

Mental Health and Well-Being of First Year Pacific Students at a New Zealand University

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Abstract

The mental health and well-being of tertiary students is a growing area of global concern. This prospective cohort study highlights the mental health and well-being of 144 Pacific students (response rate 78%) in their first year of tertiary studies. They are one of the fastest growing ethnic groups in New Zealand. Participants completed two online surveys in 2019, on their socio-demography, mental health and well-being, and access to support services. Most participants (80% Survey 1, 74% Survey 2) well-being scores indicated a positive quality of life, and a sense of belonging to the University, where they were living (accommodation), and the wider local community. In contrast, at least half (55%) reported poor mental health comprising moderate to severe symptoms of psychological distress, anxiety and/or depression, which was significantly and negatively associated with well-being. Nearly one fifth reported all three forms of poor mental health. Current suicidal or self-harm thoughts were reported by 26% of the cohort; the majority also reported concurrent poor mental health. Actual self-harm was reported by 7%, who also met criteria for concurrent poor mental health. Overall, only one third with poor mental health sought help from professional support services on campus. Good mental health was associated with low current financial stress, a sense of belonging to various groups, and self-identifying as having sole-Pacific ethnicity (one or more Pacific ethnicities). These findings can inform higher education institutions and government policies to improve Pacific tertiary students' mental health and well-being outcomes in New Zealand.

Keywords

Pacific Students, Higher Education, Well-Being, Mental Health, New Zealand

1. Introduction

Education is a major social determinant of individual and societal prosperity and is linked to mental health and well-being (Patton et al., 2016). The increasing number of tertiary students with poor mental health is a growing global concern. The World Health Organisation's (WHO) World Mental Health Surveys estimated that one-fifth of university students aged 18 - 22 met the criteria for a mental health disorder, yet only 16.4% of students meeting these criteria received healthcare treatment in the past year (Auerbach et al., 2016). Other university-specific longitudinal studies demonstrated even higher figures for clinically significant mental health symptoms, including depression (28%) and anxiety (33%), which were associated with significant impairment in their first year of study (Duffy et al., 2020). Many students present with pre-matriculation onsets (Auerbach et al., 2016), and the stressors of higher education and the age at which study commences pose additional risk factors for some mental health disorders (Kessler et al., 2007; Pedrelli et al., 2015). The current COVID-19 pandemic is likely to be an additional risk factor for young people and tertiary students (James, 2020; Young Minds, 2020). Further intertwined, is the increasing research interest on the prevalence of poor mental health in ethnic minority groups (Satcher, 2001).

The literature on New Zealand's tertiary student mental health and well-being is limited, yet the youth suicide rate is among the highest in the Organisation for Economic Co-operation and Development (OECD, 2019). In 2018, a New Zealand Union of Students' Association report identified 56% of all tertiary students surveyed had considered dropping out of their university studies (Khadij, 2018). Mental illness and feeling overwhelmed were the two most reported reasons. More than half of the tertiary students surveyed with suicidal and self-harm thoughts, had not sought health professional services for these issues (Khadij, 2018). In 2020, a COVID-19 tertiary student experience survey found that 93% of Pacific students were more anxious about the future compared to 80% of Pākehā (NZ European) (James, 2020).

Pacific families migrate to New Zealand for better employment and educational opportunities (Leaupepe & Sauni, 2014; Wright & Hornblow, 2008). However, Pacific peoples are disproportionately represented in poor educational outcomes (Ministry of Education, 2017), have higher unemployment, and continue to face the consequences of long-standing socio-economic and health inequities (Ministry of Health, 2020). Psychological distress and suicide mortality are significantly higher in Pacific youth than non-Pacific and non-Māori, while social and cultural connectedness are recognised as important protective factors for mental well-being (Ataera-Minster & Trowland, 2018; Tiatia-Seath et al., 2017).

