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RESEARCH ARTICLE

A study on students' perspectives on participation in a cultural activity and nutrition knowledge in physical education

[version 1; peer review: 2 approved with reservations]

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Abstract

In human development, childhood is a crucial and significant stage where lifestyle plays an important role in children's growth. Non-communicable diseases (NCDs), such as obesity and type II diabetes, have been rated as the most dominant diseases in secondary schools in New Zealand (Healthy Active Living, 2008). Lower levels of participation in physical education led to students being disengaged, poor nutrition, and physical activity, eventually leading to them dropping out of school. The World Health Organization (WHO) highlighted that a lack of physical activity, exercise, and consumption of unhealthy food can increase lifestyle health issues in young adults.

This research aims to understand students' perspectives on cultural activity in Physical Education (PE) and how it improves students' nutrition, physical activity, and health. Three secondary schools in Manawatu, New Zealand, were selected as part of this research. It was envisaged that students' perspectives on cultural activities would affect health, obesity, nutrition, and physical activity. The card-sorting methodology was used to capture students' experiences, and participants were asked to explain why they had chosen that particular response.

The particular interest of this study was the students' perception of the inclusion of cultural activities and how this improves their food intake, participation in physical activity, and obesity in PE. In analyzing these qualitative responses, Bernard (2005) offered a unique way of understanding the data by thematically analyzing students' feelings

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and thoughts and then labelling them for common themes through the process of 'open coding. The findings of this study support the idea that physical and cultural activities are associated with nutrition and are an important part of a healthy life. The inclusion of cultural, physical activity, and nutritional education in the PE curriculum could be beneficial for the New Zealand Ministry of Education.

Keywords
physical education, culturally responsive teaching, health and wellbeing, cultural activities, food intake, culture, identity, and obesity



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Introduction

The epidemic of childhood nutrition, physical activity, and obesity is increasing globally. Although the risk factors for obesity are multifactorial, many are related to lifestyle and may be amenable to interventions. These factors include sedentary time and non-exercise thermogenesis, as well as the frequency, intensity, amounts, and types of physical activity (Hapeta *et al.*, 2019a).

The study reported students' perspectives on participation in cultural activity in physical education and how this improves their nutrition, physical activity, and obesity. Three secondary schools in Year 9 and Year 10 in Palmerston North agreed to be part of the research. The study was conducted from October 2023 to April 2024. The research question was what students' perspectives on their participation in a cultural activity were, and how participating in a cultural activity improved students' nutrition, physical activity, movement, and obesity. According to Erueti (2015), participation in Māori youth is important for their education and no students are left behind. Erueti (2015) suggested that PE researchers believe that teaching cultural activities in PE can improve students' food intake, physical activity, and obesity (Hapeta *et al.*, 2019a).

It was envisaged that students' participation in various physical activities at school may have influenced their nutrition and physical activity, and improved obesity in PE. However, this raises the question of physical educators' role in minimizing health issues in schools. The inclusion of cultural activities in physical education enhances students' social and cultural development. Perspectives on cultural activities might have impacted their well-being and how this contributed to their enjoyment of PE. This study explores how students' perspectives on cultural activities could be embedded in the curriculum and policy of physical education, since there is a space needed to bridge this gap in the New Zealand curriculum of physical education.

The study reported on the qualitative component of a small study that investigated students' perspectives of cultural activities in PE and how this enhances their well-being. Interestingly, the study explores students' engagement and excitement in participating in a traditional activity game called 'Fijian Molimol' in the PE classroom. Researchers, including Erueti (2015), Hapeta *et al.* (2019b), and Palmer (2016), have suggested that cultural activities in PE can enhance students' well-being if delivered in a culturally responsive way. The research questions for this study were: 'How do students perceive their participation in a cultural activity (Fijian molimoli) in PE? Do students perceive that teaching, which includes cultural activities using a Fijian Molimoli traditional activity, and how could this influence their nutrition, physical activity, and obesity well-being while participating and enjoying PE. This study demonstrates why cultural activities in PE were linked to the role of the teacher, and how this encourages cultural activities to become an important aspect of social and cultural enjoyment in PE in schools. Physical education researchers believe that teaching cultural activities can improve students' food intake, physical activity participation, and obesity (Hapeta *et al.*, 2019a).

One study reported that students who participated in cultural activities in physical education seemed to perform better in terms of physical activity (Rossi *et al.*, 2008). This means that the students were alert and engaged better with their peers, communicating with each other, and valuing their cultural identity. On the other hand, Dorovolomo (2017) reported that not only do students improve their relationships with other students, but it also supports students' overall health at school and is an important part of physical activity. Similarly, Dagkas (2007) argued that students from an ethnically diverse society perceived cultural activity in physical education as helping them become active learners. The qualitative results showed that most students had positive attitudes towards cultural activity in physical education and viewed it as an imperative part of their lives. The study concludes that the research shows there are benefits of teaching cultural activity in physical education in a holistic way, and how this was beneficial for improving nutrition, physical activity, and obesity. The school's recommendation was to encourage students to learn and engage in farming vegetables to improve their physical activity and food intake and to minimize obesity. Education is associated with health, healthy food habits, physical activities, sports, and nutrition.

