

Facilitators and Barriers to Physical Activity for People of Pacific Heritage

Paige Enoka *BPhy student, BSc*

Centre for Health, Activity and Rehabilitation Research, School of Physiotherapy, University of Otago, Dunedin, New Zealand

Leigh Hale *PhD, MSc (Physio), BSc (Physio)*

Professor and Dean, Centre for Health, Activity and Rehabilitation Research, School of Physiotherapy, University of Otago, Dunedin, New Zealand

Christopher Higgs *BSc (Hons), PGCertHealSc, MPhy*

Clinical Education Programme Lead, Centre for Health, Activity and Rehabilitation Research, School of Physiotherapy, University of Otago, Dunedin, New Zealand

ABSTRACT

This research explored the facilitators and barriers to physical activity engagement for people of Pacific Island heritage. From an experiential constructionist position, we inductively applied thematic analysis to data collected via individual fully transcribed semi-interviews. Participants were five academics or tutors of Pacific Island descent interested in physical activity for Pacific peoples. The themes developed were: *Centrality of community*, *Physical activity is something you do* and *It depends on the 'environment'*. *Centrality of community* was a prominent theme that spoke to the high value placed on collectivism and communitarianism by Pacific communities, which may limit individual choices of physical activity participation. Such collective principles may, however, facilitate physical activity through collective responsibility for all to engage in health endeavours. Optimal facilitators of physical activity may be (i) mobilising a community response to participation in physical activity by motivating through improved understanding of the health benefits of physical activity for the community as a whole, (ii) a response role-modelled and championed by community leaders (such as church leaders) and (iii) choosing activity programmes that are group- and community-based, fun and social occasions. Approaches that target the individual, both in health benefits and individually based activities, may be less successful.

Enoka, P., Hale, L., & Higgs, C. (2022). Facilitators and barriers to physical activity for people of Pacific heritage. *New Zealand Journal of Physiotherapy*, 50(1), 33–41. <https://doi.org/10.15619/NZJP/50.1.04>

Key Words: Pacific, Physical Activity, Supported Self-Management, Qualitative

INTRODUCTION

Engaging in regular physical activity is a key message to benefit health and one that physiotherapists are well placed to support and facilitate (Lowe et al., 2016; World Physiotherapy, 2019). In doing so, physiotherapists need to be cognisant of the communities they work with to ensure their support and encouragement is appropriate and relevant. This study explored how Pacific peoples may be appropriately encouraged to be more physically active.

Pacific peoples make up 8% of New Zealand's population. This population group is diverse, comprising more than 40 Pacific ethnic groups in New Zealand, the largest populations being Samoan (49%), Cook Island Māori (21%), Tongan (20%), Niuean (8%), Fijian (5%), Tokelauan (2%), Tuvaluan (1%) and Kiribati (0.7%) (Health and Disability System Review, 2020; Pasefika Proud, 2016). While each ethnic group has its own unique cultures and traditions, common to all is the high value placed on family, collectivism and communitarianism underpinned by spirituality, reciprocity and respect (Health and Disability System Review, 2020).

Although Pacific peoples are collectively the youngest population group in New Zealand (median age 22.3 years, 53%

under the age of 25 years), 54% live in high socioeconomic deprivation and have inequitable health outcomes compared with non-Māori non-Pacific people in New Zealand (Health and Disability System Review, 2020; Ministry of Health and Ministry of Pacific Island Affairs, 2004). Further, Pacific adults have a higher prevalence of non-communicable conditions in comparison to non-Pacific adults in New Zealand (Health and Disability System Review, 2020; Ministry of Health, 2012; Ministry of Health and Ministry of Pacific Island Affairs, 2004; Walsh & Grey, 2019). For example, for Pacific versus non-Pacific, the adjusted age–sex ratio for ischaemic heart disease is 1.21, 95% CI [0.96, 1.51], and for high cholesterol (medicated) and diabetes it is 1.64 [1.46, 1.84] and 3.08 [2.70–3.51], respectively (Ministry of Health, 2021). Furthermore, 47% of all deaths in Pacific peoples have an avoidable cause, such as ischaemic heart disease, chronic obstructive pulmonary disease, cerebrovascular disease and female breast cancer (Walsh & Grey, 2019). Key risk factors for such health loss include tobacco use, unhealthy diet, excess weight, high blood pressure, high fasting plasma glucose, alcohol use and physical inactivity (Ministry of Health, 2020).

Physical activity is a proven way to reduce the prevalence and support management of long-term conditions (Ministry of Health, 2020). The Ministry of Health recommends that

adults aged over 18 years do at least two and a half hours of moderate-intensity physical activity spread over a week, such as 30 min on five days of the week. In New Zealand, Pacific peoples are less likely to be physically active than non-Pacific peoples (adjusted (age and gender) ratio 0.89, 95% CI [0.84-0.95]) (Ministry of Health, 2021).

Supported self-management is a common approach used by health care professionals to enable people living with long-term conditions to manage their health conditions, including to become more physically active (Dineen-Griffin et al., 2019), a message that all health professionals should be encouraging. The New Zealand Ministry of Health's overarching principles of self-management support include a patient-centred approach, empowering patients to take a lead role in their care planning, and supporting people to work in partnership with their health care professionals to set goals and action plans, as well as ensuring self-management programmes are culturally sensitive and appropriate for diverse ethnic groups (Ministry of Health, 2016). Given the high value Pacific peoples place on family, collectivism and communitarianism (Health and Disability System Review, 2020), it is questionable whether 'self'-management support is a desirable approach to health for these people.