Pacific Peoples is one of the fastest growing ethnic groups in New Zealand; currently 8% of the population and predicted to increase to 10% by 2038 (Statistics New Zealand-Tatauranga Aotearoa, n.d.). Nearly one fifth of the Pacific

population in New Zealand is aged between 15 and 24 years, compared to 13% for the general population; the age group within which many are either studying or considering studies in higher education. In 2019, nearly 10% of all domestic students (32,515) enrolled with a tertiary provider identified as Pacific (*Education Counts, 2020*). New Zealand's growing Pacific youth population, coupled with the country's poor youth mental health statistics and global tertiary student mental health concerns, highlights the need to better understand and respond to the mental health and well-being needs of this group of students.

Particularly lacking are longitudinal data of tertiary students using validated mental health measures. Previous studies of Pacific tertiary students' enablers and barriers to success, particularly the pivotal role that families play, are important for understanding Pacific students' context (see, *Anae et al., 2002; Teevale & Teu, 2018; Theodore et al., 2018b; Toumu'a, 2014*). The Pacific graduate outcomes study (*Theodore et al., 2018a*) reaffirms that higher education is crucial for reducing disparities and having appropriate support systems, and that cultural environments are important for achieving positive graduate outcomes.

This study, called "Ola Malohi", means well-being in the Tokelauan language, and uses a Pacific well-being framework, the Fonofale model of health (*Pulotu-Endemann, 2009*), to better understand Pacific students' mental health and well-being. This is a dynamic model that encapsulates the values and beliefs of Pacific cultures and is used to define the major determinants of health from a Pacific perspective. The Fonofale Model was developed by Fuimaono Pulotu-Endemann in response to the need for a model to assist the delivery of mental health services to Pacific people (*Pulotu-Endemann, 2009*). The model is presented in the shape of a Samoan house (fale) with each of the components contributing to overall health and well-being. The floor (foundation) represents the individual's family. The family provides safety and stability for the individual. The roof represents culture within which are value systems and beliefs providing protection and shelter. These two elements are supported by four pillars (pou) which represent the spiritual, physical, mental and other components of well-being. The other components include socio-economic status, gender and sexuality. The fale is surrounded by three elements which are the environment, time and context. The author believes all these components are important and contribute to a holistic approach to the health and well-being of a Pacific individual.

The present study aims to describe the mental health and well-being of Pacific students in their first year of tertiary study at the University of Otago, New Zealand. It is part of a larger three-year prospective cohort study of first-year Pacific students' mental health and well-being at this university. Having an understanding of the specific areas of need, whether or not they access services and the reasons for doing so including the types of support that are helpful can assist in a targeted approach for service provision to improve overall well-being. Findings may also assist the institution in examining its policies, to see if they are fit for purpose in meeting the needs of this minority population.

2. Methods

2.1. Participants and Recruitment

The eligible participants comprised 184 self-identified Pacific students confirmed as enrolled by April 2019 as a first-year student at the University of Otago. Of this group, 144 consented and formed the cohort for this study. The study was promoted during the University orientation period, and at different events throughout the first few weeks of the academic year. Pacific students assisted in the promotion and recruitment processes, based on successful strategies from previous studies (Booker et al., 2011; Sopoaga et al., 2011). Study participants were recruited for Survey 1 (S1) from April to May 2019 (N = 122 consented). The remaining eligible students who did not respond to Survey 1 were re-invited to join the study at Survey 2 (S2) from August to September 2019 (N = 22 consented). All participants completed online informed consent before accessing the online survey.

2.2. Measures

The online mental health and well-being surveys comprised standardised and validated mental health measures (Kessler et al., 2002; Kroenke et al., 2001; Spitzer et al., 2006; Topp et al., 2015; WHO, 1998) used in New Zealand population health surveys (e.g., 2006 NZ Mental Health Survey [Foliaki et al., 2006]).

