikava* function as "cultural classrooms" among Tongans in New Zealand, "a common place where Tongan values, beliefs, traditions, customs and practices are reinforced, nurtured, rejuvenated and maintained" (Fehoko 2015, p.138).

This was supported by Taufa's (2014, p.73) study of Tongan women's perspectives and understandings of kava consumption, where the women observed that it was an intergenerational practice passed down among men that was central to their cultural identity:

[Kava is] a way for New Zealand born Tongans [to] get connected to their roots, to learn more about their culture. Because it is a forum so they'd hear things that they wouldn't be able to hear anywhere else, about the culture and values. Even if they were to pick up a book on Tongan history, the richness of the things that they can get from kava club isn't available anywhere else, and the youth really want to get in touch with their roots (participant in Taufa 2014, pp.81-82).

In Nosa and Ofanoa's (2009) qualitative study of twelve Tongan men living in Auckland, and Ofanoa et al.'s (2020) qualitative study of 42 Tongan men from Auckland, drinking kava was also a way to forming and maintaining relationships with other Tongan men in diaspora. This was supported once again by Taufa's study of Tongan women's perspectives. One participant argued that cultural identity and community come together in the socialisation that kava enables:

I believe that there are men that do miss Tonga. Some guys are here for study purposes and they miss the family and they need to touch base with their roots and have friends and stuff. So they go to the kava party because that is where they sort of remember Tonga. Mostly they miss home. The only time they have the opportunity to do things in Tongan culture is during church and for men, during the kava. So kava has a large role in the Tongan culture, even for those away from Tonga in a foreign country.

It is important to note, however, that not all members of Pasifika communities agree with kava as being fundamental to their cultural identity. Aporosa (2019, p.10) notes that in Fiji, some Christian denominations (primarily the Pentecostal denominations) consider kava to be the "drink of Satan" due to its historical use in communicating with ancestral gods. However, there is no evidence available that this belief has been carried over into the Pacific diaspora.

Māori

Kava is also increasingly becoming associated with Māori identity in a process that Aporosa (2015) describes as "diasporic identity formation in reverse". Kava is seen by some Māori consumers as being a part of their ancestral connection to the Pacific. For example, the Māori elder and academic Hotorua Kerr told Aporosa (2015, pp.65-66), "Kava is part of Māori culture... we Māori originally came from the Pacific, so kava is already in us." Kava consumption is often seen as being consistent with Māori culture and customs. For example, another Māori consumer told Aporosa "kava fits with our culture and kōrero [conversation style]". Another Māori consumer, Jerome, said,

For me, even as a Māori, kava feels right, like 'it's me', it feels familiar... It's not even really about the drinking of the kava, but the connection you have with others when you do it... When you drink like this, with culture... you can feel kava is in us Māori too, and you connect to kava and the ancestors and the people you are with. But then us Māori and Polynesians, we are cousins anyway, and then kava brings us back together again, it unites us as one people (Jerome, in Aporosa and Forde 2019, p.80).

New Zealand Europeans

Some Pākehā consumers also explain their consumption practices in terms of identity. For example, one Pākehā participant told Aporosa,

What is New Zealand 'Kiwi' culture? How do you define it? My parents came from England, but I don't call myself English. Kava gives me a connection to something physical, to people, to a culture. It adds to me as a person (Marty, a Pākehā participant in Aporosa 2015, p.71).

Another Pākehā participant gave a similar explanation:

As a white New Zealander, at times I feel a disconnect from what my cultural identity is supposed to be. When people speak of New Zealand culture, it often takes the shape of alcohol-fuelled gatherings, which I want no part of. Kava is not native to [me... but] I feel that I am able to include the practice of kava drinking into my culture. Although racially I am white, I do not accept that I must follow the practices and culture that my race predominantly follows. Instead, I feel that I am able to create my own culture, and I feel connected to other cultures that use kava as I do (Richard, a Pākehā participant in Aporosa 2015, p.71).

Alternative to Alcohol

Kava is often regarded as a preferable alternative to alcohol. In the qualitative research, many participants made reference to alcohol when talking about the benefits of kava. For example, in Aporosa (2015, p.62), one Māori consumer said “It’s good for us cause kava makes us relax, not like alcohol.” Fehoko reports that one participant was introduced to kava by his father to help him avoid alcohol:

My Dad wanted me to drink kava instead of drinking alcohol, because he shared with me how alcohol had affected his life, when he was young. That’s why he wanted me to drink kava because he didn’t want me to go through the same path... (Fehoko 2014, p.58).

