



## Online gaming and wellbeing among Pacific youth: a scoping review

Jean M. Uasike Allen, Joanna Ting Wai Chu, Carine Umutoniwase, David Taufui Mikato Fa'avae, Lawrence May, Jacoba Matapo & Analosa Veukiso-Ulugia

**To cite this article:** Jean M. Uasike Allen, Joanna Ting Wai Chu, Carine Umutoniwase, David Taufui Mikato Fa'avae, Lawrence May, Jacoba Matapo & Analosa Veukiso-Ulugia (09 Apr 2025): Online gaming and wellbeing among Pacific youth: a scoping review, Journal of the Royal Society of New Zealand, DOI: [10.1080/03036758.2025.2478966](https://doi.org/10.1080/03036758.2025.2478966)

**To link to this article:** <https://doi.org/10.1080/03036758.2025.2478966>



© 2025 The Author(s). Published by Informa UK Limited, trading as Taylor & Francis Group



Published online: 09 Apr 2025.



Submit your article to this journal [↗](#)



Article views: 73




View related articles [↗](#)



View Crossmark data [↗](#)

## Online gaming and wellbeing among Pacific youth: a scoping review

Jean M. Uasike Allen <sup>a,b</sup>, Joanna Ting Wai Chu<sup>a,c</sup>, Carine Umtoniwase<sup>a</sup>,  
David Taufui Mikato Fa'avae<sup>d</sup>, Lawrence May<sup>b</sup>, Jacoba Matapo<sup>e</sup> and  
Analosa Veukiso-Ulugia<sup>b</sup>

<sup>a</sup>Centre for Arts and Social Transformation Faculty of Education and Social Work, Waipapa Taumata Rau University of Auckland, Auckland, Aotearoa New Zealand; <sup>b</sup>School of Curriculum and Pedagogy, Faculty of Education and Social Work, Waipapa Taumata Rau | University of Auckland, Auckland, Aotearoa New Zealand; <sup>c</sup>School of Population Health, Waipapa Taumata Rau | University of Auckland, Auckland, Aotearoa New Zealand; <sup>d</sup>School of Critical Studies, Faculty of Education and Social Work, Waipapa Taumata Rau | University of Auckland, Auckland, Aotearoa New Zealand; <sup>e</sup>Office of the Pro Vice Chancellor, Auckland University of Technology, Auckland, Aotearoa New Zealand

### ABSTRACT

Online gaming has become a core activity for leisure and as a career option. However, discourses on gaming are often adult-centric and position online gaming as detrimental to youth mental health and wellbeing. There is extensive research into online gaming and its intersections with gender and age, but our interests lie in gaming literature at the intersection of Pacific ethnicities. This article presents the findings of a scoping review focused on Pacific youth and online gaming. In line with the Preferred Reporting Items for Systematic Reviews and Meta-analyses (PRISMA) guidelines, 56 studies were identified, with only 3 studies meeting the inclusion criteria. These studies investigated the relationship between gaming and gambling among Pacific youth and the gamification of mental health support through computerised cognitive behavioural theory (cCBT). They found that, while Pacific people spend more money on lootboxes than other ethnic groups, there is no association between purchasing lootboxes and gambling. Additionally, Pacific peoples are able to suggest solutions to mitigate risk of gaming harm. Findings of the scoping review indicate a scarcity of literature on online gaming and Pacific youth wellbeing. There is a need to explore this relationship between gaming and Pacific youth wellbeing from Pacific wellbeing perspectives.

### ARTICLE HISTORY

Received 4 June 2024  
Accepted 10 March 2025

### KEYWORDS

Mental health; online gaming; Pacific models; Pacific youth; wellbeing

## Introduction

The digital world is one of the fastest-growing spaces, with people aged 16–64 years spending, on average, nearly seven hours a day online (Kemp 2021). Technology

**CONTACT** Jean M. Uasike Allen  jean.allen@auckland.ac.nz

© 2025 The Author(s). Published by Informa UK Limited, trading as Taylor & Francis Group  
This is an Open Access article distributed under the terms of the Creative Commons Attribution-NonCommercial-NoDerivatives License (<http://creativecommons.org/licenses/by-nc-nd/4.0/>), which permits non-commercial re-use, distribution, and reproduction in any medium, provided the original work is properly cited, and is not altered, transformed, or built upon in any way. The terms on which this article has been published allow the posting of the Accepted Manuscript in a repository by the author(s) or with their consent.

growth has seen the development of various online means of entertainment, which includes playing video games. Gaming has become globally prevalent and popular as a media form and cultural industry, with an estimated 3 billion gamers across the globe in 2022 and with 83.6% of people playing video games worldwide across any technological device (Clement 2024). In Aotearoa New Zealand (from here on Aotearoa NZ), a study that sampled 2270 respondents of all ages from 800 households noted that approximately 93% of those aged 5–14 years play video games (Hughes 2023). Another study entitled *New Zealand Plays*, a research series on gaming habits conducted by the Interactive Games and Entertainment Association, sampled 809 households and reported that 79% ( $n = 1519/1923$ ) of New Zealanders play video games. In this study of 1328 adult participants, 87% reported playing video games to improve their mental health (Brand et al. 2023). There is a range of types of games that can be played over digital devices, therefore, for clarity in this scoping review, video games or digital games are games played using computing hardware and software, and online games are video games or digital games played on or over an internet connection (see Ferretti et al. 2008; Crawford et al. 2011). We also include the term ‘player vs player’ (PVP) to denote the type of game that is being played. Multiplayer gaming involves interactive gameplay with other human players (rather than computer-generated players) within the particular gamescape where the game format, rules and mechanics are explicitly designed to arrange players in competition with one another. These games can often include first-person shooter games, role-playing games, and Esports (electronic sports). While gaming has increased in popularity, opinion continues to be divided on whether it has a positive or negative impact on the wellbeing of young people.

Arguments concerning the amount of game time and what games are appropriate for young people often dominate news media and parental discussions (Ministry of Social Development 2019; Brannam 2021). Further, academic research globally has drawn attention to the impact of online gaming on students’ educational outcomes (Adžić et al. 2021), on mental wellbeing, gaming addictions (King et al. 2018) and on the appropriateness of games involving guns and violence (Are We There Yet 2019). In opposition to this, some research has highlighted the potential positive impact of gaming. Technology and online media have provided a context for people to create meaningful connections (Militello et al. 2018), especially in the COVID and post-COVID period (Kelly et al. 2021; Ministry of Youth Development [date unknown]). Gaming communities have also been described as supportive spaces that facilitate socialisation with others (Paul et al. 2008). Online game scenarios provide key learning experiences in a range of settings such as disaster risk management (Le Dé et al. 2020) and mental health (Auckland UniServices Ltd 2009). Further, online gaming experiences have the potential to teach skills that can shape new forms of thought and behaviour such as problem solving and, in households, can also reinforce positive behaviours (Granic et al. 2014; Rikkers et al. 2016). The ongoing debates on gaming and its impacts highlights the need for more research in examining the effects of gaming on young people (Granic et al. 2014). Despite the complicated relationship between young people and the online world, research with youth has shown that playing online games could be a good alternative for mental health support, as young people find online games easy to access and engage with while also providing stress relief, relaxation and relieving boredom (Victoria University of