The primary mental health and well-being measures were psychological distress (using the Kessler Psychological Distress scale [K10]), depression (Patient Health Questionnaire 9 scale [PHQ-9]), and anxiety (General Anxiety Disorder scale [GAD-7]) (Kessler et al., 2002; Kroenke et al., 2001; Spitzer et al., 2006). A score of 52 or more was used on the World Health Organisation Well-being Index (WHO-5) to define overall well-being (WHO, 1998, Williams et al., 2018).

Other validated measures included in this the survey were: substance use (Bush et al., 1998), overall and physical health; help-seeking behaviours, barriers to accessing help and attitudes to mental illness. Supplemental questions included from prior research were: questions about expectations, learning styles and experiences at university, and a sense of belonging and culture (Sopoaga, 2020, <https://owius.weebly.com/>).

2.3. Procedures

The online surveys were implemented using REDCap survey software (Harris et al., 2009). Eligible participants received an email invitation to access the URL link and Participant Information Sheet and provided online informed consent. The REDCap system automatically assigned each participant a unique study ID number. Throughout the data collection periods, participants received up to three automated email reminders, text messages and/or phone call reminders.

Three advisory groups (consisting of Pacific student leaders, Pacific community members, and a university technical advisory group) advised the research

team and guided the recruitment and survey development. Ethics approval was received from the Human Ethics Committee of the University of Otago-Health (18/150) and the University's Māori (indigenous population) research protocols were adhered to. Details of the study design and methods are described in the study protocol (Sopoaga et al., 2020).

2.4. Duty of Care Procedures

After completing each survey, participants received an automated thank you email including a list of support services. Those who met the study criteria for “current emotional distress” based on their responses to specific survey questions received a personalised email outlining relevant resources for support. Criteria for “current emotional distress” was set at a low threshold so that participants with mild psychological distress could receive support where needed. These included any thoughts or behaviours of self-harm or suicide in the past two weeks.

2.5. Data Analysis

Participants' and non-participants' demographic characteristics were compared as recorded in official university registrations on self-identified ethnicity, age, gender, and academic division to determine the representativeness of the study cohort to eligible Pacific students in 2019. We used descriptive statistics to summarise participants' socio-demographic, emotional and behavioural characteristics. Based on standardised cut-off threshold scores participants with “poor” mental health and or low well-being levels were identified and by demographic characteristics. Changes reported in mental health and well-being between S1 and S2 were analysed using descriptive statistics. At each survey, the overlap between the three “poor” mental health measures was illustrated using Venn diagrams, and potential correlates of “poor” mental health were examined using Chi Square Test. All analyses were conducted using STATA and SAS statistical software packages.

3. Results

3.1. Sample Characteristics

Figure 1 outlines the flow of 144 out of 184 eligible (78%) participants who gave informed consent and formed the cohort for this study. Of this group 122 (85%) completed their first online survey (S1). A total of 46 non-responders were re-invited later in the year to participate in S2 (a follow-up online survey for those who had completed S1). Of that group, 22 new participants consented to and completed S2 in addition to 99 who had already completed S1 (84% of 144). Of the cohort of 144 participants with mental health and well-being data at either S1 or S2, 71% also consented to the research team having access to their final academic grades.