In Fehoko’s (2014) qualitative study of twelve New Zealand-born Tongan men in Auckland, all participants believed that the *faikava* was a better alternative to drinking alcohol. Fehoko notes that “in most cases, fathers had an influential role in deterring these participants from alcohol consumption”:

Yeah, Dad is the one that takes me around everywhere to drink kava, anywhere he drinks kava, and I’ll be there. He told me that it is good because same reasons, it keeps me away from alcohol... he told me that he does not want me to go down the same path as he did when he drank alcohol instead of kava... at my age drinking alcohol the one day and you could die the next day...

The risk of death associated with alcohol was a recurring feature. One participant in Nosa and Ofanoa’s (2009) study said: “I think drinking kava is still far better than alcohol. My advice for youths is to go for the kava and not alcohol. Kava leads you to just laziness but alcohol will lead you to death.”

This was also true for female consumers of kava. Henry and Aporosa (2021, p.183) discuss a women-only kava club in Auckland, which functions as an alternative to alcohol for many of the women. The founder of the kava club said, “A lot of us were heavy drinkers [of alcohol]... but we don’t drink anymore, we just drink kava” (cited in Henry and Aporosa, 2021, p.183).

Kava is thought to affect behaviour in a more positive way than alcohol. For example, one participant in Fehoko (2014, p.71) said:

There is no horsing buzz in the *faikava* toks... when I drink alcohol I tend to get all hyper and getting into the buzz where I am all macho and have that mentality that I am toughest guy out there, but the buzz you get from the *faikava* surroundings you kind of relax buzz like you just want to chill and kick back with the brothers, fathers and uncles from the church and the community with the music and stories...

In Nosa and Ofanoa’s (2009) qualitative study of twelve Tongan-born men living in Auckland, some of the older participants similarly described kava as a safer or better alternative to alcohol because it encourages relaxation rather than aggression.

However, importantly, it is not just that the physiological effects of kava are thought to be more benign than alcohol, but the context in which kava is consumed is safer than that which accompanies alcohol consumption. For example, one participant said:

Personally, I see drinking kava better than drinking alcohol... I think it safer, whereas drinking alcohol excessively is fun at times but when it gets crazy, you don’t know what could happen, you could be dead. As for the *faikava*, you have fun, get drunk but at the same time, you are safe because you get drunk at the same place, whereas alcohol you go from there to there and you don’t remember how you got home and yea... That’s why I think the *faikava* is too good..

safe! Like you're with the men at the church hall and you know from the communities and with the boys so yea nothing wrong tends to happen because it is a safe environment...

The cultural practice of *talanoa* (discussion) that accompanies much kava consumption was also an important part of the benefits of kava as an alternative to alcohol. A Māori consumer in Aporosa and Forde (2019, pp.80-81) describes the benefits in the following way:

I have seen the benefits of kava for some of my Māori mates who have got into trouble with alcohol. Alcohol is a big part of us Māori today, after sports, whenever, we grab a beer and some of my mates got into big trouble, even some were alcoholics. Then they started coming to drink kava. It started as a place for them to just drink, but then they started talking, getting help, other guys to talk to and be honest. Kava isn't like alcohol, you can get help and connect with the ancestors, use kava in a positive way. Honestly, I think kava saved some of their lives. It wasn't just about taking the cup [drinking kava], it's about the brotherhood and the connection (Jerome, in Aporosa and Forde 2019, pp.80-81).

Women also reported preferring their husbands to drink kava than alcohol. In Taufa's (2014) study of women's perspectives on kava consumption, participants referred both to its different effect on behaviour and the different context in which it was consumed:

"Growing up, my mum wouldn't let my dad drink alcohol, and even though she didn't want him drinking too much kava as well, she preferred it... I think for her, because her dad and brothers drank it growing up, it was more normal for her, and then he wouldn't get drunk off his face"

"Personally, I would rather my husband go to take part in kava, because I know where he will be and who he will be with than going to drink alcohol. Also, it's much safer than alcohol I believe."

Another reason for preferring kava over alcohol is because it is cheaper than alcohol. This was emphasised by a number of participants in Nosa and Ofanoa's (2009) qualitative study of twelve Tongan-born men in Auckland, and Fehoko's (2014) qualitative study of twelve New-Zealand born Tongan men in Auckland.