Wellington 2020). Other studies have suggested that gameplay involves acquiring knowledge and skills that can be transferred to the real world (Featherstone and Habgood 2019). Online gaming has multifaceted cognitive benefits; for instance, shooter games enhance spatial skills like mental imagery and mental rotation abilities. The spatial skill improvements are comparable to formal courses and are crucial to future achievements in STEM fields (Granic et al. 2014). In addition, peer-to-peer virtual interactions create and reinforce positive social norms which can lead to healthy behaviour change (Craig and Stephens 2012). Through online gaming, adolescents and young people engage in immersive social, cognitive and emotional experiences that can enhance mental health and wellbeing (Granic et al. 2014). A study conducted by Mandryk et al. (2020) surveyed 300 World of Warcraft players to understand the association between in-game social capital (i.e. strong relationships that offer emotional and social support) loneliness and wellbeing. The study found that in-game bonding social capital has a positive association with wellbeing (Mandryk et al. 2020). The authors noted that gaming can nurture wellbeing by helping players recover from daily stressors, cope with life's challenges and practice emotion regulation. Mandryk et al. (2020) further noted that overall, the relationship between gaming and wellbeing depends on contingent factors, such as passion orientation and the quality of social interactions within the game. These conditional factors emphasise the necessity for further investigation, taking into account individual traits, underlying pathologies and gaming environments when assessing the influence of gaming on wellbeing (Mandryk et al. 2020).

With the growth of the gaming industry has come research into gaming design, gaming communities and gaming interactions in online spaces. While research focuses on exploring gaming habits across age and gender, ethnicity appears to be largely neglected, especially in Aotearoa NZ-focused literature. There is scarce scholarship that documents the experiences of Pacific youth engagement with online gaming and how these online gaming communities contribute to their wellbeing. From Pacific collective perspectives, relationality (that we are connected to all things and everyone, through our interactions) is central to wellbeing, and as such, building and maintaining relationships across space and time is one of the commonly shared principles that reinforce Pacific worldviews (see Wendt 1996; Ka'ili 2017; Fa'avae 2018; Iosefo 2018; Aporosa and Fa'avae 2021; Smith and Wolfgramm-Foliaki 2021; Teariki and Leau 2023). Indigenous scholar Carl Mika articulates that this sense of relationality acknowledges that we are all connected, and our being is constructed through our interactions with the world (Mika 2017). That we are being made while also making the world around us through our daily interactions. Therefore, not only is it important to explore the experiences of Pacific youth within online gaming spaces, but it is imperative that we view these experiences through a relational lens as a means of understanding how Pacific youth are constructing wellbeing in these spaces. This article is part of a larger research project and was the first step in trying to understand how gaming contributes to Pacific youth wellbeing, by undertaking a scoping review to explore literature focused on Pacific youth, online gaming and wellbeing. The next sections provide background regarding Pacific peoples in Aotearoa NZ, the health and wellbeing status of Pacific youth in Aotearoa NZ and Pacific conceptualisations of wellbeing. These Pacific-focused aspects illuminate the context in which this scoping review sits and helps us to start questioning how these

concepts perhaps relate to Pacific youth within the online gaming space, as dominant articulations of Pacific wellbeing are largely informed by adults.

### ***Pacific peoples in Aotearoa***

In Aotearoa NZ, ‘Pacific peoples’ refers to diverse groups from Micronesia, Melanesia and Polynesia, including those from Niue, Tokelau, Cook Islands, Tonga, Fiji and Samoa (Macpherson 1991; Macpherson 1996; Bedford and Didham 2001; McFall-McCaffery 2010). Pacific peoples have a long history of migration, with many settling in Aotearoa NZ (Macpherson and Macpherson 2009; Salesa 2017). There are 17 distinct Pacific ethnic groups, with Samoans being the largest (47.9%), followed by Tongans (21.6%) and Cook Island Māori (21.2%) (Ministry of Pacific Peoples 2022). Pacific communities significantly contribute to Aotearoa NZ society (Allen and Veukiso-Ulugia 2023; Veukiso-Ulugia et al. 2024). Pacific peoples number over 382,000, making up 8% of the population, with a median age of 23 years, younger than other ethnic groups (Ministry of Pacific Peoples 2022). Pacific peoples in Aotearoa are also often referred to as Pasifika, a term that denotes the collective grouping of these ethnicities often for the purposes of reporting within educational fields. While the authors of this scoping review use the term Pacific peoples, or Pacific youth, there are times where Pasifika is used as it is the term included in the literature or articles that have been discussed.

### ***Pacific youth in Aotearoa***

The term ‘youth’ often refers to adolescents, young people and teenagers, but distinctions exist. In health research, ‘youth’ relates to physical and social maturation (Curtis 2015; World Health Organization 2015; Allen and Veukiso-Ulugia 2023). Pacific and Indigenous perspectives emphasise social and cultural milestones, like financial status or marriage, over specific age groups (Noble et al. 2011). This review uses the World Health Organization’s definition of youth (ages 15–24) (World Health Organization 2015). Over one-third of the Pacific population in Aotearoa NZ is under 15, highlighting the importance of focusing on Pacific youth (Ministry of Pacific Peoples 2022; Allen and Veukiso-Ulugia 2023). However, concerns for their wellbeing persist.

### ***The health and wellbeing of Pacific young people in Aotearoa New Zealand***

A recent Pacific report highlighted the health and wellbeing status of Pacific youth in secondary schools (aged 12–19 years) in Aotearoa NZ (Veukiso-Ulugia et al. 2024). This report, based on the Youth19 Rangatahi Smart Survey—a cross-sectional survey with over 7000 secondary students including over 1100 Pacific students—found that most Pacific students report being healthy, happy and satisfied with their lives. Veukiso-Ulugia et al. (2024) reported youth as having positive connections with their family, school and community environments, including faith-based communities. Additionally, the report illuminated that Pacific students are making healthy choices and planning for the future. The report reiterates the importance of ongoing commitments, advocacy and

investment into Pacific youth and community health initiatives, which are believed to greatly contribute to improvements in Pacific youth health and wellbeing.

However, findings also revealed that Pacific youth continue to be impacted by significant health inequities that are experienced in a range of ways. These include, but are not limited to, experiences of racism, living in high-deprivation areas, facing housing challenges, food insecurity and everyday financial stress due to socioeconomic factors (Veukiso-Ulugia et al. 2024). In the same report, it was also noted that Pacific young people are also facing major concerns related to their mental and sexual health (Veukiso-Ulugia et al. 2024). This study builds on previous Pacific reports that also identified similar areas of concern such as poor socio-economic conditions, exposure to unhealthy food environments and issues with accessing healthcare, including dental care, when needed (Mila-Schaaf et al. 2008; Helu et al. 2009; Fa'alili-Fidow et al. 2016) and adds to other Pacific findings from Youth19 highlighting the inequities that Pacific youth face (e.g. see King-Finau et al. 2022; Simon-Kumar et al. 2022; Ball et al. 2023; Roy et al. 2023; Sutcliffe et al. 2023). Despite these inequities, there are a range of factors such as family, school and church relationships that have improved over the last 19 years (Veukiso-Ulugia et al. 2024). Being cognisant of these factors and the significant impact they have on Pacific youth wellbeing needs to be considered when exploring Pacific youth wellbeing in a range of contexts such as online gaming spaces. These factors are elaborated on in the next section.

### ***Pacific conceptualisations of wellbeing***

This scoping review draws attention to the connection, or lack of connection, between Pacific youth, online gaming and wellbeing. Hence, it is important to draw attention to how wellbeing is conceptualised within Pacific worldviews, as a means of identifying gaps within the literature that need to be addressed. Wellbeing is central to the thriving of Pacific communities, including Pacific youth, and involves diverse approaches such as language revitalisation, Pacific employment strategies and financial literacy education (Ministry of Pacific Peoples 2022). However, defining wellbeing from Pacific perspectives is challenging (Allen *Forthcoming*). Academics have tried to define wellbeing, which has been helpful in various fields, especially within the health sector, but these definitions need to reflect both academic and community knowledge (Ministry of Pacific Peoples 2022).