To encourage increased physical activity engagement by Pacific peoples, the approach of 'self' (referring to managing health as an individual) does not match the ideology of 'community' and community-based initiatives in Pacific culture (Heard et al., 2017). The few studies that have explored how to engage Pacific peoples more with physical activity have found that targeted programmes can be effective if they incorporate a cultural component (Albright et al., 2017; Capstick et al., 2009; Hafoka & Carr, 2018; Heard et al., 2017; Look et al., 2012). Including such culture components within physical activities can change perceptions of what physical activity entails (Kolt et al., 2006; LaBreche et al., 2016). Facilitators to physical activity participation have been identified as those that are faith-based (Kolt et al., 2006; Look et al., 2012; Wan et al., 2018), and community- and/or group-based (Albright et al., 2017; Biddle et al., 2011; Kolt et al., 2006; Wan et al., 2018), have a supportive environment (Albright et al., 2017; Hafoka & Carr, 2018; Schluter et al., 2011; Siefken et al., 2014) and focus on social and fun aspects (Albright et al., 2017; Biddle et al., 2011; Siefken et al., 2014, 2015; Wan et al., 2018). Barriers to physical activity acknowledged in extant literature include lack of motivation or self-confidence (Heard et al., 2017; Kolt et al., 2006; Look et al., 2012; Siefken et al., 2014, 2015; Wan et al., 2018), no time or inconvenience (Heard et al., 2017; Schluter et al., 2011; Siefken et al., 2015; Wan et al., 2018), commitments of daily life (Kolt et al., 2006; Schluter et al., 2011; Siefken et al., 2014), concerns for safety (Albright et al., 2017; Hafoka & Carr, 2018; Heard et al., 2017) and lack of support from health care professionals (Kolt et al., 2006; Look et al., 2012).

Given the significance of encouraging Pacific peoples to be more physically active for their health, knowing better how this could be enabled in a culturally appropriate and relevant manner is important. The aim of this research was to gain a deeper understanding of what enables or prevents Pacific peoples' engagement in physical activity. To achieve this

aim we gained the perspectives of academics and tutors of Pacific heritage about physical activity. While we could have approached this research question from numerous viewpoints, considering the important role community leaders play in health promotion for Pacific people (Kolt et al., 2006; Look et al., 2012), understanding the thoughts of academics and tutors of Pacific heritage about facilitators and barriers to physical activity for Pacific people is an important one. These people play a significant role in health promotion and physical activity support for Pacific Islanders in local and national Pacific communities in New Zealand.

METHODS

Design

From an experiential constructionist position, we inductively applied thematic analysis (Braun & Clarke, 2006, 2018, 2020) to data collected via individual semi-interviews. Our interviews were underpinned by Talanoa research methodology, an approach that emphasises the importance of Pacific customs and protocols (Seiuli, 2013; Sopoaga, 2020; Vaioleti, 2006). This methodology is based in the oral traditions of Pacific peoples, in which conversations, whether they are formal or informal, are grounded in the values of reciprocity and respect. The 'noa' refers to the context in which the conversation takes place, ensuring the conditions and space enable respect and reciprocity. The 'tala' are open and respectful conversations in which ideas can be shared, supported or challenged, and thereby a deeper understanding gained (Vaioleti, 2006). This openness necessitates a flexible interview framework so that dialogue can occur with differing levels of complexity to enable new knowledge and thinking to evolve (Vaioleti, 2006).

The primary researcher (PE) in this project was an undergraduate Pacific (Cook Island heritage who grew up in New Zealand) physiotherapy student with a background in exercise and sports science. She was supported by her New Zealand Pākehā physiotherapy supervisors (LH, CH), and by Va'a o Tautai, an academic department that supports Pacific students and leads in Pacific health teaching and research. The supervisors, one female and one male, both are experienced in qualitative research and with working with Pacific students and populations. As the research team were not, or not fully, of Pacific heritage, this study was only guided by, but did not fully utilise, Talanoa research methodology. Instead, the research team were supported by Va'a o Tautai academics in their application of this methodology as part of developing Pacific research capacity and capability in New Zealand (University of Otago, 2011).

Thematic analysis is contingent both on the collected data and the interpretation of it by the researchers (Braun & Clarke, 2020). Thus, researcher subjectivity is intrinsically woven into the process of the analysis. Prior to conducting the interviews and during the analysis process, the research team discussed their views of the importance of physical activity for health, their observations to date of working with Pacific peoples' in exercise related activities (e.g., facilitating exercise classes at the Otago Pacific Trust), their knowledge of the Pacific cultures and what they had read in the extant literature. This enabled the team to

recognise and then reflect on the assumptions and beliefs they brought to the process.

Ethical approval was gained from the University of Otago Ethics Committee (reference SOP-EC-2020-07). All participants interviewed provided signed informed consent prior to participating.

Participant recruitment

Participants were five academics or tutors of Pacific descent aged ≥ 18 years expressing an interest in the topic of physical activity and self-management. Study invitations were sent via email to University of Otago staff, with specific focus on the Centre for Pacific Health and the Pacific Academic Staff Caucus. Those expressing interest in participating were asked to contact the researchers, who confirmed eligibility and addressed any questions volunteers had. On consenting, an interview time was arranged.