The interchangeability of kava and alcohol was also apparent in the opposite direction during the COVID-19 lockdowns. Henry and Aporosa (2021, p.186) report that some members of virtual *faikava* began to attend with alcoholic beverages rather than kava due to their inability to access kava amidst lockdown restrictions.

3.3.2 Do Australian and New Zealand consumers know that kava can adversely affect health?

Five qualitative and two quantitative studies were found that addressed the health and risk perceptions of kava beverage. Of these, five focused specifically on the Tongan subpopulation in Australia or New Zealand. It is important to note that this section only considers consumer *perceptions* of the health and risk effects of kava, which may not align with the actual effects.

Health Perceptions

Participants in qualitative studies of kava consumption often discussed their motivation for using kava in terms of its health benefits. Kava is often understood as a traditional medicinal plant that can relieve or prevent stress, anxiety, illness and pain (Ofanoa et al. 2020). For example, one participant in Nosa and Ofanoa's (2009) qualitative study said "I am 75 years now and don't feel any effects. I am still healthy; I don't get cancer because of the kava. I will continue to drink until I die." It was also associated with aiding sleep, with a Pākehā participant in Aporosa (2015) and a Tongan man in Fehoko (2014) describing drinking kava to help bring on sleep.

Although kava had perceived health benefits, there was also acknowledgement of negative physiological effects from consuming kava. The key effects reported by consumers were headaches, tiredness, and a lack of sex drive. In Maneze et al.'s (2008) survey of 73 Tongan men, more than half reported headaches and feeling sleepy and tired the day after drinking kava. In Nosa and Ofanoa's (2009, p.101) qualitative study with twelve Tongan-born men living in Auckland, the majority of participants said that kava negatively affected their sexual experience with their wives or other intimate partners, with one participant saying "when one is too drink of kava, he tends to be too lazy and he has no energy or drives to think of sex." Ofanoa et al. (2020) also identified dermatopathy and indigestion as health risks.

In Taufa's (2014) study, women described a broader range of potential negative health effects that could affect their male relative kava consumers. These included dermatopathy, gout, diabetes, heart conditions, and sleep apnea. There was also considered to be a risk of sudden death from heavy consumption of kava (also identified among male participants in Ofanoa et al. 2020). Although the mechanism was understood to be heart-related, they attributed the cause to kava. For example, one participant said:

I heard of a guy who died of kava, earlier this year, maybe 31 years and he died because he would use kava a lot and the doctor said it was because of his heart, but his wife and his family all agree it was because of his kava, he would use it everyday and they said he would come home and complain of chest pain and breathing problems, they would warn him to stop but like the men who even hear it from the doctors to stop, they still go to kava, and then yeah, things like this happen, your body will eventually give way (Taufa 2014, pp.150-151).

The women also believed that heavy kava use could lead to addiction, although it is not clear whether they mean in a social or a physical sense, or both:

I would say someone that drinks it every day; Monday, Tuesday, all through to Sunday. I think when they become dependent, that is a common sign of heavy kava use as well. I think not just to drink it every day, but when it becomes a part of routine and like in everyday use of kava they are drinking a lot of it. Also, when they start to make excuses because they need to or feel they need to go, some of them are addicted to the kava practices.

Kava and Driving

Kava is considered to be relatively safe to consume and then drive (compared to most other drugs) by both consumers and non-consumers. Malhotra et al. (2017) conducted a study with 434 New Zealand drivers (63.59% of whom were female) aged between 17-74 years (mean age 34.54, SD 14.62 years) that examined their perceptions about the impairment to driving caused by a variety of drugs, including kava. Drivers were asked to rate how impaired they thought an average person's driving would be within three hours of consuming a variety of legal and illegal drugs according to a 5-point Likert scale, where 1 meant "not at all impaired" and 5 meant "very impaired".