Pacific models of health, developed in the 80s and 90s, emphasise an holistic and culturally sensitive approach to health for Pacific peoples in Aotearoa NZ (Young et al. 2022). These models acknowledge the cultural distinctiveness of Pacific peoples and draw from Indigenous epistemologies (Teariki and Leau 2023). They are based on interdependent factors contributing to holistic wellbeing, including mental health. The multi-dimensional concept of health in Pacific worldviews encompasses the wellbeing of the whole person and their connections to living and non-living things (Tu'itahi et al. 2021). Disconnection or weakness in any health dimension jeopardises overall wellbeing.

Pacific models, while diverse, share principles such as holistic systems, collectivity, family, spirituality, connection to the natural environment and *vā* (the space between people and things) (Teariki and Leau 2023). These models, like Indigenous Māori frameworks such as *Te Whare Tapa Whā* (Ministry of Education 1999), communicate key

concepts and values embedded in Pacific worldviews to non-Pacific and non-Indigenous people.

The Fonofale model, Fonua model and Te Vaka Atafanga are among the most recognised Pacific health and wellbeing models (Teariki and Leau 2023). These models aim to capture the complexities of health and wellbeing within Pacific worldviews, highlighting the importance of mental health as part of holistic wellbeing.

Existing Pacific models of health and wellbeing signal core values and principles required to effectively support the wellbeing of Pacific peoples. However, as Teariki and Leau (2023) note, such models are not necessarily reflective of Pacific youth worldviews and understandings of wellbeing, or of experiences in new environments such as online multiplayer gaming spaces. Therefore, there is a pressing need to explore Pacific conceptualisations of wellbeing within online gaming spaces. Anecdotally we know more and more Pacific youth are engaging in online spaces and gaming communities as a means of social connection, but there is limited focus on these interactions, especially from Pacific perspectives. That is why this initial scoping review was needed to examine what has been published in relation to online gaming and Pacific youth wellbeing as a means of identifying gaps that require further research for the betterment of Pacific peoples.

## Methods

We conducted a scoping review following the Preferred Reporting Items for Systematic Reviews and meta-Analyses extensions for Scoping Reviews (PRISMA-ScR) (Tricco et al. 2018). The review sought to identify studies that have focused on Pacific youth populations, their engagement in online gaming and their wellbeing. The scoping objectives included:

- i. To identify and describe the current literature focused on wellbeing and online gaming in Pacific youth.
- ii. To identify the gaps in research focused on wellbeing and online gaming in Pacific youth.

### *Search strategy and eligibility criteria*

The search strategy was reviewed by a university librarian, and it followed the PRISMA-ScR guidelines (Tricco et al. 2018). Electronic searches were conducted between 11 January and 7 February 2023 across four databases (EBSCOhost, Web of Science, PsycARTICLES and ScienceDirect) to include a broader range of sources relevant to Pacific studies. These databases provided extensive coverage of theoretical, lived experiences and community-based approaches which were crucial for our research. To ensure broad relevance, we also supplemented our database with searches through four journals (Journal of Indigenous Wellbeing, Journal of Polynesian Society, Journal of Pacific Studies and Mai Journal) to identify key studies that might not be indexed in traditional databases. The first 100 results of Google Scholar using the search terms from Table 2 below were also screened in November 2023. Additional studies were identified through reference mining of eligible studies. Grey literature search was conducted

using the ProQuest Dissertations and Theses Database, University of Auckland Library and National Library of New Zealand. The search terms combinations were informed by five key terms related to Pacific youth, online gaming and wellbeing, as presented below in [Table 2](#).

Initial searches included other databases such as EMBASE and PsycINFO, but they did not recognise the search terms related to Pacific identity. This led to inconsistency in the searches and inconclusive results which saw the databases excluded from the review. With the difficulty in recognising some of the characters used for Pacific identity terms, a shortened search term for Pacific identity was created based on the niche of the Pacific ethnicities under investigation in this review. The electronic search across the databases yielded 56 results.

The search strategy focused on empirical studies and grey literature published in English between January 2000 and December 2022. Grey literature included reports from health agencies, advocacy groups as well as unpublished dissertations. Studies were included if they met the following criteria: (a) Pacific young people aged between 12–24 years as study participants; (b) focus on online gaming or player vs player interactions; (c) examined an aspect related to wellbeing/mental health; and (d) published in the English language.

### ***Study identification, selection and screening process***

Study identification followed the prescribed eligibility criteria focusing on research published in English that involved Pacific youth, online gaming and wellbeing, where the population was aged between 12–24 years. Literature was not limited by study design and therefore included empirical studies as well as reviews, guidelines and grey literature such as unpublished dissertations and reports. Initially, all records retrieved through the data base search were imported into referencing management software (EndNote). Duplicates were identified and removed. A total of 54 articles were screened. Title and abstracts were independently screened by two reviewers against the predefined inclusion criteria, which focused on studies examining online gaming, Pacific youth and wellbeing. A total of 38 studies were excluded, as they did not meet the inclusion criteria or met the exclusion criteria of involving animal studies, did not meet the population target group of Pacific youth aged 12–24 years or were opinion pieces, editorials or newsletters. Full-text screening was conducted on the remaining 16 studies by the same two reviewers. Any disagreement was discussed, and a third reviewer was consulted for any discrepancies during the process. The screening process resulted in a total of three studies included for review as presented in PRISMA flow chart diagram in [Figure 1](#).

### ***Data extraction and synthesis***

A data extraction table was developed through Microsoft Excel based on study characteristics and variables related to the research objectives. Data from the included studies were extracted focusing on the following variables: title, author, year of publication, location, purpose, type of study, study design, sample, outcome measured, instrument used, type of analysis, key findings, as illustrated in [Table 3](#) below. Two reviewers independently

**Table 1.** Pacific models of health and wellbeing.

Model	Creator	Culture and proponents	Purpose	Dimensions
<b>Fonofale</b>	(Pulotu-Endemann 2007)	<ul style="list-style-type: none"> <li>• Pan-Pacific model of Samoan heritage</li> <li>• Values and beliefs from Cook Islands, Samoa, Tonga, Fiji, Niue and Tokelau</li> </ul>	Meet the need for culturally effective health services for Pacific peoples	<ul style="list-style-type: none"> <li>• Metaphysical factors: environment, time, context</li> <li>• Four pillars: physical, spiritual, mental and others (gender, age, sexuality and socioeconomic status)</li> </ul>
<b>Fonua</b>	(Tu'itahi 2007)	<ul style="list-style-type: none"> <li>• Tongan</li> </ul>	Development of a model of health to help with mental health assessment and service delivery for Tokelau families	<ul style="list-style-type: none"> <li>• Five dimensions: physical (<i>sino</i>), mental (<i>'atamai</i>), spiritual (<i>laumalie</i>), community (<i>kainga</i>) and environmental (<i>'ataka'i</i>)</li> <li>• Four phases: <i>kumi fonua</i> (search, explore, navigate new fonua), <i>langa fonua</i> (form, build and construct), <i>tauhi fonua</i> (maintain and sustain), <i>tufunga fonua</i> (reform and reconstruct) and <i>lilii</i> (change)</li> </ul>
<b>Te Vaka Atafanga</b>	(Kupa 2009)	<ul style="list-style-type: none"> <li>• Tokelau (dependent territory of NZ in the southern Pacific Ocean)</li> </ul>	Need for a unique model to represent Tokelau culture and people Mental health model for Tokelau	<ul style="list-style-type: none"> <li>• Six dimensions: <i>te tino o te tagata</i> (physical body), <i>mafaufau</i> (mind), <i>kaiga/pui-kaiga</i> (family), <i>tapuakiga/talitonuga</i> (spirituality/belief systems), <i>puipuiga o te tino o te tagata</i> (environment—includes weather, land, sea, lagoon, sky, stars, moon, winds and air), <i>Inati</i> (the system of of sharing for the benefit of the kaiga).</li> </ul>

extracted data from eligible studies. To ensure consistency, both reviewers piloted the extraction table on a subset of studies. Discussions were held to align understanding and resolve any ambiguities during the extraction process.