Data collection and analysis

Three semi-structured interviews were conducted by two researchers (PE, LH); the subsequent two interviews were conducted by one researcher (PE). Two interviews were conducted in person, while the other three were conducted via Zoom video conferencing. Participants were only interviewed once. While with the Talanoa approach, interviews should be conducted in person (Vaiotei, 2006), the location of three participants meant that the convenience of a Zoom interview was preferred. In-person interviews took place at a mutually agreeable location and time. Interviews were 45–75 min in duration, were audio-recorded and then fully transcribed word for word by one researcher (PE). The interview guide (see Table 1) was developed by the research team guided by extant literature. The guide questions were used with appropriate

prompts to encourage free-flowing dialogue. In keeping with Talanoa methodology, the interview started with general conversations to develop connectedness and establish common ground, such as where the interviewer and participant were each from and about their Pacific heritage (Sopoaga, 2020). Given the interviewer was a student and the participants were academics or tutors, and all were of Pacific heritage, a supportive environment prevailed. On completion of the interview, the interviewer made field notes of important points and considerations made during the interview.

Data were analysed using thematic analysis (Braun & Clarke, 2006, 2018, 2020) and thus followed this approach's 5-step process, namely familiarisation; coding; generating initial themes; reviewing and developing themes; and refining, defining and naming themes. As the three researchers were not completely familiar with Pacific culture, even PE who had Pacific heritage, we applied a semantic approach to the coding, acknowledging we would miss deeper nuances. One researcher (PE) familiarised herself with the interview data through the transcription process followed by multiple readings of the transcriptions. As each interview was conducted and transcribed, PE met frequently with another research team member (LH) to discuss what the interviewees were saying and what it might mean. As new transcripts were discussed, patterns in the data were identified. As the research team's understandings of Pacific culture developed, not only from the interviews, but from their meetings with staff from Va'a o Tautai, visits they had had to regional Pacific Islands, attendance at a local Pacific festival (the Moana Nui Festival) alongside PE's developing knowledge and awareness of her Pacific heritage and discussions with her family, the implications of the data began to take shape. Applying these growing understandings across the whole data set enabled patterns in the

Table 1

Interview Guide

Introduce where I (the interviewer) grew up and my Pacific heritage.
Why I (the interviewer) am doing this research.
Encourage participant to share their story.

The concept of physical activity we are using is any bodily movement done for leisure (recreation, play), work, house and garden chores, or active transportation.

What are your thoughts on Pacific people's participation in physical activity in general?
Do you think physical activity is important to Pacific people?
What do you think, if any, would be differences in physical activity levels between Pacific Island nations?
What do you think are the differences in Pacific people's engagement in physical activity in the Islands as compared to in New Zealand?
What do you think discourages Pacific people from being physically active?
What do you think are the main factors that engage Pacific people in physical activity?
As a Pacific person yourself, what enables or prevents you from being physically active?
What type/mode of physical activity do you think Pacific people are most interested in?
Can you think of how culture may facilitate or potentially hinder Pacific people's engagement in physical activity?
How do you think gender influences Pacific people's involvement in physical activity?
There does not seem to be much literature I have noticed on what engages men specifically in physical activity. Why do you think this is?
What do you think motivates Pacific Islanders to be physically active?
Lack of motivation seems to be a barrier for Pacific people in the literature. How do you think this can be overcome?

text to be identified that could be coded and grouped into initial themes. Discussions then with the third member of the research team (CH) who, although not of Pacific heritage, had worked with extensively with Pacific peoples, allowed for refinement and finalisation of the themes. Finally, PE presented our findings at a Pacific research show-case day, which both the local Pacific community and some of our participants attended. Our findings were well received, providing a level of verification.

RESULTS

Five academics and tutors of Pacific Island heritage (2 male, 3 female, age range 30–45 years) with an interest in physical activity and self-management for Pacific peoples, were interviewed. Three participants were based in Dunedin, one

in Gisborne and one in Samoa. To ensure anonymity of our participants in a small sample within a small population, we have chosen not to provide further demographic details.

Three themes were developed through the analysis and are summarised in Table 2 and discussed below. The predominant theme was *Centrality of community*, and the other two themes were *Physical activity is something you do* and *It depends on the 'environment'*. *Centrality of community* depicts the crucial role the community plays in enabling physical activity, in that its centrality can discourage people from being individually active, or conversely employed to enable physical activity engagement, the process facilitated by how physical activity is perceived. If *Physical activity is something you do*, in other words is viewed as

Table 2

Summary of Themes as Barriers or Facilitators to Physical Activity for Pacific Peoples

Barrier or Facilitator	Centrality of community	Physical activity is something you do	It depends on the 'environment'		
			Physical	Social	Personal
Barrier	Having commitments that contribute to the community Collectivist mindset may cause individuals to prioritise their own health less The use of technology such as pedometers is individualistic and not community-oriented so may not be appropriate in Pacific settings	Definition or perception of what physical activity is Physical activity is just for losing weight The media can change people's perception of physical activity Physical activity is just for fit people A barrier for males is the idea that group exercise is just for females Physical activity is not a priority	Unsafe physical environment No setting for physical activity. No organised sport, for example Westernisation, where the environment has more convenience with food and transport and technology, for example	Lack of role models Lack of support from family and friends Being uncomfortable doing physical activity with the opposite gender (culture)	Lack of time Socioeconomic status /money/financial stress Limited access to resources Low confidence/fear of injury/shyness/low self-efficacy Lack of expertise Lack of motivation Weight/self-image
Facilitator	Performing physical tasks that are going to help the collective Group activities that everyone in the community can be involved in, including all-inclusive exercise classes and team sports The idea of being healthy to contribute to the community Facebook groups can provide an online community for organisational purposes	Doing the type of physical activity that is enjoyable and valued Realising physical activity can be fun and social More education and awareness around what physical activity is and the benefits to not just the individual, but the collective as well	Exploring culture and history may help to facilitate physical activity Areas people are comfortable with Physical setting like a class or tournament	Role models/elders/ church leaders who promote physical activity and health Group physical activity, including classes Workplaces that are supportive and prioritise health Families who value physical activity	Socioeconomic status People make the most of what they have with the resources they have Weight/self-image can be a motivating factor to becoming healthier

an add-on to your daily life, as articulated in the second theme, then intentional engagement may not be as successful. If, however, physical activity is perceived as something embedded in everyday life, particularly integral to everyday community life, then engagement in physical activity might increase incidentally. The third theme, *It depends on the 'environment'*, shows how contingent physical activity participation is on whether or not the community influence and perceptions of physical activity occur within a supportive environment. These themes are discussed in more detail below illustrated with participant quotes.