The study found that drivers who had previously consumed kava and driven within three hours (n=7) gave kava a mean impairment rating of 2.14 out of 5 (SD 1.35). Users who had previously consumed kava but had not driven within three hours of consumption (n=18) gave it a mean impairment rating of 3.56 out of 5 (SD 1.10), while non-consumers of kava (n=237) gave it a mean impairment rating of 4.14 out of five (SD 1.01). There was a statistically significant ($p < 0.001$) association between consumption experience and impairment rating, with consumers who had previously used kava and driven within three hours giving it the lowest impairment rating, followed by the kava consumers who did not drive within three hours, and then non-consumers. However, the mean impairment rating for kava overall was lower than those for cannabis, alcohol, "party pills", sedatives, ecstasy, meth/amphetamine, cocaine, opiates, and hallucinogens. The only drugs with a lower impairment rating were

painkillers, anti-psychotics, prescription stimulants, anti-anxiety drugs, anti-depressants, and anti-nausea medication.

Table 6: Impairment rating for kava from Malhotra et al.'s (2017) survey of New Zealand drivers' perceptions of drug impairment.

Group	Number	Kava Driver Impairment Rating (Out of 5)
Users who had previously used kava and driven within three hours	7	2.14 (SD 1.35)
Users who had previously used kava but had not driven within three hours	18	3.56 (SD 1.10)
Non-consumers of kava	237	4.14 (SD 1.01)

In a separate question, 26 kava consumers were asked if there had been any occasion in the past 12 months where they had decided *not* to drive within 3 hours of consuming kava. 23% of respondents said that there had been an occasion where they had decided not to drive within three hours of consuming kava. This suggests that up to 77% always chose to drive within three hours of consuming kava in the last 12 months, although this percentage could include consumers who did not need to drive, such as if they were consuming kava at home or had an alternative means of travelling home (such as walking). However, it is a similar proportion to that in Maneze et al.'s (2008) survey of 73 Tongan men, where 70% (51/73) reported driving home after spending all night consuming kava. It is relevant to note that, in Ofanoa et al. (2020), the issue of driving after kava consumption was not considered significant by respondents because of the close proximity of kava clubs to their houses. However, they acknowledged that minor driving accidents had occurred (such as missing the driveway or hitting the fence while parking the car) after consuming kava.

Negative Social Effects

There is evidence of a range of negative social effects associated with the heavy consumption of kava. These tended to be focused on a perceived lack of engagement in family, community or economic life due to sleepiness/lethargy accompanying prolonged kava sessions (Fehoko 2014; Nosa and Ofanoa, 2009; Ofanoa et al. 2020, Taufa 2014).

For example, one participant in Nosa and Ofanoa's (2009) qualitative study said:

Kava does affect my relationships with my family, church, community involvement and my work as well. For example, when I drink a lot of kava and being intoxicated, I am sleepy, lazy, does not want to do any other work but to sleep until you recover. In many cases you sleep the whole day, and you missed work... and your other involvements. This is not good as it affects your relationships (Nosa and Ofanoa 2009, p.100).

Similarly, participants in Fehoko (2014, pp.72-73) acknowledged that kava can lead to social difficulties due to the physiological effects:

Yea I think the kava is being abused with the drinking all night. It is already at a point where the all-nighters at the faikava can lead to problems and challenges at home, especially if it is a regular point – you know at home, if the father [drinks kava all night] they will sleep for a long time to re-gain that energy back...

While much of the discussion of the effects was on the neglect of familial or community relationships, its effect on work productivity was also an area of concern (Ofanoa et al. 2020; Taufu 2014). One participant in Taufu (2014) described this as leading to unemployment:

Men would miss work because they were so tired and it got to the point they missed so many days, they worked themselves out of a job. That was a hard blow on the family. It's hard to get a job when your past jobs don't give you a reference, but you hear about a lot of men losing out on jobs because of the kava (Taufu 2014, p.126).

4 Strengths and Limitations

This evidence summary used a mixture of quantitative and qualitative information to answer the three research questions. Research Question 1, on consumer demographics, was predominantly answered with large scale (national), quantitative surveys of drug use, while Research Questions 2 and 3 relied heavily on qualitative studies with small samples (< 30 participants). The large scale quantitative surveys of drug use have a robust methodology, although they are subject to typical social desirability biases that may lead to an underestimation of prevalence. The age of the data (from 2007/08 in New Zealand and 2010 in Australia) may also mean that it does not reflect contemporary consumption practices. Small-scale qualitative methods are appropriate to examining the practices, contexts, and understandings of a beverage such as kava as a drug that is most commonly consumed among an ethnic minority in Australia and New Zealand.

