

Binge drinking and alcohol-related behaviours amongst Pacific youth: a national survey of secondary school students

Tasileta Teevale, Elizabeth Robinson, Shavonne Duffy, Jennifer Utter, Vili Nosa, Terryann Clark, Janie Sheridan, Shanthi Ameratunga

Abstract

Aim Previous studies show Pacific youth polarised as either non/occasional drinkers or heavy binge drinkers. The aim of this study is to describe the demographic, cultural, home & neighbourhood environments of the two types of Pacific drinkers (non-binge drinkers and binge drinkers) to develop risk and protective profiles for alcohol related behaviours.

Methods Data were collected as part of Youth'07, a nationally representative survey of the health and well-being of New Zealand youth. 1,190 Pacific students who identified any of their ethnicities as Samoan, Cook Islands, Tongan, Niue, Tokelauan, Fijian, or Other Pacific Peoples were included.

Results Data was available on 974 students of whom 31.6% were binge drinkers. Students who were younger and had parental Pacific language use at home were less likely to binge drink than other students. Parents' knowledge of young people's activities after school and at night time was also protective of binge drinking, while participating in sports teams or a sports club was associated with increased risk of binge drinking.

Conclusion This study indicates the transnational nature of Pacific communities in New Zealand who bring and maintain traditional cultural practices which seem health protective. While participation in sports activities may have health benefits, our findings indicate the need for a more proactive approach on the part of policymakers and the sporting sector to address the associated risk of binge drinking. Alcohol interventions that de-normalise alcohol overconsumption are warranted for young Pacific New Zealanders.

Pacific children and youth are a priority population in New Zealand's *Child Health Strategy* because they tend to experience poorer health outcomes.¹ Alcohol consumption has been identified by the latest Ministry of Health's Pacific youth health report as a high risk behaviour,² particularly because it is associated with other risky behaviours such as injury and unprotected sex.^{3,4}

In general, youth are considered to be at increased risk of harm from alcohol use than older adults as they bear the greatest risk of injury related to alcohol use, have an increased risk of alcohol dependence, and a lower tolerance to alcohol than older adults.

Much of the physical and social harm associated with alcohol results from heavier drinking occasions or binge drinking.^{5,6} Binge drinking increases the risk of acute

health effects—in particular unintentional injury, motor vehicle accidents, violence, criminality, self-harm and increased risk of chronic diseases such as liver cirrhosis.^{7–10}

Pacific people experience a disproportionate burden of alcohol-related harm compared to the general population.¹¹ Alcohol is more frequently consumed by Pacific peoples in New Zealand than in their Island nations, possibly due to it being more readily available and having increased disposable income.^{12,13}

Previous surveys of Pacific peoples' alcohol use indicate that Pacific peoples tend to be polarised as either non/occasional drinkers or heavy drinkers.^{14–17} As a whole, fewer Pacific New Zealanders drink alcohol compared to the general population, but those who do drink alcohol tend to drink larger quantities of alcohol on a typical occasion.

Pacific youth

The first national survey of the health and wellbeing of New Zealand youth in 2000, reported that Pacific youth drinking habits were similar to adults, with high proportions of non-drinkers, but also high numbers of youth who were binge drinkers.¹⁸ Pacific youth were less likely to report drinking at home and with their families than New Zealand European youth.

The usual drinking places were reported as outdoor places including parks, malls, streets, parties or bars/nightclubs.¹⁹ This indicates that for Pacific youth, drinking often takes place away from family surroundings and family monitoring. Binge drinking behaviours were also associated with being male, attendance at higher SES schools and being NZ-born.²⁰ A qualitative investigation into factors that support abstinence or responsible drinking amongst Pacific youth living in New Zealand, found parental and church/religious influences, a previous negative experience with alcohol, and peer group influences supported abstinence or responsible drinking.²¹

Variance between Pacific communities

New Zealand's Pacific populations are diverse. They are complex and heterogeneous with distinct cultural, language and lifestyle differences both between Island groups and within each ethnic group category (for example, NZ-born Samoans and Island-born Samoans).²²

There are also significant differences in alcohol use and views about alcohol amongst these diverse groups.¹² Available data suggests Cooks Island Māori and Niuean groups are more likely to consume alcohol compared to Samoan and Tongan groups,¹⁹ with this trend also observed for Pacific youth.²⁰

The objective of this paper is to further explore the prevalence of binge drinking among Pacific students by age, gender, NZDep, specific Pacific ethnicities; describe the context around binge drinking for Pacific students and determine the cultural, spiritual, home and neighbourhood environment characteristics of Pacific binge and non-binge drinkers.