## Results

In total, three studies were included in this scoping review. These studies predominantly focused on investigating the relationship between gaming and gambling among Pacific youth (Taufa et al. 2021; Gentles et al. 2022) and on the gamification of mental health support (mobile health) as part of computerised cognitive behavioural therapy (cCBT) (Christie et al. 2019).

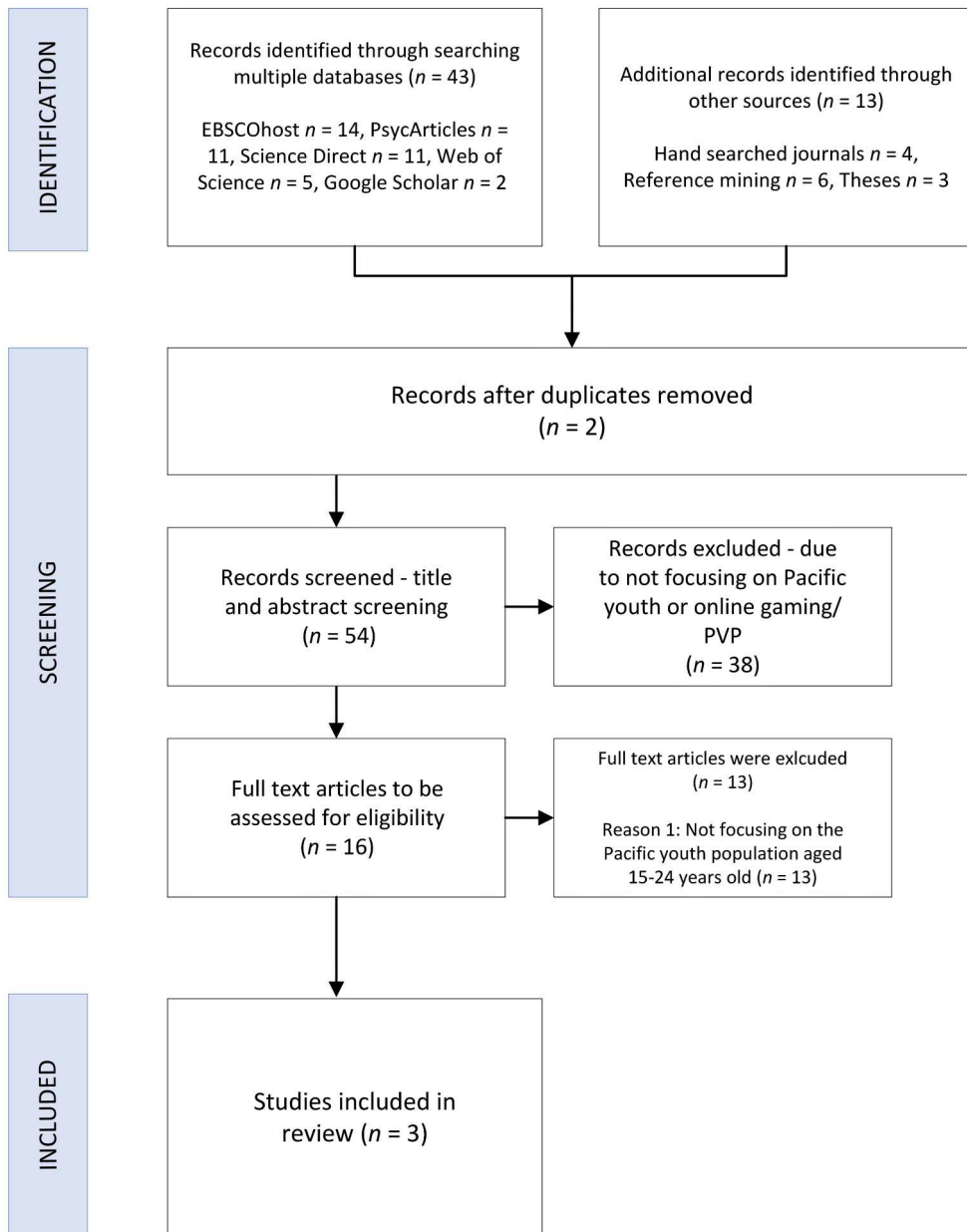
The qualitative study by Christie et al. (2019) described the development of a gamified CBT intervention known as Quest –Te Whitianga. The purpose of this development was to incorporate a cultural lens to the gamification of CBT interventions in Aotearoa NZ. The process included various qualitative methods to collect feedback from a range of stakeholders including youth service, primary care providers and schools. Key emphasis

**Table 2.** Study search terms.

Key term	Search terms
Game	(gaming or gamification or videogam* or computer gam* or video gam* or electronic gam* or ludic or ludo* or multiplay* or digital gam* or digital play or metagam*)
Online	(online digital or online or video or simulation or computer* or mobile or multiplayer* or cyber or cyber space or socio-digital or internet)
Wellbeing	(mental health or wellbeing or well-being)
Youth	(youth or youths or young people or adolescents or teen or teens or teenagers or child* or young adult or young adults)
Pacific identity	('pacific islander' or 'native hawaiian' or <i>hawaii</i> or 'ni'ihau' or <i>niihau</i> or 'kaua'i' or <i>kaui</i> or 'o'ahu' or <i>oahu</i> or 'moloka'i' or <i>molokai</i> or 'lana'i' or <i>lanai</i> or 'kaho'olawe' or <i>kahoolawe</i> or <i>maui</i> ). or ('austral islands' or australasia or 'caroline islands' or carolinian or <i>chamorro</i> or <i>chuuk</i> or <i>chuukese</i> or 'cook islands' or 'easter island' or <i>fiji</i> or <i>fijian</i> or 'futuna island' or <i>guam</i> or <i>guamanian</i> or 'i-kiribati' or <i>kiribati</i> or <i>kosrae</i> or <i>kosraean</i> or 'mariana islander' or 'mariana islands' or 'marshall islands' or marshallese or melanesia or melanesian or micronesia or micronesian or 'new caledonia' or <i>niue</i> or 'ni-vanuatu' or 'pacific islands' or <i>palau</i> or <i>palauan</i> or 'papua new guinea' or 'papua new guinean' or 'phoenix islands' or 'pitcairn islands' or <i>pohnpei</i> or <i>pohnpeian</i> or polynesia or polynesian or 'rapa nui' or <i>saipan</i> or <i>saipanese</i> or 'american samoa' or <i>samoan</i> or <i>samoan</i> or indigenous or pasifika or pacifica)
Shortened Pacific identity search terms	(Samoan or Tongan or Fijian or Cook Island Māori or Niuean or Tokelauan or Tuvaluan)

was on gaining feedback from Māori and Pacific young peoples. As part of the development, the process involved engaging with Māori and Pacific high school students in a codesign process to identify and enhance the look and feel of the app, maximising its engagement and utility. Central to the codesign process was the exploration of how they could incorporate the values and cultural practices (tikanga) of Māori and Pacific people within the application. The final app incorporated gamification features such as points, badges, progress tracking and narrative elements to increase engagement and encourage repeated use. The authors did not specify the total numbers of participants engaged as part of app development but involved a range of stakeholders including youth services, primary healthcare providers and high schools with Māori and Pacific youth. Evaluation of the prototype involved 30 Māori and Pacific young people. A useability testing method was used where participants verbalised their thoughts as they moved through the user interface of the application. The findings from this process form the foundation for the further development of this app.