It is important to note that most of the qualitative studies were conducted with Tongans based in Auckland, New Zealand. This may bias the findings in respect of the contexts and practices of consumption, as well as understandings of kava beverage, as they reflect that common to the Tongan subpopulation in Auckland. Practices, contexts, and understandings of kava consumption vary across the Pacific, and so are likely to vary across Pasifika communities within Australia and New Zealand as well. However, this focus is appropriate to Port's (2014) finding that kava consumption is most prevalent among Tongans (compared to other Pacific groups) in South Auckland, New Zealand. It is not clear how generalisable this would be to other Pasifika subpopulations, or to Tongans outside of Auckland.

5 Conclusion

This rapid systematic evidence summary examined literature containing data from 2000 to 2022 on consumer demographics, practices, contexts, and understandings of kava beverage in Australia and New Zealand. The evidence summary is based on 19 studies from Australia and New Zealand. As noted above, the majority of the studies were conducted among the Tongan population of Auckland, New Zealand, and many used small samples and qualitative methods. This is appropriate to the subject under consideration, as kava is a beverage most commonly consumed among Tongans in New Zealand.

Research Question 1: What population subgroups in Australia and New Zealand typically consume kava beverage?

The findings for Research Question 1 were based on 12 studies, consisting of two nationally representative studies of the Australian and New Zealand populations, five quantitative studies of subpopulations, and five qualitative studies.

In the most recent data available (2007-08) in New Zealand, 6.3% (5.5-7.0 95% CI) of adults aged 16-64 years had ever used kava in their lifetime. Kava consumption is most prevalent

among men (9.2% vs 4.5%) and Pasifikans (11.7% vs 6.7% European and 5.6% Māori), although the number of European kava consumers was far higher than the number of Pasifika consumers. A separate study found that, among the different Pasifika communities of Auckland, kava use was most prevalent among Tongans (up to 57.4%).

In New Zealand, most kava consumers (81.5%) had first consumed kava when they were aged 18 years or older. However, a significant minority (18.5%) had first consumed kava when they were aged 17 years or younger, and 6.5% at age 14 years or younger.

In Australia, where kava has been strictly regulated since 1997, the most recent data available (from 2010) found that very few people (1.9%) over the age of 12 years reported having had the opportunity to use kava, but it is more likely among men (2.5%) than women (1.4%). In a separate survey, similarly few (1.4%) Aboriginal and Torres Strait Islander people report having consumed kava in the past year. However, surveys conducted in two remote Aboriginal communities in Eastern Arnhem Land, where kava was introduced in the 1980s, found that there was a large proportion of kava consumers in these communities, with up to 71% of men and 46% of women reporting that they were using kava in 2002.

Research Question 2: How is kava beverage typically consumed, and in what contexts? Is kava beverage commonly mixed with alcohol at the time of consumption?

The findings for Research Question 2 were based on eleven studies; nine qualitative and two quantitative studies, of which six covered specifically Tongan subpopulations.

Kava is typically prepared according to historically safe practices and consumed within social contexts in accordance with formal and informal cultural practices associated with Pasifika communities. There is some evidence that these cultural protocols may also be adopted by non-Pasifika participants, and continue in non-Pasifika contexts.

Three small-scale studies of Tongan kava consumers found that, in this subpopulation, kava is often consumed in prolonged drinking sessions on the weekend, during which twenty or more cups of kava are drunk. These sessions may extend for up to 12 or 13 hours, during which fifty or more cups of kava may be drunk.

Kava is not typically mixed with alcohol within the same cup or bowl. However, there is evidence that it is alternated with or followed by alcohol, with the practice more common in commercial kava bars and among younger consumers.

Research Question 3: What do Australians and New Zealanders understand about kava beverage? Do they know that kava can adversely affect health?

The findings for Research Question 3 were based on nine studies; seven qualitative studies and two quantitative studies, of which six focused specifically on Tongan subpopulations.

Kava is an integral part of cultural identity for some Pasifika communities (e.g. Tongan communities) in Australia and New Zealand, and can also play a role in identity for both Māori and Pākehā consumers. Kava gatherings are an intergenerational male practice in Tongan communities where cultural values, beliefs, and knowledge are shared.

Kava is often regarded as a preferable alternative to alcohol, as it is believed to be physiologically safer, promotes more socially acceptable behaviour, and is consumed in a familiar social environment with the benefits of cultural companionship and discussion. Parents may, as a result, encourage their children to consume kava rather than alcohol.