Method

Survey background—Data for the current study were collected as part of Youth'07, a nationally representative sample of the health and wellbeing of secondary school students in New Zealand. First,

115 schools were randomly selected and 96 agreed to participate in the survey, representing an 84% response rate for schools. The participating schools reflected the general characteristics of secondary schools in New Zealand.²³ From the participating schools, students (n=12,355) were randomly selected from the school roll and invited to participate. Of these, a total of 9,107 students formed the final Youth'07 sample, representing a 74% response rate.

On the day of the survey, students were asked to come to a designated room. Upon arrival students were given an anonymous login code to access the survey. The survey included a 622 item multimedia questionnaire administered on a Nokia internet tablet and identification of their census meshblock number (based on their residential address) to determine the extent of their neighbourhood deprivation. The multimedia nature of the questionnaire meant that all students could read each question and fixed-response options themselves, while listening to the questions and responses being read aloud through headphones.

The University of Auckland Human Subject Ethics Committee granted ethical approval for the study. School principals consented to participation in the survey on behalf of the Boards of Trustees. Students and their parents were provided with information sheets about the survey. Students consented themselves to participate in the study on the day of the survey. A more detailed description of the research methodology can be obtained elsewhere.²³

Secondary analysis of the data provided by Pacific students (13% of the total sample) was undertaken. Ethnicity was recorded using New Zealand 2006 Census ethnicity question whereby participants select all of the ethnic groups that they identified with from one of 5 major ethnic groups using Statistics New Zealand Ethnic prioritisation method.²⁴ All students who self-identified any of their ethnic groups as Samoan, Cook Islands, Tongan, Niue, Tokelauan, Fijian, or Other Pacific Peoples are included in these analyses (n=1190). Of the Pacific students in the sample, 53.7% were female and 67.7% were 15 years or younger. Intra-Pacific ethnicity analyses required ranking multi-ethnic students in the following order: Niuean, Tongan, Cook-Island Māori, and Samoan.

Outcome measures—*Binge drinking* was measured by a series of branching questions. First, students were asked if they had ever drunk alcohol (not counting a few sips) and continued to drink alcohol by asking the *frequency of alcohol consumption in the last 4 weeks*. If they responded yes, they were asked “*In the past 4 weeks, how many times did you have 5 or more alcoholic drinks in one session within 4 hours?*” with response categories “none at all”, “once in the past 4 weeks”, “two or three times in the past 4 weeks”, “every week”, or “several times a week”. Those who reported drinking 5 or more alcohol drinks in one session at least once in the last 4 weeks were classed as binge drinkers. Non-binge drinkers were students who did not currently drink (n=506) or who had not drunk 5 or more drinks in a session in the last 4 weeks (n=157).

Context around drinking—Students were asked to indicate the *source of their alcohol when drinking; types of alcohol more commonly consumed; people that they would normally drink with; reasons for drinking alcohol; to report whether they experienced any alcohol related problems and whether they were worried about their alcohol consumption*.

Demography—Age, gender and ethnicity were determined by self-report. *Small area deprivation* (NZDep) was determined using the 2006 New Zealand Deprivation Index.²⁵ For descriptive purposes, the NZDep Index deciles were categorized into three groups reflecting low deprivation (1-3), middle levels of deprivation (4-7), and high deprivation (8-10). Three items were used as proxy measures of household deprivation, including; the *number of times moved home* in the last 12 months; perceiving parents or caregivers worrying about having *enough money to buy food and places other than bedrooms used as bedrooms* as a proxy measure of household overcrowding.

Pacific cCultural factors—Five items were chosen to assess Pacific cultural factors, three were related to *use of a Pacific language* (e.g., Samoan, Tongan, Fijian, Niuean, Cook Islands Māori) *by a parent* (or caregiver) and *by the student*. Students were also asked whether they could *understand their respective Pacific spoken language*. A cultural identity item asked students how *important it was to be recognized as Niuean, or Tongan, or Cook Island or Samoan*. A cultural maintenance item asked students to reflect about their *level of comfort at Niuean, or Tongan, or Cook Island or Samoan social events or gatherings*.