Taufa et al. (2021) was a mixed methods study conducted to understand the association between online gaming and electronic gambling among Pasifika youth. A total of 828 participants aged between 16–30 years completed an online survey that sought to identify the possible links between gaming and gambling and further understand the needs of young people while gaming to prevent problem gambling. Of the 828 participants, 402 identified as Pasifika (50% Samoan, 20% Cook Island Māori and 15% Tongan) while the others identified as non-Māori and non-Pasifika. In the total sample, 78.9% identified as male. Within the Pasifika sample, 72.6% identified as male. Seven focus groups were conducted, with a total of 75 Pasifika young people aged between 16–30 years (37% female and 63% male) to gather in-depth insights on the gaming habits and in-game purchases of Pasifika youth and adults. Findings from both the qualitative and quantitative studies showed that Pasifika young men were more likely to game for social reasons with their peers than Pasifika young women, who described alternative social activities. In addition, the study reported a higher



**Figure 1.** PRISMA flow chart for Pacific youth and online gaming.

investment of time and money in gaming among Pasifika youth/adults compared to their non-Māori and non-Pasifika counterparts. Further, Pasifika youth and adults in the focus groups, drawing from their gaming experiences, were able to identify the impact of gaming on wellbeing, mentioning issues such as isolation, mood fluctuations and interference with academic pursuits. Multiplayer games were identified as the most popular form of gameplay due to ease of access, the gaming features and their ability to enable youth to socialise online.

**Table 3.** Characteristics of included studies.

Title	Author	Year	Location	Purpose	Type of Study	Study Design	Sample i.e. N, type of participants	Outcome i.e. outcomes measured (primary and secondary)	Instrument i.e. instruments used to measure, e.g. surveys	Analysis	Findings i.e. conclusion from research
Are video game lootboxes associated with gambling among young Pacific adults in New Zealand?	D. Gentles, S. Taufa, G. Berking, P. Siatuga, P. Ah-Honi and J. Fa'alili-Fidow	2022	New Zealand	To find out whether buying a lootbox was associated with gambling in Pacific young people	Qualitative study	Online survey	N = 828 aged 16–30 years (Pasifika youth n = 402; non-Māori and non-Pasifika n = 426); 653 male and 162 female	Primary outcomes measured include demographic data including ethnicity, occupation and income. Other outcomes included games played, frequency of gaming, buying of lootboxes or not and gambling avenue/medium.	Questionnaire delivered through online survey	Statistical analysis	There was no association between buying lootboxes and gambling among young Pacific people. A longitudinal study would be a better method for discovering whether an association exists.
Pasifika Youth Online Gaming and Gambling Research: Are online video games a gateway to problem gambling among Pasifika youth?	S. Taufa, D. Gentles, G. Berking, P. Siatuga, P. Ah-Honi and J. Fa'alili-Fidow	2021	New Zealand	To understand the experiences of Pasifika Youth gamers better and whether there is a relationship between gaming and gambling	Mixed methods study	Online survey and focus groups (talanoa)	N = 903 participants aged 16–30 years (Pasifika youth n = 477; non-Māori and non-Pasifika n = 426)	Primary outcomes included demographic data including ethnicity. Other outcomes included frequency of gaming, money spent on gaming and links between gaming and gambling.	Questionnaire and interview questions	Inductive analysis	Pasifika youth throughout New Zealand were able to share their perspectives on their gaming and gambling behaviour, identify signs of harm mentioned and offer suggestions to prevent and reduce harm throughout the focus groups. In the quantitative study (online

(Continued).

Table 3. Continued.

Title	Author	Year	Location	Purpose	Type of Study	Study Design	Sample i.e. N, type of participants	Outcome i.e. outcomes measured (primary and secondary)	Instrument i.e. instruments used to measure, e.g. surveys	Analysis	Findings i.e. conclusion from research
Gamifying CBT to deliver emotional health treatment to young people on smartphones	G. I. Christie, M. Shepherd, S. N. Merry, S. Hopkins, S. Knightly and K. Stasiak	2019	New Zealand	To provide a description of the therapeutic components utilised and the steps taken during the codesign process to gamify a mobile health CBT	Qualitative study	Development of a modular mobile app to engage young people in online CBT – focused on positive psychology	Sample size during app development not mentioned in numbers but it included youth services, primary healthcare providers and high schools with Māori and Pacific youth. However,	Development of a modular mobile app to engage young people in online CBT – focused on positive psychology	Qualitative methods including face-to-face interviews, focus groups	User analysis ideation and implementation	The development of Quest-Te Whitianga, a modular mobile app incorporating gamification for online cognitive behavioural therapy (CBT), is outlined. The iterative codesign process
								Outcome i.e. outcomes measured (primary and secondary)	Instrument i.e. instruments used to measure, e.g. surveys	Analysis	Findings i.e. conclusion from research
								no association between buying lootboxes and gambling, and this was true even when combining all the ethnic data. Pasifika gamers also spend significantly more money on lootboxes than their non-Māori, non-Pasifika counterparts. Risk factors were similar for gaming and gambling. However, when given the opportunity, Pasifika youth were able to suggest solutions that mitigated the risk of gaming harm.			

intervention for adolescents

evaluation of the prototype involved  $N = 30$  young people

involved NZ European, Maori and Pasifika adolescents, along with a software development company. Fortnightly sprints and feedback from diverse user groups informed the app's evolution. Gamification was employed to enhance engagement and skill acquisition, surpassing the gamification extent in many existing CBT apps. While studies on gamification's impact on mental health app engagement are inconclusive, Quest –Te Whitianga's comprehensive gamification features aim to boost user involvement and efficacy.

The final piece of literature in our review was informed by a previous study (Taufa et al. 2021) and utilised data from the same participant cohort to further explore the specific association between in-game purchasing and gambling (Gentles et al. 2022). Due to the publication drawing on the previous cohort data and methodology, we have not repeated the content here. However, we note in this publication the authors analysed data to explore whether there was a correlation between purchasing lootboxes and gambling. The article reported finding no correlation between the purchase of lootboxes and gambling and therefore concluded that gambling and the buying of lootboxes are independent of each other (Gentles et al. 2022).

While the literature scoped here is limited, these three studies share two notable similarities. First, they emphasise the importance of youth perspectives in potentially addressing behavioural and mental health concerns. Both the focus group discussions on gaming and gambling among Pasifika youth (Taufa et al. 2021; Gentles et al. 2022) and the codesign process for Quest–Te Whitianga (Christie et al. 2019) involve actively seeking input from young people, highlighting their role in shaping potential solutions. Secondly, all three articles acknowledge the limitations of current research methods or tools and advocate for innovative approaches. For example, Gentles et al. (2022) calls for a longitudinal study to better explore potential associations between lootbox purchasing and gambling, while Christie et al. (2019) reflects a commitment to improving mental health engagement through gamification. Together, these similarities highlight the value of youth-centred, iterative research and intervention strategies in addressing complex issues.