Kava is believed to have health benefits in the areas of stress relief, sleep, and the prevention or improvement of illness or pain. However, it also has acknowledged negative effects on health; primarily headaches, sleepiness/lethargy, and reduced sex drive, with women relatives of kava users acknowledging a broader range of potential negative health effects.

Kava is considered to be relatively safe to consume before driving, compared to other drugs, by both consumers and non-consumers. Consumers who drive within three hours of consuming kava consider kava to have less of an impairment on driving than consumers who do not drive within three hours, and non-consumers.

Kava is acknowledged to have potential negative social effects associated with the physiological effects of tiredness and lethargy, which can reduce heavy users' involvements in familial, community, and economic life.

6 Glossary

<i>Faikava</i>	“To prepare and drink kava together with due form or ceremony” (Churchward, 1959, p.21, cited in Fehoko 2014, p.3). Used in this evidence summary to refer to private kava gatherings within people’s homes, or convened virtually.
<i>Kalapu kava</i>	Commercial kava establishments, where kava is purchased by the cup. Sometimes referred to kava clubs or kava bars.
<i>Māori</i>	“[T]hose who <i>whakapapa</i> (ancestrally connect) to the indigenous people of Aotearoa [New Zealand]” (Aporosa 2015, p.58).
<i>Pākehā</i>	New Zealand people of European ancestry
<i>Pasifika(n)</i>	“[A] term often applied in [Aotearoa/New Zealand] and Australia to those of Pacific Island ancestry as a collective... who identify first and foremost with their ancestral homeland in the Pacific” (Aporosa 2015, p.59).
<i>Talanoa</i>	“A personal encounter where people story their issues, their realities and aspirations” (Vaioleti, 2006).

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Appendix 1 – Literature Search Methods

Online Database Searches

Six online databases were searched via EBSCO Discovery (available through the FSANZ library):

- Science Direct
- Food Science Source
- FSTA - Food Science and Technology Abstracts
- MEDLINE with Full Text
- SocINDEX with Full Text
- EconLit with Full Text

Online database searches were undertaken using simple Boolean search term combinations. Searches were undertaken in May 2022. Searches were limited to peer-reviewed papers available in English and published from 2000 to 2022. 2000 was adopted as the lower limit of the search as it was the date that the kava standard was adopted into the joint Australian New Zealand Food Standards Code.

*Search string*¹³:

AB kava AND (consum* OR people* OR men OR women OR child* OR user OR drinker OR White OR Maori OR Māori OR Pasifik* OR Pakeha OR Pākehā OR Aborigin* OR indig* Europ*) AND (understand* OR know* OR aware* OR comprehen* OR concern* OR behav* OR consum* OR purchas* OR deci* OR choice* OR intent* OR judg* OR perc* OR seek* OR tradition* OR nontradition* OR non-tradition*) NOT (toxic* OR physiolog* OR hepatotoxic* OR cytotoxic* OR anxiolytic)

Inclusion and Exclusion Criteria

All decisions regarding inclusion/exclusion criteria were made prior to the literature search commencing.

Inclusion Criteria

The review included studies that examined:

- Population subgroups that typically consume kava beverage in Australia and/or New Zealand;
- Contemporary methods of preparing and consuming kava beverage, including whether it is commonly mixed with alcohol, in Australia and/or New Zealand;
- Contemporary contexts in which kava beverage is consumed in Australia and/or New Zealand;

³ 'AB' indicates that the terms must be in the abstract of the study.

- Consumers' understanding of kava beverage in Australia and/or New Zealand;
- Consumers' perception of risks and/or understanding of safe consumption practices associated with kava beverage in Australia and/or New Zealand.

No restrictions were placed with respect to study type or sample size.

Exclusion Criteria

The review excluded studies that examined:

- Kava as a food;
- Kava extracts as therapeutic products;
- Shelf-stable packaged kava beverages;
- Mixing of kava beverages with other substances, excluding alcohol, post-purchasing by consumers;
- Contexts, practices and understandings of kava beverage consumption in the Pacific beyond Australia and New Zealand;
- Kava consumption practices in Australia and New Zealand prior to 2000;
- Clinical studies examining the physiological, neurological, and/or toxicological effect/s of kava or any of its subcomponents, such as kavalactones.
- Chemical analysis of kava, its kavalactones, variety, or chemotype.