2019 ACADEMIC YEAR

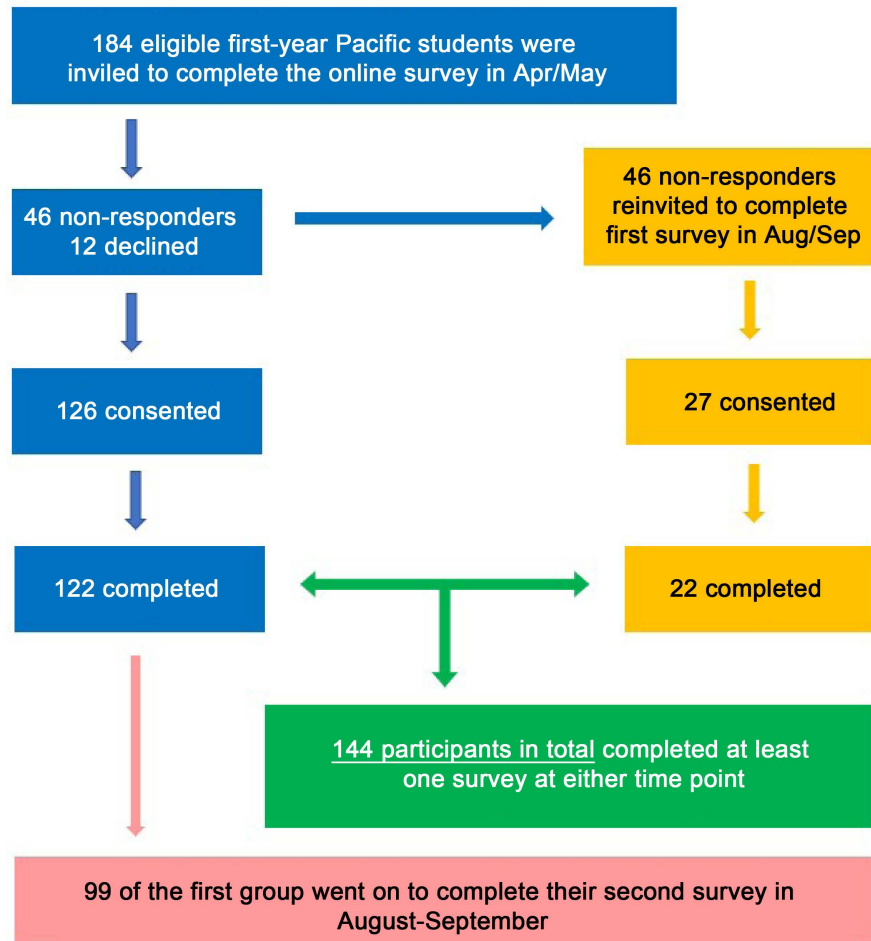


Figure 1. Enrolment and flow of participants in the study.

The background characteristics of the cohort are summarised in **Table 1**. Over 80% of participants were 17 to 18 years of age and 70% were born in New Zealand. Around two thirds were female and predominantly had Christian faith. A similar percentage (70%) lived in Residential Colleges. The ethnic composition of the group mirrored the largest Pacific ethnic groups in New Zealand: Samoan, Tongan, and Cook Island (Māori); many had multiple ethnicities, including 19% as Māori (tangata whenua), the indigenous population, and just over one third as NZ European.

Most reported hearing about the study via email (63%), while at least 20% through a staff member, Pacific Welcome, or Early Orientation Programme. The 22 new participants who enrolled at S2 were similar in their background characteristics and did not differ significantly from the 122 participants at S1. A separate analysis comparing participants and non-participants found no significant difference, apart from participants (44%) were more likely than non-participants (25%) to self-identify their ethnicity as sole-Pacific (one or more Pacific ethnicities) ($\chi^2 = 4.92$, 1 degree of freedom (df), $p < 0.05$).

Table 1. Background characteristics of the enrolled study cohort.

Background characteristics		Survey 1 (N = 122)	%	Survey 2 (N = 22)	%	Total (N = 144)	%
Age	17/18	100	82	17	77	117	81
	19	17	14	3	14	20	14
	20+	5	4	2	9	7	5
Gender	Female	81	66	15	68	96	67
	Male	41	34	7	32	48	33
Ethnicity*	Māori	20	16	7	32	27	19
	NZ European	46	38	7	32	53	37
	Samoaan	55	45	6	27	61	42
	Cook Islands Māori	16	13	3	14	19	13
	Tongan	19	16	1	5	20	14
	Niuean	7	6	2	9	9	6
	Tokelauan	7	6	1	5	8	6
	Fijian (iTaukei)	14	12	2	9	16	11
	Fiji (Indian)	12	10	3	14	15	10
	Tuvaluan	3	3	1	5	4	3
	i-Kiribati	1	1	0	0	1	1
	Solomon Islander	2	2	1	5	3	2
Other	9	7	3	14	12	8	
Religion	None	24	20	5	23	29	20
	Christianity	86	71	14	64	100	69
	Hinduism	5	4	0	0	5	4
	Islam	4	3	1	5	5	4
	Other	3	3	2	9	5	4
Born in New Zealand		89	73	13	59	102	71
Accommodation	Residential college	86	71	16	73	102	71
	Shared flat/house	14	12	3	14	17	12
	With parents/guardians	8	7	2	9	10	7
	Studio/on own	2	2	0	0	2	1
	Fofoa**	9	7	0	0	9	6
	Other accommodation	3	3	0	0	3	2