Spiritual factors—Three items were chosen to assess spiritual factors; *attending a place of worship, the importance of spiritual beliefs or religious faith* and a question that asked specifically *how much*

spiritual faith or beliefs affect daily life choices including activities like sex, taking drugs or drinking alcohol.

Home and environment factors—Home environment items used in analyses were the *number of parents (or caregivers) present in the home, and parents' knowledge of the student's friends, whereabouts after school, and whereabouts at night time.* Items used to assess environment factors included *the number of secondary schools a student may have attended since entry into high school (year 9), students feeling safe in their neighbourhood, and extra-curricular engagement via taking part in a sports teams or clubs outside of school time.*

Analysis—Frequencies and 95% confidence intervals were used to describe the characteristics of students who reported binge drinking and the context around binge drinking. Chi square tests were used to test for differences between those who reported binge drinking and those who did not. Chi-square tests were used to investigate the univariate associations between binge drinking and hypothesised demographic, cultural, home and environment factors. Using factors that reached a significance level of 0.1, a logistic regression model was used to investigate the associations between binge drinking and demographic, cultural, home and environment factors, after controlling for other variables in the model. All analyses were conducted using the survey procedures in the SAS software v9.2 (Cary, NC) to account for the weighted and clustered design of the data.

Results

Information on binge drinking was available for 974 (81.8%) students (209 did not answer the alcohol section and 7 said they had drunk alcohol but gave no further information). Of these 974 students, 31.6% ($n=308$) reported binge drinking in the last 4 weeks. There were no gender differences in binge drinking behaviours, but there was a significant association with age, with almost half (47.1%) of all older students (17 years) binge drinking compared to only 15.2% of younger students (13 years) (see Table 1).

Table 1. The association of binge drinking with key demographic variables amongst Pacific students

Variables	Binge drinkers		Non-binge drinkers	
	n	% (95% CI)	n	% (95% CI)
Gender				
Males	154	30.6 (24.8–36.3)	351	69.4 (63.7–75.2)
Females	154	33.0 (28.6–37.4)	315	67.0 (62.6–71.4)
Age				
13	37	15.2 (9.3–21.1)	207	84.8 (78.9–90.7)
14	61	29.5 (23.6–35.4)	148	70.5 (64.6–76.4)
15	68	34.0 (25.6–42.5)	132	66.0 (57.5–74.4)
16	79	42.2 (35.0–49.4)	108	57.8 (50.6–65.0)
17	63	47.1 (39.5–54.6)	71	52.9 (45.4–60.5)
NZDep				
low	31	34.5 (24.2–44.7)	60	65.5 (55.3–75.8)
medium	93	37.2 (30.5–43.8)	158	62.8 (56.2–69.5)
high	177	28.7 (24.6–32.9)	440	71.3 (67.1–75.4)

NZDep=New Zealand [socioeconomic] Deprivation Index.

Students living in the most deprived neighbourhoods were less likely to binge drink than those from the least and medium deprived areas. Assigning to a single specific Pacific ethnicity resulted in 10.4% Niuean; 18.5% Tongan; 20.4% Cook-Island

Māori; 35% Samoan and 15.6% Other Pacific distinct ethnic groups. By specific Pacific ethnicity, Cook Island students appeared to have a higher prevalence of binge drinking (38.5%), compared to Niuean (31.7%), Tongan (29.9%) and Samoan (29.9%) students (data not shown).

Context around drinking—Students who were binge drinkers were asked to indicate the *source of their alcohol when drinking 5 or more alcoholic drinks in one session*. Most students who reported binge drinking got their alcohol from “friends” (71%); got “someone else to buy it” (43%) or got it from their “brothers/sisters” (34%).

Approximately a quarter of students reported getting it from “another adult they know” (29%); their “parents” (26%) or “buying it themselves” (22%). Fewer students sourced alcohol by “taking it from home” (17%) or by stealing it (11%). With regards to *types of alcohol they usually drink* a high proportion of Pacific students (42%) preferred ready-made alcoholic drinks (or RTDs ready-to drink), followed by beer (26%); spirits (17%); other (10%) and preferred wine the least (5%).