## Discussion

This scoping review presents an overview of the published literature on Pacific youth wellbeing as it relates to online multiplayer gaming. The results, according to our search criteria, suggest that there is a dearth of ethnic-specific research into online gaming practices and contributions to Pacific youth wellbeing, therefore, we are limited in highlighting the key knowledge and evidence within these fields.

Of the three studies identified, one study described the development of a cCBT intervention that incorporated gamification features that are used in online games. Pacific youth were engaged as part of the app development process to ensure that the app is culturally appropriate. A limitation noted by the authors was the lack of incorporation of elements that promote social interactions and/or shared learning, which are often present in online gaming and which the young people engaged expressed interest in. Granic et al. (2014) asserted that video games have the potential to address some of the identified limitations of cCBT as exemplified by the Quest app. Integrating video games into established intervention approaches could enhance motivation and engagement and provide different opportunities to learn and practice skills in flexibly designed contexts (Granic et al. 2014). The other two studies focused on investigating online games as a gateway to gambling among Pasifika youth living in Aotearoa NZ (Taufa et al. 2021; Gentles et al. 2022). Both studies found no direct association with online gaming (focusing on microtransactions) and gambling among young Pacific people. The findings indicated that the buying of lootboxes and gambling were two independent activities (Taufa et al. 2021; Gentles et al. 2022).

The scarcity of literature highlights the urgent need for research that examines the association between online gaming and wellbeing among Pacific youth. This is important because young people make up a large portion of online gamers globally and in Aotearoa NZ (Hughes 2023; Clement 2024). In addition, Pacific youth wellbeing is a key concern currently in Aotearoa NZ, with the findings of the latest Pacific youth wellbeing survey report (Veukiso-Ulugia et al. 2024) indicating that equity issues for our young people still persist. Furthermore, youth voices are generally absent from the adult-centred and -informed discussions that have given gaming a negative connotation. By excluding the voices of the largest group involved in gaming culture we risk adopting biased opinions that are carried into designing policies and interventions for youth mental health and wellbeing.

It is also important to consider gaming and Pasifika youth wellbeing in relation to the Pacific models of wellbeing. While beyond the limits of the current scoping review, there appears to be a lack of inquiry regarding relational Pacific concepts and their role within the online gaming space. Relationality has not been specifically positioned in the Fonofale model, the most recognised Pan-Pacific model of health, as a significant element in holistic wellbeing from a Pacific lens. The Le Toloa institute found that health for Pacific people is influenced by social determinants that lie outside the health sector (Soifua 2021). Such social determinants could include relationality, which allows us to go into the unknown spaces and transcend the human space. Likewise, the digital space is also not situated in the health model; the environment dimension of the Fonofale model speaks to the physical environment in rural or urban settings. In our increasingly digitised world, it is important to incorporate the digital environment and consider the relationships and interactions of Pacific people in online spaces and the implication to their health and wellbeing. Perceptions and understandings of wellbeing can shift across time and context (settings) of Pacific peoples (Young et al. 2022). In addition, the study by Young et al. (2022) noted a common gap in the absence of youth voices in Pacific research and literature. The Pacific models of health and wellbeing are silent on the agency and voice of young people, with emphasis laid on the family unit as a foundation for Pacific peoples' cultures. Considering that the study seeks to document Pacific youth voices and perceptions of online gaming and wellbeing from a strength-based position, it is important to consider the place of digital understandings of relationality in Pacific health models, especially the Fonofale model.

While this scoping review returned limited results and highlighted a need for more research in the online gaming space that privileges Pacific relational lenses as a means of understanding the development of wellbeing, there has been a range of literary reviews in adjacent fields that have contributed to discussions about Pacific youth wellbeing. For example, Auva'a-Alatimu et al. (2024) focused on understanding the impact of digital therapeutic engagement in promoting mental wellbeing for Pacific youth. Their review highlighted how there is a range of Pacific digital mental health tools available to Pacific youth in Aotearoa NZ, but there is a lack of supported literature regarding their effectiveness and impactfulness when promoting Pacific youth mental health. Additionally, a scoping review focused on alcohol use by Pacific populations (including youth) reported that key protective factors that influenced Pacific youth alcohol consumption, or lack thereof, included having strong links to family (including extended family), peers and church (Nosa et al. 2021). They found that Pacific youth engagement

in binge drinking had declined but there was a need to critically examine support services available to Pacific populations. While these literature reviews do not link directly to the online gaming context, they are important as they provide valuable insight and consideration for work engaging Pacific youth while focusing on wellbeing. As evident in the findings of these two scoping reviews, as well as the three identified in this publication, Pacific youth conceptualisations of wellbeing are holistic, where relationality is at the core of protective factors that can influence and impact health and wellbeing behaviours. However, it also illuminates that there needs to be a balance between interventionist research and evaluations of such interventions to ensure they are impactful for our Pacific young people. Furthermore, there are important implications for policy and practice related to Pacific youth wellbeing and online gaming. There is a clear need to ensure policy is cognisant and reflective of Pacific youth wellbeing needs and considers the importance of online gaming environments to young people.

### **Strengths and limitations**

This is the first scoping review conducted on online gaming and wellbeing among Pacific youth. A key limitation of the scoping review process was constrained by the search terms used within the databases. Importantly, the lack of recognition of Pacific identity terms, such as ‘*ni’ihau*’ or *niihau* or ‘*kaua’i*’ or *kauai* or ‘*o’ahu*’ or *oahu* or ‘*moloka’i*’ or *molokai* or ‘*lana’i*’ or *lanai* or ‘*kaho’olawe*’ or *kahoolawe* or *maui*, by some digital libraries led to the creation of a shortened search term string for Pacific identities which made the refining of search results difficult. Databases such as PsychINFO and EMBASE were excluded after returning null results because of their inability to recognise the Pacific identity terms. Electronic search methods and the selection of databases may have limited the studies that were identified. Therefore, some studies may not have been identified; regardless, the scoping methodology allows the inclusion of unpublished work.

### **Conclusion**

Online gaming has become a core activity for leisure and socialising, as well as a career option. Discourses about online gaming are embedded with concerns about appropriateness across a range of gaming practices such as time spent gaming and types of games played, and concerns regarding antisocial behaviour. While research has focused on gaming practices at the intersections of gender and age, little is known about online gaming at the intersections of ethnicity. This scoping review aimed to explore this intersection by scoping the literature that focused on Pacific youth, online gaming and wellbeing. The results of our review are limited, as only three studies were identified as meeting the search criteria. However, the limited number of articles demonstrates a clear dearth of research focused on this area of online gaming, Pacific youth and wellbeing. Hence, we are highlighting an important need for further research in this area, especially considering the popularity of online gaming for youth.

### **Disclosure statement**

No potential conflict of interest was reported by the author(s).

## Funding

This work was supported by University of Auckland [grant number Faculty of Education and Social Work Research Dev].