Other Sources/Grey Literature

To ensure the literature review incorporated a suitably broad range of references, further literature was sought by hand-searching:

- the reference lists of all included studies.
- studies that have cited any of the included studies (using Google Scholar).

Research Review Process

The search process initially identified 241 potentially relevant documents; 113 after EBSCO removed duplicates. References were exported to EPPI-Reviewer, a web-based software program for managing and analysing data for literature reviews. Duplicates were then removed using EPPI-Reviewer duplicate management tools; references allocated a similarity score of at least 0.95 by the software were automatically excluded. Each remaining potential duplicate identified by the software was manually screened and excluded by one officer.

Following removal of duplicates, out of scope papers were removed based on title and/or abstract. Finally, documents identified as out of scope on the basis of full-text review were excluded. This process resulted in 19 full-text documents being included. The screening process was conducted by one officer. Data extraction was carried out by one officer.

Figure A1 shows the number of documents retrieved at various stages of the review process. The information depicted in Figure A1 is based on the Preferred Reporting Items for Systematic reviews and Meta-Analyses (PRISMA; Moher et al., 2010).

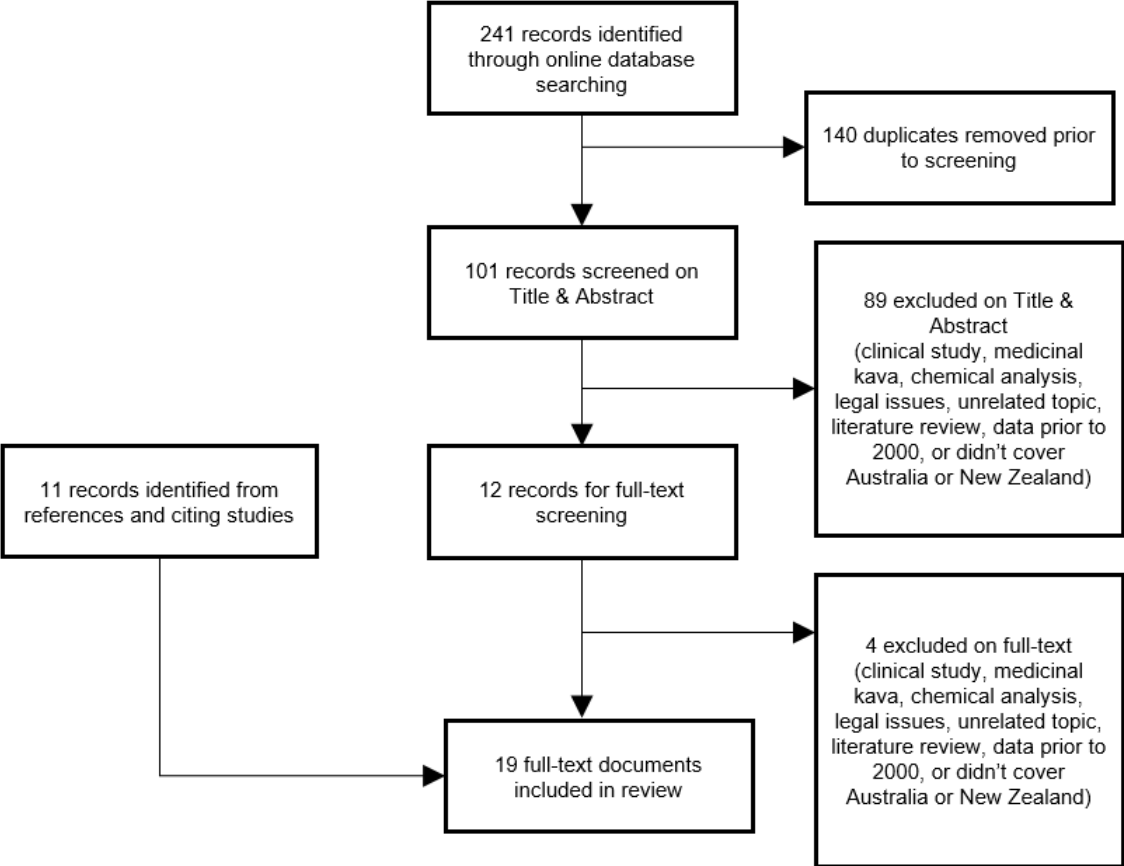


Figure A1: Number of documents retrieved at various stages of the review process.