Students reported they normally drank alcohol with “friends” (88%), and then “family” (52%), “other people” (40%) and 11% “by myself”. Having fun and socialising with their friends were the most common reasons for consuming alcohol. Eighty-one percent of students drank alcohol to have fun (81%) and to enjoy parties (60%).

Almost half of students (47%) reported they consumed alcohol “to get drunk” and “to relax” (45%). Over a third (36%) drunk alcohol because they were “bored” or “to forget about things” (35%). Nearly a quarter of students drank “because my friends do” (23%) and “to make me feel more confident” (23%).

Of concern, almost one in four students experienced alcohol-related harm. The most commonly reported alcohol-related problems for Pacific students were: doing things that could get them into trouble (29%), having unsafe sex (28%), having friends and family talk with them about cutting down on their alcohol use (26%), and getting an injury as a result of their alcohol use (25%).

One in five students (20%) reported that their performance at school or work was affected by alcohol use and that they had caused an injury to someone else (19%). High risk was also reported with 14% reported having unwanted sex, 8% were injured requiring medical treatment and 5% experienced a car crash through alcohol use. However, the majority of students reported not being *worried about their alcohol consumption* (59%).

The relationships between binge drinking and socioeconomic, cultural, spiritual and environment factors are described in Table 2. Among the socioeconomic variables, students who lived in homes where other rooms were used as bedrooms were more likely to binge drink than students who do not live in crowded homes. Most of the cultural and all of the spirituality/religious variables appeared to be inversely associated with binge drinking, such that students with strong Pacific cultural and spiritual/religious competencies were less likely to binge drink. From the seven variables used to assess home and environment factors, only parents’ knowledge of students’ whereabouts after-school and at night time was significantly associated with less binge drinking.

Table 2. Binge drinking by selected SES, cultural, spiritual/religious, home and environment variables amongst Pacific students

Variables	Binge-drinkers (n=308)		Non-binge drinkers (n=666)		P-value
	n	% (CI)	n	% (CI)	
Socioeconomic status (SES)					
<i>Times moved home in the last 12 months</i>					
None	236	31.0 (26.8–35.1)	530	69.0 (64.9–73.2)	0.349
Once or more	71	34.8 (26.4–43.1)	133	65.2 (56.9–73.6)	
<i>Parents' worried about having enough money to buy food</i>					
Never	127	32.7 (27.8–37.5)	264	67.3 (62.5–72.2)	0.881
Occasionally/sometimes	113	31.1 (25.5–36.6)	252	68.9 (63.4–74.5)	
Often/All the time	48	31.6 (23.3–39.9)	104	68.4 (60.1–76.7)	
<i>Other rooms used as bedrooms</i>					
No	181	29.5 (25.0–34.0)	436	70.5 (66.0–75.0)	0.0189
Yes	125	35.8 (30.3–41.3)	224	64.2 (58.7–69.7)	
Cultural factors					
<i>Parents speak a Pacific language</i>					
No	131	38.5 (31.9–45.2)	212	61.5 (54.8–68.1)	0.001
Yes	177	28.1 (23.9–32.2)	454	71.9 (67.8–76.1)	
<i>How well Students can speak a Pacific language</i>					
Not very well/no more than few words	141	39.0 (33.5–44.5)	222	61.0 (55.5–66.5)	<.0001
Very well/Well/Fairly well	114	24.8 (20.8–28.8)	345	75.2 (71.2–79.2)	
<i>How well Students can understand a spoken Pacific language</i>					
Not very well/no more than few words	109	39.7 (33.6–45.7)	167	60.3 (54.3–66.4)	<.0001
Very well/Well/Fairly well	149	27.0 (23.3–30.8)	402	73.0 (69.2–76.7)	
<i>Importance of being recognized as Pacific</i>					
Not important/Not at all important	66	44.6 (35.7–53.4)	83	55.4 (46.6–64.3)	<.0001
Very important/Important/Somewhat important	194	28.6 (24.7–32.6)	484	71.4 (67.4–75.3)	
<i>Comfortable in Pacific events or gatherings</i>					
Very uncomfortable/Uncomfortable	71	32.5 (24.8–40.2)	149	67.5 (59.8–75.2)	0.0564
Very comfortable/Comfortable/Slightly uncomfortable	190	31.5 (26.8–36.2)	413	68.5 (63.8–73.2)	
Spiritual/religious factors					
<i>Attend a place of worship at least once a week</i>					
No	114	41.3 (35.2–47.3)	163	58.7 (52.7–64.8)	<.0001
Yes	88	22.9 (18.8–27.1)	297	77.1 (72.9–81.2)	
<i>Importance of spiritual beliefs/religious faith</i>					
Not important	115	40.4 (35.4–45.3)	171	59.6 (54.7–64.6)	<.0001
Very important/Somewhat important	82	22.4 (18.0–26.7)	285	77.6 (73.3–82.0)	
<i>Importance of spiritual beliefs/religious faith in daily life activities</i>					
Not at all/A little	115	36.5 (30.1–42.8)	201	63.5 (57.2–69.9)	0.0002
A lot/Some	75	23.9 (20.0–27.8)	240	76.1 (72.2–80.0)	
Home and environment factors					
<i>Number of parental figures at home</i>					
1 parent	87	34.4 (26.5–42.4)	166	65.6 (57.6–73.5)	0.327
2 or more parents	221	30.8 (26.9–34.7)	500	69.2 (65.3–73.1)	
<i>Parents knowledge of student's friends</i>					
Not at all/A little/Doesn't apply	193	32.5 (27.7–37.4)	402	67.5 (62.6–72.3)	0.5468
A lot	111	30.6 (25.1–36.1)	254	69.4 (63.9–74.9)	
<i>Parents knowledge of student's whereabouts after-school</i>					
Not at all/A little/Doesn't apply	176	46.4 (40.0–52.8)	204	53.6 (47.2–60.0)	