*Self-identification of ethnicity allowed for multiple selection; **Fofoa are University managed flats for first-year Pacific students.

Just over half (51%) were enrolled in a health science course, 29% in humanities, 24% in science and 6% in commerce with some enrolled in more than one course. For about 30% of the cohort their financial situation was often or always stressful while growing up. Nearly two-thirds (62%) were funded by a partial or

full scholarship, and 9% were employed part-time during their first year of academic studies.

3.2. Well-Being and Mental Health

Of 121 participants, 19.8% at S1 and 25.6% at S2 reported poor well-being (past two weeks) on the WHO-5 Well-being Index. The mean well-being scores were for: S1, 63.73 (Standard Deviation (SD) = 18.29), and S2, 64.13 (SD = 19.45).

Table 2 is a summary of the participants' mental health at each survey. Nearly two-thirds had psychological distress (past four weeks) or depression symptoms (past two weeks). At least half the sample reported anxiety symptoms (past two weeks).

Of the 144 cohort participants about 26% (20% at S1, 21% at S2) reported current thoughts of suicide or self-harm in the past two weeks; 10 (8%) and 4 (3%) participants respectively reported actual self-harm behaviours in the same period.

Of 114 participants who reported at least one depression symptom at S1, 70% reported some functional impairment in their daily life. Although there were fewer participants ($n = 79$) in this category at S2, the corresponding percentage for functional impairment was higher (81%). Similarly, of the 106 who reported

Table 2. Percentage of participants with poor mental health at surveys 1 and 2.

Measures		Survey 1 (N = 121)	% ^a	Survey 2 (N = 121)	% ^a
Psychological distress (K10): past 30 days	0 - 19 (normal)	44	36	49	41
	20 - 24 (mild)	23	19	22	18
	25 - 29 (moderate)	27	22	24	20
	30+ (severe)	27	22	26	22
Generalised anxiety disorder (GAD-7): past 2 weeks	0 - 4 (normal)	61	50	62	51
	5 - 9 (mild)	35	29	33	27
	10 - 14 (moderate)	19	16	22	18
	15 - 21 (severe)	6	5	4	3
Depression (PHQ-9): past 2 weeks	0 - 4 (normal)	37	31	36	30
	5 - 9 (mild)	35	29	35	29
	10 - 14 (moderate)	31	26	30	25
	15 - 19 (moderately severe)	12	10	15	12
Deliberately hurting yourself: past 2 weeks	20+ (severe)	6	5	5	4
	Not at all	111	91	117	97
	Several days	6	5	0	0
	More than half the days	2	2	2	2
	Nearly every day	2	2	2	2

^aTotal percentages for some categories do not sum to 100% due to rounding of individual percentages.

at least one anxiety symptom at S1, 70% reported some functional impairment. At S2, only 54 participants reported at least one anxiety symptom; however, a higher percentage in this group (91%) reported functional impairment.

Poor mental health defined as reports of any moderate to severe symptoms of psychological distress, depression, and/or anxiety at each survey are illustrated in **Figure 2**. Just over half of the participants in each survey (55%) met study criteria for poor mental health. Nearly one fifth (17% at S1 and 18% at S2) reported poor mental health on all three mental health measures.