## ORCID

Jean M. Uasike Allen  <http://orcid.org/0000-0002-8165-2478>

## References

- Adžić S, Al-Mansour J, Naqvi H, Stambolić S. 2021. The impact of video games on students' educational outcomes. *Ent Comput.* 38:100412.
- Allen JMU. *Forthcoming 2024*. Talking back to power: media re-presentation and Pacific youth wellbeing. In: Talei C'I, Faleolo R, Manuela S, Enari D, editors. *Untangling notions of Pacific wellbeing across the trans-Tasman*. Singapore: Springer Nature.
- Allen JMU, Veukiso-Ulugia A. 2023. Pacific youth, vā-relationality, and the heterosexual matrix. In: Allen L, Rasmussen M, editors. *The Palgrave encyclopedia of sexuality education*. Palgrave MacMillan; p. 1–13. [https://doi.org/10.1007/978-3-030-95352-2\\_82-1](https://doi.org/10.1007/978-3-030-95352-2_82-1).
- Aporosa S, Fa'avae DTM. 2021. Grounding Pacific practice: “Fono at the Fale” and “Veiqaraqaravi Vakavanua”. *Wai J Educ.* 26:35–43.
- Are We There Yet? 2019 May 8. How to help children manage online gaming. Radio New Zealand. [accessed 2025 Feb 26]. <https://www.rnz.co.nz/programmes/are-we-there-yet/story/2018694148/how-to-help-children-manage-online-gaming>.
- Auckland UniServices. 2009. SPARX Take Control. [accessed 2022 Mar 1]. <https://www.sparx.org.nz/>.
- Auva'a-Alatimu T, Alefaio-Tugia S, Ioane J. 2024. Understanding the impact of digital therapeutic engagement in promoting mental wellbeing for Pacific youth in Aotearoa New Zealand: an exploration of the literature. *Int J Ment HealSys.* 18(1):1–17. doi:10.1186/s13033-023-00617-3.
- Ball J, Zhang J, Kim A, Poasa L, Siataga P, King-Finau T, Su'a A, Williams R, Jackson N. 2023. Understanding and addressing alcohol harm among Pasifika secondary school students. Factsheet. Wellington: University of Otago; Adolescent Health Research Group & Alcohol Healthwatch.
- Bedford R, Didham R. 2001. Who are the 'Pacific peoples'? Ethnic identification and the New Zealand census. In: Macpherson C, Spoonley P, Anae M, editors. *Tangata o te Moana Nui*. Auckland, New Zealand: Dunmore Press; p. 31–43.
- Brand JE, Wilson TW, Jervis J, Huggins PM. 2023. *New Zealand plays 2023*. Eveleigh: IGEA.
- Brannam E. 2021 Jan 28. A non-gamer parent's guide to kids and online gaming. Newshub. [accessed 2025 Feb 26]. <https://www.newshub.co.nz/home/technology/2021/01/parents-guide-to-kids-and-online-gaming.html>.
- Christie GI, Shepherd M, Merry SN, Hopkins S, Knightly S, Stasiak K. 2019. Gamifying CBT to deliver emotional health treatment to young people on smartphones. *Int Intervent.* 18:100286–100286.
- Clement J. 2024. Share of internet users worldwide playing games on selected devices as of 3rd quarter 2023. Statista. [accessed 2024 Feb 12]. <https://www.statista.com/statistics/533047/leading-devices-play-games/>.
- Craig RS, Stephens D. 2012. Tribal recommendations for designing culturally appropriate technology-based sexual health interventions targeting native youth in the Pacific Northwest. *Amer Ind Alas Nat Ment Heal Res.* 19(1):76–101.
- Crawford G, Gosling VK, Light B. 2011. *Online gaming in context: the social and cultural significance of online games*. Oxfordshire: England; Routledge.
- Curtis AC. 2015. Defining adolescence. *J Adoles Fam Heal.* 7(2):1–39.

- Fa'alili-Fidow J, Moselen E, Denny S, Dixon R, Teevale T, Ikihele A, Adolescent Health Research Group, Clark TC. 2016. Youth'12 the health and wellbeing of secondary school students in New Zealand: results for Pacific young people. Auckland, New Zealand: The University of Auckland.
- Fa'avae D. 2018. Negotiating the Vā. The 'self' in relation to others and navigating the multiple spaces as a New Zealand-raised Tongan male. In: Stanley P, Vass G, editors. Questions on culture in autoethnography. New York, NY: Routledge; p. 59–68.
- Featherstone M, Habgood J. 2019. Unicraft: exploring the impact of asynchronous multiplayer game elements in gamification. *Int J Hum-Comp Stud.* 127:150–168. doi:10.1016/j.ijhcs.2018.05.006.
- Ferretti S, Rocchetti M, Salomoni P. 2008. Online gaming. In: Furht B, editor. Encyclopedia of multimedia. Boston, MA: Springer; p. 680–685.
- Gentles D, Taufua S, Berking G, Siafuga G, Ah-Honi P, Fa'alili-Fidow J. 2022. Are video game loot boxes associated with gambling among young Pacific adults in New Zealand? *Pac Heal Dialog.* 21(9):596–603. doi:10.26635/phd.2022.129.
- Granic I, Lobel A, Engels RC. 2014. The benefits of playing video games. *Am Psychol.* 69(1):66–78. doi:10.1037/a0034857.
- Helu SL, Robinson E, Grant S, Herd R, Denny S. 2009. Youth '07 the health and wellbeing of secondary school students in New Zealand: results for Pacific young people. Auckland, New Zealand: The University of Auckland.
- Hughes C. 2023. Share of video game players in New Zealand 2021, by age group. Statista. [accessed 2023 Nov 3]. <https://www.statista.com/statistics/824722/new-zealand-proportion-of-video-game-players-by-age-group/>.
- Iosefo F. 2018. Scene, seen, unseen. In: Stanley P, Vass G, editors. Questions of culture in autoethnography. New York, NY: Routledge; p. 69–70.
- Ka'ili TO. 2017. Marking indigeneity: the Tongan art of sociospatial relations. Tucson, AZ: The University of Arizona Press.
- Kelly S, Magor T, Wright A. 2021. The pros and cons of online competitive gaming: an evidence-based approach to assessing young players' well-being. *Front Psych.* 12:651530–651530. doi:10.3389/fpsyg.2021.651530.
- Kemp S. 2021. Digital 2021 October global statshot report. Datareportal. [accessed 2025 Feb 26]. <https://datareportal.com/reports/digital-2021-october-global-statshot>.
- King DL, Delfabbro P, Potenza MN, Demetrovics Z, Billieux J, Brand M. 2018. Internet gaming disorder should qualify as a mental disorder. *Aust NZ J Psychiatry.* 52(7):615–617. doi:10.1177/0004867418771189.
- King-Finau T, Dewhirst M, Archer D, Fleming T. 2022. Improving health and wellbeing websites: the views of Pacific adolescents, a Youth19 brief. Youth19 and The Adolescent Health Research Group: The University of Auckland.
- Kupa K. 2009. Te Vaka Atafaga: a Tokelau assessment model for supporting holistic mental health practice with Tokelau people in Aotearoa, New Zealand. *Pacific Health Dialog.* 15(1):156–163.
- Le Dé L, Gaillard J, Campell A,, Loodin N, Cadag J. 2020. Participatory mapping 2.0: new ways for children's participation in disaster risk reduction. *Aust Inst Dis Resil.* 36(1):34–42.
- Macpherson C. 1991. Pacific islanders. *Pacific Viewpoint.* 32(2):139–146. doi:10.1111/apv.322004.
- Macpherson C. 1996. Pacific islands identity and community. In: Spoonley P, Pearson D, Macpherson C, editors. Nga patai: racism and ethnic relations in Aotearoa/New Zealand. Auckland, New Zealand: Dunmore Press; p. 124–143.
- Macpherson C, Macpherson LA. 2009. The warm winds of change: globalisation in contemporary Samoa. Auckland, NZ: Auckland University Press.
- Mandryk RL, Frommel J, Armstrong A, Johnson D. 2020. How passion for playing World of Warcraft predicts in-game social capital, loneliness, and wellbeing. *Frontiers Psych.* 11:2165–2165. doi:10.3389/fpsyg.2020.02165.
- McFall-McCaffery J. 2010. Getting started with Pacific research: finding resources and information on Pacific research models and methodologies. *MAI Review.* 1(8):1–5.
- Mika C. 2017. Indigenous education and the metaphysics of presence: a worlded philosophy. New York, NY: Routledge.