Variables	Binge-drinkers (n=308)		Non-binge drinkers (n=666)		P-value
	n	% (CI)	n	% (CI)	
A lot	125	22.4 (19.1–25.7)	436	77.6 (74.3–80.9)	<.0001
<i>Parents knowledge of student's whereabouts at night</i>					
Not at all/A little/Doesn't apply	187	50.0 (44.0–56.0)	189	50.0 (44.0–56.0)	
A lot	113	21.4 (17.6–25.2)	416	78.6 (74.8–82.4)	<.0001
<i>Number of secondary schools attended</i>					
1 (current school)	280	31.7 (27.9–35.6)	605	68.3 (64.4–72.1)	
2 or more	28	32.3 (20.3–44.3)	59	67.7 (55.7–79.7)	0.9152
<i>Students feeling safe in their neighbourhoods</i>					
No, mostly no/Sometimes	68	30.4 (24.9–35.8)	157	69.6 (64.2–75.1)	
Yes, all the time/ Most of the time	220	31.4 (27.0–35.9)	483	68.6 (64.1–73.0)	0.6784
<i>Participation in a sports teams/clubs</i>					
No/ Less than once a week	132	28.7 (23.3–34.0)	329	71.3 (66.0–76.7)	
Yes/1-2/3-4 times a week	168	34.2 (29.4–39.0)	326	65.8 (61.0–70.6)	0.0674

Table 3. Logistic regression model examining the effect of selected demographics and cultural, home and environment factors on the risk of binge drinking alcohol among Pacific adolescents in New Zealand. (n=791)

Variables	OR	95% CI	P-value	
Gender (reference Male)				
Female	0.737	0.507	1.071	0.1094
Age (reference 17 years)				
13	0.184	0.092	0.368	<.0001
14	0.467	0.321	0.68	
15	0.493	0.259	0.94	
16	0.747	0.458	1.219	
SES				
Alternatives used as bedrooms vs no alternative rooms used	1.302	0.952	1.78	0.0991
Low vs high deprivation	1.055	0.453	2.456	0.4687
Medium vs high deprivation	1.331	0.842	2.105	
Cultural factors				
Parents use of Pacific language vs not being able to speak language	0.497	0.305	0.808	0.0049
Student's use of a Pacific language vs not being able to speak language	0.784	0.561	1.095	0.1535
Importance of being recognised as Niuean or Cook Islander or Tongan or Samoan vs not important	0.706	0.437	1.141	0.1547
Home & environment factors				
Parents knowing student whereabouts afterschool vs not knowing	0.505	0.345	0.74	0.0005
Parents knowing student whereabouts at night vs not knowing	0.451	0.313	0.649	<.0001
Participating in sports teams or clubs outside of school time vs not participating	1.696	1.219	2.361	0.0017

Variables where the association with binge drinking reached a significance level of 0.1 were examined further in a regression model (Table 3). Due to missing data from

the spirituality variables and the potential biases that may occur, the spirituality variables were also excluded from the final model to retain greater sample number for analyses.