Based on complete mental health data for 99 participants at both surveys, poor mental health at S1 was persistent at S2 for 56%. Only 37% reported consistently good mental health at both surveys ($\chi^2 = 45.08$, 1 df, $p < 0.0001$).

Poor well-being was most likely for those who reported psychological distress during the past four weeks or all three forms of “poor mental health”.

3.3. Correlates of Mental Health

Substance use was common in this sample, about two thirds reported they had consumed alcohol in the past 30 days. Hazardous drinking, defined as a score of 3 or more for females or 4 or more for males on the AUDIT-C (Alcohol Use Disorder Identification Test) scale, identified 53% at S1 and 38% at S2 meeting these criteria. A minority were current smokers (10% at S1, 8% at S2) and 10% had smoked prior to entering university. Just over a third (36%) reported E-cigarette use (past 30 days), this figure had more than halved to 17% by S2.

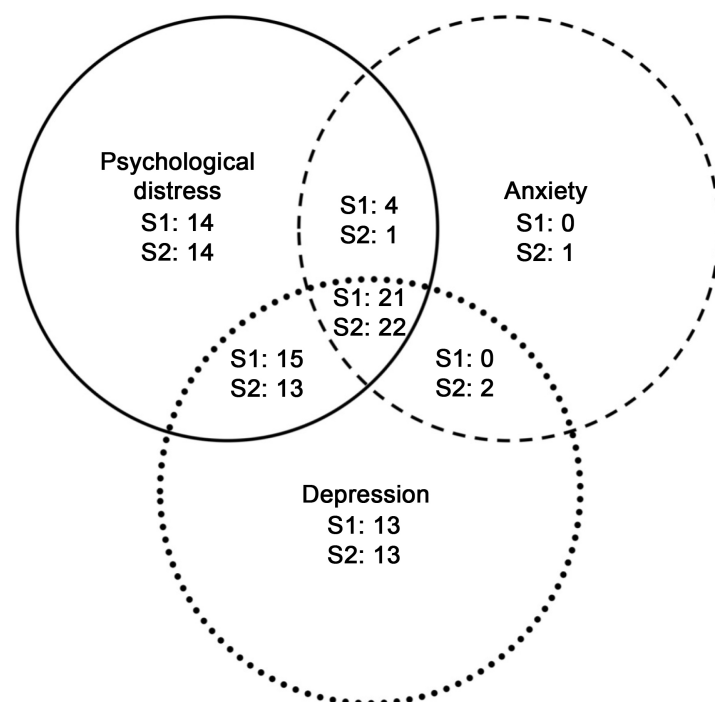


Figure 2. Overlap in the number of participants reporting moderate to severe psychological distress, anxiety, and depression symptoms at Survey 1 (S1) and Survey 2 (S2).

Recreational drug use at each survey (12%) was constant. A similar percentage had used recreational drugs in the prior 30 day-period.

Most participants (82% (S1) and 83% (S2)) either agreed or strongly agreed with the statement that they felt they belonged to the University. Similar percentages reported belonging to where they lived (accommodation). At both surveys at least 72% felt a sense of belonging to their local community, with slightly lower percentages (65% at S1 and 55% at S2) feeling the same about their local Pacific community.

Alcohol use and misuse, a sense of belonging, help-seeking, ethnicity, faith, and proxy measures of socioeconomic status were examined in relation to poor and good mental health (see **Table 3**). Poor mental health was significantly associated with mixed ethnicity and current financial hardship. Good mental health

Table 3. Correlates of good and poor mental health (MH) in Surveys 1 and 2.