Theme 1: Centrality of community

"I have community obligations so I can't do as much physical activity as I want, but I want to do physical activity so that I can contribute to my community" (Participant 3). The importance of community was central to all interviews. As the quote above illustrates, the influence of community is complex because it can both enable or limit engagement in physical activity. As our participants articulated, while community is an important part of culture for many Pacific people, physical activity engagement does not necessarily hold the same value.

Centrality of community as a barrier

Barriers emerging from the *Centrality of community* theme were having community commitments and having a collectivist mindset, where the individual does not take priority. Participants emphasised that community is central to many Pacific cultures and looking after the family often takes precedence to looking after oneself. Hence, 'self' management of health through physical activity is not culturally important to many Pacific people, as explained by Participant 2:

People prioritising things other than their own personal physical wellbeing and that's sort of last on the list. Once they have hit all of these other things that need to be done, then I will do that. And I think it's very easy to do when you have a collectivist mindset.

Participant 2 elaborates further on how Pacific communities can be critical of physical activity done for self-good:

An analogy in a Western sense is those guys that spend all of their time in the gym and they are really preening and you give them the side eye and they are sort of like aw look at you, that must take you all day to look like that. And it's kind of that kind of energy of you're really into yourself aren't you, but taken to a much lesser degree of look at you going and doing that thing, when actually you haven't done this for your aunty and you know, you're not doing this for your church and it's a little bit of that side eye energy of if you are doing particular things that are seen to be selfish.

Approaches to encourage individual health behaviour change are most likely not feasible or acceptable in Pacific communities, as Participant 3 explains:

It's very individualistic, so yeah that's something that we talked about with e-cessation with smoking and what not. It comes to one person's phone. But um if you are going to do something, I think everyone around you needs to be involved with it as well. ... it is trying to figure out how to create community from what you're doing, where you're part of

something. Whereas if you're just like it's my phone, I need to go walk, like you detach from everything that you're around just to do what you need to do. Which is opposite to what is ideal in Pacific settings.

Centrality of community as a facilitator

Community-oriented physical activity was considered the strongest facilitator for physical activity engagement with all participants mentioning either group physical activity within the community or physically working the land to contribute to the community.

Community can act as a support network in managing health, which also links to the supportive environments theme, hence the predominance of this theme, described by Participant 2 below.

I just think our families are incredibly busy serving their communities and their families and the expectations are very high around what they will be doing for each other which I think is a strength and a weakness. So, the weakness is that individuals might not be looking after their own health. The strength is that if you can activate that collective to everyone watching each other's health.

Another idea suggested by participants was one of encouraging people to be physically active to help them live healthier lives, so they can better provide for their family and community. In a similar vein, enabling people to be incidentally physically active in ways that will help contribute to their collective, in terms of the type of 'work they do', was another recommendation, elucidated by Participant 1:

I think there is a social structure in the Islands that means that people are physically active in the Islands in activities that link directly back to the community. As in when you're gardening you are gardening for the sake of contributing to the community, to feeding the family. ... They're not individual tasks, even though they are performed individually, they link to a sense of community.

Theme 2: Physical activity is something you do

Participants talked of how Pacific people form their perspectives and attitudes towards physical activity from what they have been exposed to in the past. Participants explained that physical activity is often not considered a priority in Pacific culture and that there are other things, like family and community, that tend to come first. Thereby there was agreement that Pacific peoples' thoughts and beliefs around physical activity tend to either put them off or engage them further.

Physical activity is something you do as a barrier

In many ways physical activity was perceived as additional, as opposed to something that is part of daily life. As Participant 5 explains:

I think the perception of physical activity is something that you do, it's not something that's integrated very well into life. And I think Samoans see physical activity as something extra and as something optional to their day to day life.

Participants said that the way physical activity is defined, and the value placed on physical activity are barriers to engagement. They spoke of how people tend to think group exercise is

for females, which can end up being a barrier for males to participate. Further, the idea that physical activity is only for fit people and people who want to lose weight is also a barrier. All interviewees mentioned that there is a spectrum or a dichotomy where people were either fit or sedentary. The way physical activity is perceived in the media shapes common views around physical activity that are not always helpful. The way physical activity is perceived by many is what acts as a barrier. If physical activity is considered as an extra to daily chores, not enjoyable or perceived as too hard, it may not be sustainable. As explained by Participant 3: "I think physical activity and exercise are synonymous with being strenuous at this stage ... They just need to be headband on, put the tights on and go for it" (Participant 3).

Participants spoke of how Pacific people used to be physically active in the sense of collecting food and living off the land. Now there is so much convenience, it seems that being physically active in this way has become less integrated into the lives of many Pacific people, something additional:

But now we are all so motorised now and we all have phones and we all hang around the blue Sky Tower which is like the Wi-Fi tower ... people don't want to be doing that sort of work because we know what's available now and we have so much convenience everywhere. So, like our starchy vegetables, we now have rice. (Participant 3)

Participants explained that a common view of why people become physically active is something that you do to lose weight. There seems to be less emphasis put on people viewing physical activity to change health values such as blood glucose and cholesterol levels, for example. If physical activity is associated with losing weight and the individual does not place a value on losing weight, this can act as a barrier to change: "A lot of times we always think that when we exercise, we want to lose weight you know it's all about losing weight but that's not the point" (Participant 4).