- Mila-Schaaf K, Robinson E, Schaaf D, Denny S, Watson P. 2008. A health profile of Pacific youth: findings of Youth2000. A national secondary school youth health survey. Auckland, NZ: The University of Auckland.
- Militello LK, Hanna N, Nigg CR. 2018. Pokémon GO within the context of family health: retrospective study. *JMIR Pediatrics Parenting*. 1(2):e10679–e10679. doi:10.2196/10679.
- Ministry of Education. 1999. Health and physical education in the New Zealand curriculum. Wellington, NZ: Ministry of Education.
- Ministry of Pacific Peoples. 2022. Pacific Aotearoa status report: a snapshot 2020. Wellington, NZ. [accessed 2025 Feb 26]. <https://www.mpp.govt.nz/assets/Reports/Pacific-Peoples-in-Aotearoa-Report.pdf>.
- Ministry of Social Development. 2019. Effects of screen time on preschool health and development. Wellington, NZ. [accessed 2025 Feb 26]. <https://www.msd.govt.nz/documents/about-msd-and-our-work/publications-resources/research/screen-time-on-preschoolers/children-and-families-research-fund-report-effects-of-screen-time-on-p....pdf>.
- Noble C, Pereira N, Saune N. 2011. Urban youth in the Pacific: increasing resilience and reducing risk for involvement in crime and violence. Canberra: UNDP.
- Nosa V, Malungahu G, Paynter J, Gentles D, Newcombe D. 2021. Pacific peoples and alcohol: a review of the literature. *New Zealand Med J (Online)*. 134(1529):86–96.
- Paul SA, Jensen M, Wong CY, Khong CW. 2008. Socializing in mobile gaming. In: Tsekeridou S, Cheok AD, Giannakis K, Karigiannis J, editors. *Proceedings of the 3rd International Conference on Digital Interactive Media in Entertainment and Arts*. New York, NY: Association for Computing Machinery; p. 2–9.
- Pulotu-Endemann FK. 2007. Fonofale model of health. Paper. Albany, NZ: Massey University. [accessed 2025 Feb 26]. <https://d3n8a8pro7vhmx.cloudfront.net/actionpoint/pages/437/attachments/original/1534408956/Fonofalemodelexplanation.pdf?1534408956>.
- Rikkers W, Lawrence D, Hafekost J, Zubrick SR. 2016. Internet use and electronic gaming by children and adolescents with emotional and behavioural problems in Australia - results from the second child and adolescent survey of mental health and wellbeing. *BMC Pub Heal*. 16(397):399–399. doi:10.1186/s12889-016-3058-1.
- Roy R, Greaves L, Fenaughty J, Fleming T, Clark T. 2023. Mental health and wellbeing for young people from intersectional identity groups: inequity for Māori, Pacific, rainbow young people, and those with a disabling condition. *NZ J Psych*. 52(1):25–40.
- Salesa D. 2017. *Island time: New Zealand's Pacific futures*. Wellington, NZ: Bridget William Books.
- Simon-Kumar R, Lewycka S, Clark TC, Fleming T, Peiris-John R. 2022. Flexible resources and experiences of racism among a multi-ethnic adolescent population in Aotearoa, New Zealand: an intersectional analysis of health and socioeconomic inequities using survey data. *Lancet*. 400(10358):1130–1143. doi:10.1016/S0140-6736(22)01537-9.
- Smith H, Wolfram-Foliaki E. 2021. We don't talk enough': voices from a Māori and Pasifika lead research fellowship in higher education. *Higher Educ Res Devel*. 40(1):35–48. doi:10.1080/07294360.2020.1856791.
- Soifua. 2021. Winter. Not another new bloody model of wellbeing. Ako: NZEI Te Riu Roa. <https://akojournal.org.nz/2021/04/27/not-another-new-bloody-model-of-wellbeing/>.
- Sutcliffe K, Ball J, Clark TC, Archer D, Peiris-John R, Crengle S, Fleming T. 2023. Rapid and unequal decline in adolescent mental health and well-being 2012–2019: findings from New Zealand cross-sectional surveys. *Aust NZ J Psychiatry*. 57(2):264–282. doi:10.1177/00048674221138503.
- Taufa S, Gentles D, Berking G, Siataga P, Ah-Honi P, Fa'alili-Fidow J. 2021. Pasifika youth online gaming and gambling research: are online video games a gateway to problem gambling among Pasifika youth? Auckland, NZ: Mapu Maia, Ministry of Health.
- Teariki MA, Leau E. 2023. Understanding Pacific worldviews: principles and connections for research. *Kōtuitui: NZ J of Social Sciences Online*.
- Tricco AC, Lillie E, Zarin W, O'Brien KK, Colquhoun H, Levac D, Moher D, Peters MDJ, Horsley T, Weeks L, et al. 2018. PRISMA extension for scoping reviews (PRISMA-ScR): checklist and explanation. *Annals Int Med*. 169(7):467–473. doi:10.7326/M18-0850.

- Tu'itahi S. 2007. Fonua: a Pasifika model for health promotion. Health Promotion Forum of New Zealand. [accessed 2023 Mar 16]. <https://hpfnz.org.nz/pacific-health-promotion/pacific-health-models/>.
- Tu'itahi S, Watson H, Egan R, Parkes MW, Hancock T. 2021. Waiora: the importance of indigenous worldviews and spirituality to inspire and inform planetary health promotion in the anthropocene. *Global Health Promotion*. 28(4):73–82. doi:10.1177/17579759211062261.
- Veukiso-Ulugia A, McLean-Orsborn S, Clark TC, Yao E, Kuresa B, Drayton B, Fleming T. 2024. Talavou o le Moana. The health and wellbeing of Pacific secondary school students in Aotearoa New Zealand -a Youth19 report. Youth19 Research Group, the University of Auckland and Victoria University of Wellington.
- Victoria University of Wellington. 2020. Gaming for health. Wellington: Faculty of Health. [accessed 2023 Oct 24]. <https://www.wgtn.ac.nz/health/about/news/gaming-for-health>.
- Wendt A. 1996. Tatauing the post-colonial body. *SPAN*. 42(43):15–29.
- World Health Organisation. 2015. Adolescent health. [accessed 2025 Feb 26]. [http://www.who.int/southeastasia/health-topics/adolescent-health#:~:text¼WHO%20defines%'Adolescents'%20individuals,East%20Asia%20Region%20\(SEAR\)](http://www.who.int/southeastasia/health-topics/adolescent-health#:~:text¼WHO%20defines%'Adolescents'%20individuals,East%20Asia%20Region%20(SEAR)).
- Young CD, Bird RJ, Hohmann-Marriott BE, Girling JE, Taumoepeau MM. 2022. The revitalised Fonofale as a research paradigm: a perspective on Pacific sexuality and reproduction research. *Pacific Dynamics*. 6(2):186–201.