Correlates of MH	Survey 1					Survey 2				
	Good MH n = 54		Poor MH n = 67		χ^2 (1df) P-value	Good MH n = 55		Poor MH n = 66		χ^2 (1df) P-value
	n	%	n	%		n	%	n	%	
Sense of belonging (accommodation)	50	93	47	70	0.0021	48	87	48	73	0.0491
Sense of belonging (University)	48	75	50	89	0.0469	51	93	49	74	0.0075
Sense of belonging (local community)	42	78	44	66	0.1443	45	82	42	64	0.0267
Sense of belonging (local Pacific community)	34	63	41	61	0.8421	34	62	32	48	0.1425
Alcohol consumption (past 30 days)	40	74	40	60	0.0968	34	62	45	68	0.4641
Hazardous drinking ^a (past 30 days)	31	57	33	49	0.3717	16	31	22	36	0.6014
Help-seeking (health services on campus)	24	44	22	33	0.1910	21	38	31	47	0.3309
Mixed ethnicities: Pacific & other non-Pacific (vs. Pacific only)	21	39	43	64	0.0056	23	42	39	60	0.0470
Reported a faith (vs. no faith)	39	72	58	87	0.0492	44	80	55	85	0.5073
Current financial hardship	4	7	18	27	0.0058	8	15	14	21	0.3438
Received a university scholarship	36	67	41	61	0.5339	36	65	40	61	0.5827

^aAudit-C score of 3 or more for females or 4 or more for males. Missing data were conservatively re-coded to the least frequent or least severity rating option as appropriate for the variable of interest.

was significantly associated with a sense of belonging to the participants' university at both surveys, to where they lived (accommodation) at the beginning of their academic year, and their local community by the end of their academic year.

Current suicidal or self-harm thoughts were reported by 26% of the 144 in this cohort, with 95% of this group meeting study criteria for poor mental health. All 10 participants who reported current self-harm behaviours at either survey also reported poor mental health.

4. Discussion

Most of this cohort of Pacific students reported a positive quality of life (i.e., an absence of "poor well-being"), supporting prior findings which found 72.8% of Pacific youth aged 13 - 18 scored in the good well-being range of the WHO-5 well-being index (Fleming et al., 2020). National surveys have reported mental health scores were worse for Pacific peoples compared to non-Pacific and non-Māori adults, despite the majority reporting being either satisfied or very satisfied with their life (Ataera-Minster & Trowland, 2018). These contrasting findings between self-reported poor mental health and good well-being are reported elsewhere and examined as part of a mental health continuum model (e.g., Chen et al., 2020).

Consistently across the two surveys, almost one fifth scored poorly on all three mental health measures. A similar percentage experienced thoughts of self-harm or suicide, with up to 10% having self-harmed. Some international studies have found a higher proportion of Pacific tertiary students reported common mental health concerns compared to their non-Pacific peers (e.g., Gregersen et al., 2004). Pacific Islander tertiary students had significantly higher Outcome Questionnaire—45 scores, measuring psychological functioning and symptomatic distress, compared with their Caucasian counterparts. Archambeau et al., 2010 demonstrated male Native Hawaiian/Pacific Islands tertiary students had higher levels of anxiety compared to their European American peers. Other studies reported no such associations for Pacific students (e.g., Herman et al., 2011), who reported no difference among ethno-racial groups in levels of depressive symptoms as measured by the Center for Epidemiological Studies-Depression scale. These mixed international results call for the cautious interpretation of elevated self-report scores when comparing ethnic groups, particularly when culturally based values and perceptions regarding mental health have not been considered (Gregersen et al., 2004). However, our overall findings confirm global concerns about the high rates of poor mental health and well-being of tertiary students (Auerbach et al., 2016; Duffy et al., 2020), including Pacific students in recent years.

Fewer than half of the participants with poor mental health had accessed help. Low help-seeking behaviours are commonly reported amongst Pacific tertiary students overseas (Eisenberg et al., 2007; Herman et al., 2011). The role of stig-

ma, attitudes to seeking help, and structural barriers (Ataera-Minster & Trowland, 2018) could have contributed to low help-seeking. These findings have significant implications for the provision of services.