Physical activity is something you do as a facilitator

Pacific peoples' engagement in physical activity can be facilitated by their perception of how they enjoy the activity they are doing and realising it can be something they find fun and social. Participants 1 and 4 explain how social sport/games and dance can facilitate physical activity.

Yeah. And it's often quite diffusing after busy days in the plantation, or you know, it's a great way to expel some energy, have fun with each other, lots of mockery and laughter and that becomes a bit of a hub of the village. (Participant 1)

I guess for our way of dancing its very natural to us, like anyone can do it if you're from the Cook Islands because we all grew up doing it so we see that as something physical that we are doing. (Participant 4)

Theme 3: It depends on the 'environment'

We learnt that the 'environment', in its wider sense, be it physical, social or personal environments, can facilitate or hinder engagement in physical activity for Pacific people. It was explained that while the physical environment acted as a barrier in terms of lack of safe places to be active, the lack of a

supportive social environment appeared to be a more important barrier. Lack of role models and lack of support from families and friends seemed to play, as explicated by our participants, a part in Pacific people being unable to maintain physical activity routines. Further to this, the personal 'environment' that individuals occupied also influenced physical activity engagement. These findings are elaborated on below.

Barriers and facilitators of the physical environment

Examples provided of barriers in the physical environment included an unsafe setting, or lack of a setting, for physical activity. One participant explained how 'Westernisation' of the environment in the Islands has resulted in more 'convenience' living and ultimately less 'need' to be active. Conversely, facilitators for the physical environment included having a setting that was both comfortable and culturally appropriate where physical activity can take place. Participant 1 describes:

So, there is something about the environment that either facilitates physical activity or people don't feel safe to or whatever it is or it's not set up to. So, I think linked in with the social economics, are people probably living in environments that aren't that safe.

When there is a physical setting conducive to physical activity, and Pacific peoples feel comfortable, there is more likely to be engagement as a result of this. "Really areas that people are comfortable with. So, if they are going there anyway, and you're just like AND we have a class then they will just do it as well" (Participant 3).

Facilitators and barriers of the social environment

The social environment is just as important as the physical environment when it comes to enabling physical activity participation. Cited examples of facilitators in the social environment included having role models or authority figures promoting physical activity and health, group activity, and supportive families and workplaces. The barriers were the opposite where lack of role modelling and lack of support from family and friends prevented physical activity.

There can be a lot of judgment when it comes to making lifestyle choices, so sometimes you get like there's a possibility of you becoming mocked when you start to care about your health which is very very interesting to me. Like in my head if you're taking steps to improve your health that's a good thing, but I see it time and time again when people start to eat right and will start to exercise and they are teased about it and it discourages them from engaging, because who likes being mocked for doing something that they like? (Participant 5)

Having cultural components incorporated into physical activity was seen as a way to facilitate engagement through the social environment, whether that be the inclusion of family, traditions like dance or preparation of food, or potentially single gender group sessions. Single gender physical activity sessions may reduce the barrier of discomfort in being active with the opposite gender, which seemed to be a cultural barrier, as Participant 5 explains:

I think that ah females are a lot more likely to exercise with females and males are a lot more likely to exercise with

males. There is a bit of a separation between groups, and I think that might be because of culture, where it feels kind of weird to be in that vulnerable space with your body, with members of the opposite gender.

Authority figures or role models such as church ministers, elders and employers play an important role in the social environment to promote health and were seen to have huge potential in improving engagement in physical activity for Pacific peoples. Participant 1 elucidates:

One of my criticisms of particularly church leaders, is that they don't necessarily model what a healthy lifestyle can look like. And there are traditional proverbs, there is a proverb that says 'the chief doesn't overeat' and that's an ancient proverb that kind of outlined that back then chiefs were really quite disciplined about their, I guess, the harmony of their body and their mind and their spirit. Which was probably, something that we have certainly lost. I think we only have to look at church leaders to see that they are often largely overweight and got a number of health conditions, so I think they have a role to play in terms of modelling um the fact that physical health isn't disconnected from spiritual health and wellbeing and mental health and wellbeing.

Facilitators and barriers of the personal environmental factors

Personal environmental factors stated by participants as barriers to physical activity engagement included lack of time, low confidence, lack of expertise, lack of motivation, weight/self-image and low socioeconomic status. Conversely, socioeconomic status and motivation to be healthier were facilitators for physical activity.

Lack of time was considered by participants to be a barrier for Pacific people. This often related to the commitments people had to the community, but also regarding improving their financial status: "Ah I don't have time for exercise because sometimes it's family commitments, I don't really know what the English word is for fa'alavelave but it's just like an important event for families you know" (Participant 5).

Low confidence, low self-efficacy, low motivation and lack of expertise can all be barriers to physical activity for people of Pacific heritage, illustrated below by Participant 4:

I choose to do it whereas for my husband; he is Samoan, he was physically active when he was younger, a lot younger but now he's a lot older now and he kind of stopped, like he lost interest, um he just don't have that motivation anymore, maybe because of the weight that he is carrying.

Socioeconomic status was considered both a barrier and a facilitator. Regardless of socioeconomic status being low for many, participants said that Pacific people will make the most of opportunities and work with the resources they have if they have the will to be active. This is explicated by Participant 1:

I think it's hard to look past the social and economic determinants of health, because they impact the degree to which the accessibility of opportunities for physical participation or physical activity ... They will be playing rugby with a coke bottle, a plastic coke bottle, or a coconut husk. So, I think there is that desire to want to be active and

competitive and um socialise, in whatever way they can and with whatever resources they can.