Protective factors associated with binge drinking were age (younger less likely to binge drink), cultural factors (parent's use of a Pacific language), and home factors pertaining to parental knowledge of the students whereabouts after-school and at night time. Participating in a sports team or sports club outside of school was found to be associated with increased risk of binge drinking after controlling for other variables in the model.

A sensitivity analysis with reduced datasets with and without spirituality showed little change in the estimates of the odd ratios for the other variables in the model although as expected the significance levels were reduced. In a model including the spiritual variables, weekly church attendance remained a protective factor after controlling for other variables but beliefs did not (Results not shown).

Discussion

The aim of the study was to profile the demographic and contextual characteristics of the Pacific students who do, and do not consume alcohol in a binge or hazardous manner.

Protective factors associated with binge drinking were related to cultural and spiritual/religious factors and parental knowledge of their children's activities. This study supports others which have found traditional Pacific cultural maintenance protects against harmful alcohol consumption.^{12 21} Culture, spirituality and religiosity are intertwined elements of traditional Pacific cultures.

Religious doctrine forbids the use of drugs, alcohol included, therefore it would be expected that migrant Pacific communities without the experience of alcohol will continue to view alcohol in this manner.^{13 26-28} That these cultural practices and values are maintained through language and religion which are passed onto Pacific young people, supports New Zealand-based Pacific communities' ambitions for cultural democracy to buffer against substance use and its related health risks.

An expected finding for the association of parental monitoring in protecting youth from engaging in binge drinking and substance abuse more generally adds to the sizeable evidence already in the field.²⁹⁻³³ An unexpected result was binge drinking occurring more frequently among Pacific students from relatively well-off neighbourhoods. This is contrary to national data which indicated that living in neighbourhoods with high deprivation was associated with increased likelihood of binge drinking.^{16 34} This result could reflect the transitional nature of Pacific communities in New Zealand, with the more affluent and middle-class adopting mainstream use of alcohol.¹⁷ National surveys have not analysed Pacific alcohol use by socio-economic position, which future research should address.

Participation in sports teams or sports clubs outside of school was found to be associated with greater risk of binge drinking. A recent international review on alcohol and sports participation found a positive association³⁵ and New Zealand data confirms this trend exists for the general population.^{36 37} This study contributes to the literature by confirming the association of binge drinking and sports participation for

Pacific youth in New Zealand. Although there is a growing body of research detailing the drinking behaviour of sportspeople^{36,37}, little is known about the causes of hazardous drinking in this group and even less is known by Pacific participants, which is an area for future research to consider.

Due to small sample sizes, pan-Pacific analyses were used in this study. Considering the emerging health patterns between East Pacific (Cook Island and Niuean) and West Pacific (Samoan and Tongan) island groups³⁸⁻⁴⁰, future research should consider the principle of equal explanatory power⁴¹ and sampling equally by specific Pacific groups. This analysis is preferable as distinct Pacific groups generally commune separately in the New Zealand environment. This data would be particularly useful for targeting community interventions for Pacific populations most at risk of alcohol harm (e.g., Cook Islands and Niuean populations).

This study contributes important information for developing alcohol-relevant interventions targeting young Pacific New Zealanders. The study explored the factors that also supported non-binge drinking behaviours and found that modifiable family and community factors were important.

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Author information: Tasileta Teevale, Postdoctoral Research Fellow, Pacific Health; Elizabeth Robinson, Senior Research Fellow, Epidemiology & Biostatistics; Shavonne Duffy, HRC Pacific Summer Student, Pacific Health; Jennifer Utter, Senior Lecturer, Epidemiology & Biostatistics; Vili Nosa, Senior Lecturer, Pacific Health; Shanthi Ameratunga, Professor, Epidemiology & Biostatistics; Terryann Clark, Senior Lecturer, School of Nursing; Janie Sheridan, Research Director, School of Pharmacy; all at the Faculty of Medical & Health Sciences, University of Auckland

Correspondence: Dr Tasileta Teevale, Postdoctoral Research Fellow; Pacific Health, School of Population Health, University of Auckland, Private Bag 92019, Auckland 1142, New Zealand. Email t.teevale@auckland.ac.nz

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