The findings in this study demonstrate that a sense of belonging was important for participants' mental well-being. Developing and strengthening activities that facilitate a sense of belonging to academic institutions and students' connectedness to their local communities, are likely to be helpful (Yeh & Inose, 2003). Current financial hardship also played a significant role. Ensuring Pacific students are accessing financial support through culturally responsive channels, might also support their mental health and well-being. Protective factors, including the roles of religion and culture will be further investigated in future papers as part of a model of risk and protective factors for mental health and well-being.

Hazardous drinking was reported by 53% at the beginning of the academic year and decreased to 38% by the end of the year. However, unlike other studies on hazardous drinking in university students where alcohol misuse was linked to poor mental health and well-being (Ham et al., 2009), there was no such association found for Pacific students in this study. This finding contrasts with the positive associations reported in other studies (Kypri et al., 2002).

Pacific students in this cohort experienced significant mental health stress in their first year of higher education. Early and culturally appropriate support empowers students' mental health and well-being. The academic success of Pacific tertiary students contributes to the socio-economic well-being of their families and communities (Theodore et al., 2018a; Theodore et al., 2018b). This research contributes to the growing literature on the mental health and well-being of Pacific students in the tertiary environment. There are practical solutions for institutions and policy makers to consider to make a difference in the outcomes of this underserved, and growing, ethnic community.

4.1. Limitations of the Study

This study's total number of 184 eligible students was lower than the 300 estimated when the study was originally designed. Decreasing national enrolments (Education Counts, 2020), and recent changes in the courses offered may have contributed to fewer enrolments. With small numbers, the precision with which the prevalence of mental health, well-being and related measures are estimated require cautious interpretation.

Although these findings may be generalised to Pacific students more broadly, there will be cultural differences amongst distinct Pacific ethnicities. As participants were significantly more likely to self-identify as having sole-Pacific ethnicity compared to non-participants, further research is needed with multi-ethnic student groups to determine if the present findings can be generalised to those groups. The number of Pacific peoples who identify with more than one culture is steadily increasing and surveys have reported that approximately 36% of multi-ethnic Pacific peoples have had an experience of mental illness, compared with 12% of sole-Pacific peoples (Ataera-Minster & Trowland, 2018). Therefore,

the present study's estimates for poor mental health and well-being are likely to be conservative.

As the data in this study are based on self-report, social desirability factors (Carifio, 1994) especially in areas related to mental health, which is often associated with stigma, may have biased responses. The small sample size of just over 100 students from a single university is also a limiting factor for generalising findings to the wider population of Pacific tertiary students and those attending Polytechnic Colleges. The mental health and well-being measures are standardised and may not necessarily be culturally responsive to Pacific students.

4.2. Strengths of the Study

High response (78%) and retention (80%) rates, and the cohort being representative of all Pacific students starting at the University, were strengths in this study. The survey was a comprehensive online assessment on mental health and well-being using internationally validated measures. Furthermore, a Pacific health model, the Fonofale model, was used to select the measures and questions and ensured the study was aligned with Pacific perspectives of health and well-being (Pulotu-Endemann, 2009). The research team's strong networks and collaborations with staff and students as well as the study being guided by three engaged and interested Pacific advisory groups were further strengths.

5. Conclusion

This study enabled us to examine changes in mental health and well-being from the beginning to the end of the first academic year. It raises concerns about the mental health and wellbeing needs of students which are not being met. The findings highlight specific hypotheses on mental health and well-being that can be tested in recent studies with Pacific students nationally. We anticipate that these findings will help to inform targeted mental health and well-being efforts to further support student well-being in tertiary institutions in New Zealand.

Author Contributions

FS, SN, TL, AS, SC contributed to the design, data collection and completion of the Ola Malohi study. Data analysis of the online survey was conducted by AS and SN. All authors contributed to drafting the paper and final approval for its submission.

Data Availability Statement

The Ola Malohi data set is unavailable to the public for privacy reasons. For scientific collaboration, pooling data across studies can be discussed on a case-by-case basis.

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Conflicts of Interest

The authors declare no conflict of interest, and no financial or non-financial competing interests.

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