DISCUSSION

This study explored what academics and tutors of Pacific heritage perceive may facilitate Pacific people to be physically active. Knowing the benefits of physical activity as a holistic approach to managing non-communicable diseases is beneficial to understand how we can improve engagement of Pacific people.

Pacific people's sense of community is central to most Pacific cultures and this extends to values placed on health and, in respect to our study, physical activity engagement. As explained by our participants, while this sense of community may limit individual choices of physical activity participation, engagement may be enhanced by appealing to the collective responsibility for all to engage in health endeavours such as being active together for the good of the community. This finding is not new, having been highlighted previously in studies in which physical inactivity was related to prioritising community wellbeing over individual health and the necessity for a community-orientated approach (Hardin, 2015; Siefken et al., 2014). It is a finding, however, that may be more prominent in societies that value collectivism such as Pacific and Māori communities (Warbrick et al., 2016). Heard et al. (2017) listed the 10 universally common barriers to adults being physically inactive: lack of time, inconvenience, lack of infrastructure, low motivation, low confidence, lack of enjoyment, boredom, lack of self-management skills, fear of being injured and lack of support. While these factors were also found to be barriers in our study, community wellbeing as such does not feature in this list.

Clearly defining what physical activity is, and the benefits of physical activity, for not only the individual but the whole collective, is something that may help motivate Pacific people to be active. Kolt et al. (2006) identified motivation and education as a barrier for older Tongans to be physical active. Currently, 'physical activity' appears to be considered synonymous with being exhausting, and it is often the 'not knowing what to do to be active' that may act as a major barrier. Assisting Pacific people to understand the wide scope of what constitutes physical activity, for example, going for a walk with the family or vegetable gardening, can be more beneficial for health than they realise. Group exercise and community gatherings that involve dancing, team sports (such as volleyball) and having fun are other options that might appeal to Pacific people as forms of physical activity. Given the apparent misconceptions about what being physically active is, there is clearly scope to capitalise on these types of activities that incidentally increase physical activity participation as opposed to encouraging intentional physical activity (e.g., increase frequency and amount of step counts related to walking). Ensuring approaches to physical activity education and motivation are culturally appropriate has been long stressed and thus it is beholden on those working in this space to understand the populations they are working with (Belza et al., 2004; Conn et al., 2013).

Another complex barrier to physical activity engagement is insufficient support from family members, with the collective's perceptions of physical activity preventing improvements in physical activity behaviours, even if the individual wishes and

intends to become more active. Including the whole family in group activities and involving role models, such as church and community leaders, in physical activity pursuits is necessary to help extend the message. The importance of the role of leaders in delivering health messages in Pacific communities, particularly that of church leaders or health experts of the same ethnic group as the targeted community, has been previously acknowledged (Kolt et al., 2006; Look et al., 2012; World Health Organization, 2017).

Findings from this research provide suggestions that physiotherapists, and anyone, working to help improve physical activity participation for Pacific people may want to consider. When providing or suggesting Pacific peoples with physical activity programmes, consider the influence of community and collectivism on the individual. Incorporating family, whānau and kōpu tangata throughout the process, as well as community leaders, to consider community-type activities that will benefit the community (not the individual per se) and are fun, traditionally and community based (such as dance) may be an appropriate approach.

Applying Yardley's (2000) quality evaluation to our research, we were sensitive to context by recognising our limited understanding of Pacific culture and requesting guidance from the University of Otago's Va'a o Tautai and focusing on the perceptions of academics and tutors of Pacific heritage as opposed to Pacific community members to whom we had not first developed relationships of trust and openness. Further to this, as part of our reflexivity, in discussion we acknowledged how our perceptions might influence the data collection and analysis. Limitations to the completeness of our data collection, analysis and interpretation included the semantic nature of our data analysis; the level of our cultural knowledge precluding deeper latent analysis; and that the data collected was not specific to the New Zealand context and looked at Pacific people as a collective. From the five participants interviewed, two were of Cook Island descent and three of Samoan descent. Pacific people, especially in New Zealand are diverse in their customs and cultures and it is difficult to characterise everyone as 'Pasifika' (Capstick et al., 2009). As a result, future research should aim for ethnic specific data to better determine barriers and facilitators for specific ethnic groups. Although the research team were guided by the philosophies of Talanoa research methodology, we were cognisant of our limitations and that only one member of the team was of Pacific heritage. Future research should be conducted by researchers of Pacific heritage and with more experience and authenticity in Talanoa research. Further to this, the research should extend to exploring the views of other Pacific leaders and community groups. Finally, we consider that our research is important, in that as physiotherapists we need to be cognisant of the communities we work with to ensure our support and encouragement is appropriate and relevant, and here we have elucidated some clinical guidance that may be of value for physiotherapists when working with Pacific communities.

CONCLUSION

This study explored the perceptions of Pacific academics and tutors with an interest in physical activity as to facilitators and barriers to physical activity engagement for Pacific people.

Centrality of community was a prominent theme that spoke to the high value placed on collectivism and communitarianism by Pacific communities, which may limit individual choices of physical activity participation but facilitate physical activity through collective responsibility for all to engage in health endeavours. Mobilising a community response to participation in physical activity by motivating through improved understanding of the health benefits of physical activity for the community as a whole, role modelled and championed by community leaders (such as church leaders), and choosing activity programmes that are group- and community-based, fun and social occasions may be optimal facilitators. Approaches that target the individual, both in health benefits and individually based activities, may be less successful.

KEY POINTS

1. In Pacific communities, the high value placed on collectivism and communitarianism may limit individual choices of physical activity participation but facilitate physical activity through collective responsibility for all to engage in health endeavours such as being active together.
2. To facilitate people of Pacific heritage living in New Zealand into physical activity physiotherapists should consider culturally- and community-based group activity programmes rather than focus on programmes that enable the individual.
3. Working alongside community leaders, such as church leaders, may help further the importance of physical activity engagement for health benefits.

DISCLOSURES

Funding source: Paige Enoka was funded by New Zealand Health Research Council Pacific Health Research Summer Studentship. There are no conflicts of interest that may be perceived to interfere with or bias this study.

PERMISSIONS

Ethical approval was gained from the University of Otago Ethics Committee (SOP-EC-2020-07). All participants interviewed gave signed informed consent prior to participating.

No other permissions were required.

ACKNOWLEDGEMENTS

The authors wish to acknowledge the five participants and Associate Professor Rose Richards of Va'a o Tautai, Division of Health Sciences, University of Otago for her guidance and support.

ADDRESS FOR CORRESPONDENCE

Professor Leigh Hale, School of Physiotherapy, University of Otago, PO Box 56, Dunedin, New Zealand.

Email: leigh.hale@otago.ac.nz

REFERENCES

- Albright, C. L., Mau, M. M., Choy, L. B., & Mabellos, T. (2017). Physical activity among native Hawaiians and Pacific Islanders. In M. Bopp (Ed.), *Physical activity in diverse populations. Evidence and practice* (1st ed., pp. 123–137). Routledge. <https://doi.org/10.4324/9781315561264>

- Belza, B., Walwick, J., Shiu-Thornton, S., Schwartz, S., Taylor, M., & LoGerfo, J. (2004). Older adult perspectives on physical activity and exercise: Voices from multiple cultures. *Preventing Chronic Disease, 1*(4). http://www.cdc.gov/pcd/issues/2004/oct/04_0028.htm
- Biddle, M., Vincent, G., McCambridge, A., Britton, G., Dewes, O., Raina Elley, C., Moyes, S., & Edge, J. (2011). Randomised controlled trial of informal team sports for cardiorespiratory fitness and health benefit in Pacific Adults. *Journal of Primary Health Care, 3*(4), 269–277. <https://doi.org/10.1071/HC11269>
- Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology, 3*(2), 77–101. <https://doi.org/10.1191/1478088706qp063oa>
- Braun, V., & Clarke, V. (2018). Using thematic analysis in counselling and psychotherapy research: A critical reflection. *Counselling and Psychotherapy Research, 18*(2), 107–110. <https://doi.org/10.1002/capr.12165>
- Braun, V., & Clarke, V. (2020). Can I use TA? Should I use TA? Should I not use TA? Comparing reflexive thematic analysis and other pattern-based qualitative analytic approaches. *Counselling and Psychotherapy Research, 21*(1), 37–47. <https://doi.org/10.1002/capr.12360>
- Capstick, S., Norris, P., Sopoaga, F., & Tobata, W. (2009). Relationships between health and culture in Polynesia – A review. *Social Science & Medicine, 68*(7), 1341–1348. <https://doi.org/10.1016/j.socscimed.2009.01.002>
- Conn, V. S., Chan, K., Banks, J., Ruppar, T. M., & Scharff, J. (2013). Cultural relevance of physical activity intervention research with underrepresented populations. *International Quarterly Community Health Education, 34*(4), 391–414. <https://doi.org/10.2190/IQ.34.4.g>
- Dineen-Griffin, S., Garcia-Cardenas, V., Williams, K., & Benrimoj, S. I. (2019). Helping patients help themselves: A systematic review of self-management support strategies in primary health care practice. *PLoS ONE, 14*(8), Article e0220116. <https://doi.org/10.1371/journal.pone.0220116>
- Hafoka, S. F., & Carr, S. J. (2018). Facilitators and barriers to being physically active in a rural Hawai'i community: A photovoice perspective. *Asian Pacific Island Nursing Journal, 3*(4), 160–167.
- Hardin, J. (2015). Everyday translation: Health practitioners' perspectives on obesity and metabolic disorders in Samoa. *Critical Public Health, 25*(2), 125–138. <https://doi.org/10.1080/09581596.2014.909581>
- Health and Disability System Review. (2020). *Health and disability system review – Final report – Pūrongo whakamutunga*. <https://systemreview.health.govt.nz/assets/Uploads/hdsr/health-disability-system-review-final-report.pdf>
- Heard, E. M., Auvaa, L., & Conway, B. A. (2017). Culture X: Addressing barriers to physical activity in Samoa. *Health Promotion International, 32*(4), 734–742. <https://doi.org/10.1093/heapro/dav119>
- Kolt, G. S., Paterson, J. E., & Cheung, V. Y. M. (2006). Barriers to physical activity participation in older Tongan adults living in New Zealand. *Australasian Journal on Ageing, 25*(3), 119–125. <https://doi.org/10.1111/j.1741-6612.2006.00157.x>
- Labreche, M., Cheri, A., Custodio, H., Fex, C. C., Foo, M. A., Lepule, J. T., May, V. T. o., Orne, A., Pang, J. K. a., Pang, V. K., Sablan-Santos, L., Schmidt-Vaivao, D., Surani, Z., Talavou, M. F., Toilolo, T., Palmer, P. H., & Tanjasiri, S. P. (2016). Let's move for Pacific Islander communities: An evidence-based intervention to increase physical activity. *Journal of Cancer Education, 31*(2), 261–267. <https://doi.org/10.1007/s13187-015-0875-3>
- Look, M. A., Kaholokula, J. K., Carvalho, A., Seto, T., & de Silva, M. (2012). Developing a culturally based cardiac rehabilitation program: The HELA study. *Progress in Community Health Partnerships: Research, Education, and Action, 6*(1), 103–110. <https://doi.org/10.1353/cpr.2012.0012>
- Lowe, A., Gee, M., Littlewood, C., Mclean, S., Lindsay, C., & Everett, S. (2016). Physical activity promotion in physiotherapy practice: A systematic scoping review of a decade of literature. *British Journal of Sports Medicine, 52*(2), 122–127. <https://doi.org/10.1136/bjsports-2016-096735>
- Ministry of Health. (2012). *Tupu ola moui: Pacific health chart book 2012*. Wellington. https://www.health.govt.nz/system/files/documents/publications/tupu-ola-moui-pacific-health-chart-book_1.pdf
- Ministry of Health. (2016, February 22). *Self-management support for people with long-term conditions (2nd ed.)*. <https://www.health.govt.nz/publication/self-management-support-people-long-term-conditions>
- Ministry of Health. (2020, May 27). *Health and independence report 2018*. <https://www.health.govt.nz/publication/health-and-independence-report-2018>
- Ministry of Health. (2021, October). *New Zealand health survey. Regional data explorer: Results 2017–2020*. https://minhealthnz.shinyapps.io/nz-health-survey-2017-20-regional-update/_w_948fc78c#!/home
- Ministry of Health and Ministry of Pacific Island Affairs. (2004). *Tupu ola moui: Pacific health chart book 2004*. <https://www.health.govt.nz/system/files/documents/publications/pacifichealthchartbook.pdf>
- Pasefika Proud. (2016). *The profile of Pacific peoples in New Zealand*. <http://www.pasefikaproud.co.nz/assets/Resources-for-download/PasefikaProudResource-Pacific-peoples-paper.pdf>
- Schluter, P., Oliver, M., & Paterson, J. (2011). Perceived barriers and incentives to increased physical activity for Pacific mothers in New Zealand: Findings from the Pacific Islands Families Study. *Australian and New Zealand Journal of Public Health, 35*(2), 151–158. <https://doi.org/10.1111/j.1753-6405.2011.00685.x>
- Seiuli, B. M. S. (2013). Uputaua approach: Researching Samoan communities. In N. Seve-Williams, M. Taumoepeau & E. Saafi (Eds.), *Pacific edge: Transforming knowledge into innovative practice. Research papers from the fourth Health Research Council of New Zealand Pacific Health Research Fono* (pp. 71–86). Health Research Council New Zealand. <https://researchcommons.waikato.ac.nz/bitstream/handle/10289/9971/Seiuli%20Uputaua%20approach.pdf?sequence=8&isAllowed=y>
- Siefken, K., Schofield, G., & Schlenker, N. (2014). Laefstael jenses: An investigation of barriers and facilitators for healthy lifestyles of women in an urban Pacific Island context. *Journal of Physical Activity and Health, 11*(1), 30–37. <https://doi.org/10.1123/jpah.2012-0013>
- Siefken, K., Schofield, G., & Schlenker, N. (2015). Process evaluation of a walking programme delivered through the workplace in the South Pacific island Vanuatu. *Global Health Promotion, 22*(2), 53–64. <https://doi.org/10.1177/1757975914539179>
- Sopoaga, F. N. (2020). *"Folauga": Pacific health, well-being and success in higher education* [Unpublished doctoral thesis]. University of Otago. https://ourarchive.otago.ac.nz/bitstream/handle/10523/12062/PhD_Sopoaga.pdf?sequence=1&isAllowed=y
- University of Otago. (2011). *Pacific research protocols*. <https://www.otago.ac.nz/research/otago085503.pdf>
- Vaiotele, T. M. (2006). Talanoa research methodology: A developing position on Pacific research. *Waikato Journal of Education, 12*, 21–34. <https://researchcommons.waikato.ac.nz/handle/10289/6199>
- Walsh, M., & Grey, C. (2019). The contribution of avoidable mortality to the life expectancy gap in Māori and Pacific populations in New Zealand – A decomposition analysis. *New Zealand Medical Journal 132*(1492), 46–60.
- Wan, N., Wen, M., Fan, J. X., Tavake-Pasi, O. F., McCormick, S., Elliott, K., & Nicolosi, E. (2018). Physical activity barriers and facilitators among US Pacific Islanders and the feasibility of using mobile technologies for intervention: A focus group study with Tongan Americans. *Journal of Physical Activity & Health, 15*(4), 287–294. <https://doi.org/10.1123/jpah.2017-0014>
- Warbrick, I., Wilson, D. & Boulton, A. (2016). Provider, father, and bro – Sedentary Māori men and their thoughts on physical activity. *International Journal for Equity in Health, 15*, Article 22. <https://doi.org/10.1186/s12939-016-0313-0>
- World Health Organization. (2017). *Healthy islands: Best practices in health promotion in the Pacific*. <https://apps.who.int/iris/bitstream/handle/10665/274296/9789290618270-eng.pdf?sequence=1&isAllowed=y>
- World Physiotherapy. (2019, May). *Policy statement: Physical therapists as exercise and physical activity experts across the life span*. <https://world.physio/policy/ps-exercise-experts>
- Yardley, L. (2000). Dilemmas in qualitative health research. *Psychology & Health, 15*(2), 215–28. <https://doi.org/10.1080/08870440008400302>