Research questions

1. How do students feel about their participation in a cultural activity (Fijian Molimoli) of physical education?

2. How do students understand nutrition when participating in a cultural activity in physical education?

3. To an extent, do students value physical activity when participating in cultural PE activities in physical education?

4. How do students perceive obesity when participating in a cultural activity in physical education?

Research design

Participants

From October 2023 to August 2024, Year 9 and Year 10 students from three secondary schools participated in a cultural activity called Fijian Molimoli. In this study, six schools were recruited, and consent forms were received. However, three schools agreed to participate in the research (Denzin & Lincoln, 2008). A total of hundred and eighteen students participated in the study. Only 5% of the students were Pasifika, and the majority were non-Pasifika students, which shows that the research has credible and reliable. The demographic details of the students' participation in the three schools are shown in Table 1. The table includes the total number of students who completed the survey questionnaires, and the total number of boys and girls by school and year level. They were invited to participate in the study after signing an informed consent form.

Methodology

A qualitative research methodology aims to gather and analyze non-numerical data to gain an understanding of individuals' social reality, including their attitudes, beliefs, and motivations. Interviews and observations are commonly used to collect data (Denzin & Lincoln, 2008). The traditional Fijian molimoli were socially interactive, applause, and excitement. The morals of the game were played when all the chiefs of each village attended. The most extravagant princess of the village was brought forward, standing in the courtyard lined up with the chiefs about 20 meters apart. The chief rolling the lemon aims at the princess as the target. When the lemon hits the target, the chief marries the princess. This game is equivalent to the target game in physical education.

This approach enabled the participants' thoughts and voices to be expressed, and these, in turn, empowered students to feel that their ideas were important and valued (Te Ava & Page, 2018). Students lack motivation in physical activity, and sports also lead to health risks, such as vaping and smoking (Dorovolomo, 2017).

Data collection

Interviews and observations were employed to gather rich, in-depth information about the topic or phenomenon, with interviews focusing on verbal interactions and observations of direct, real-time experiences (Denzin & Lincoln, 2008). Students' perceptions of the inclusion of cultural activities in physical education was of particular interest in the study; however, students' perceptions of personal development and well-being were also examined.

Data analyses

In analyzing the qualitative responses, Denzin and Lincoln (2008) offered a unique way of understanding the data by thematically analyzing students' feelings and thoughts and then labelling them for common themes through the process of 'open coding'. Data were categorized, then compared merged into new concepts, and eventually renamed and modified (Bernard, 2005). This approach enabled the participants' thoughts and voices to be expressed, which in turn empowered the students to feel that their ideas were important and valued.

Results & findings

Qualitative analysis

The Year 9 and Year 10 students in the study were asked to comment on their experiences of how they perceived the teaching of cultural activity as a Fijian molimoli game within physical education. They also commented on their reasons for their choices in relation to family, well-being, and personal physical education. It was anticipated that the qualitative data would provide an explanation for students' choices. The results are presented below in themes in the following order: families' view of physical education, students' perception of their participation in the inclusion of cultural activities in physical education, students' perception of their participation in cultural activities, how this enhances their well-being in physical education, and students' perceptions of their participation and personal physical education.

Table 1. Students by Gender and School.

School and year level	AWY9/10	ECQ9/10	LCAY9/10
Boys	21	25	15
Girls	19	22	16
Total	40	47	31

Theme 1: Student perception of participation in an included cultural activity in physical education

The qualitative comments for students in relation to cultural activity in physical education indicated that most students appeared to believe that cultural activities were a crucial part of physical education and its curriculum. However, students also indicated that cultural activities were a priority in schools. The quote below is one such statement from a Year 9 student:

> Participating in a cultural activity …makes me active. I keep on laughing …if I make mistakes and cheering for my friends. I like it when we are trying to do our best in Fijian molimoli. (Stud0012.Y9m).

In addition, a Year 9 student agreed that cultural activity in physical education is an important part of physical education:

> Playing Fijian molimoli …is something new to me …so …is an important part of physical education (Std007. Y9f).

A Year 10 student strongly agreed and said the following:

> Cultural activities such as the Fijian molimoli are socially and culturally engaged. We learn the Fijian names of activities such as *toso* (move quickly) and *lakomai* (come here), *bula* (hello), and Vinaka (thank you for your participation). This is an important part of the PE (Stud0013.Y10m).

Apart from those comments, a few students made no positive comments in relation to cultural activity in physical education and what they thought of physical education. A fewstudents did not believe that cultural activity in physical education was essential. The following quote illustrates students' negativity in relation to this factor. A year, ten students commented:

> I do not think cultural activity is important because we need to focus on schoolwork, as other subjects are more important than physical education (Stud0015.Y10f).

In response to one of the questions about the importance of cultural activity in physical education, a Year 9 student also disagreed that she thought physical education at school was not that important and said:

> I do not really like to participate in cultural activities in the physical education classroom because I take part in after-school activities like water sports (Stud0016.Y10m).

Overall, of the students who responded to their perspectives on physical education, most believed that cultural activity in physical education is an important component of the curriculum, although there were only five comments in total. However, a few students commented that cultural activities in physical education were not important in school. It appeared, therefore, that most students valued physical education as an important part of the curriculum and believed that physical education formed a significant component of students' learning.

It may be concluded that student participation and enjoyment can be enhanced if cultural activities are included in physical education. (Lakisa *et al.*, 2014) suggested that students gain a better understanding of physical education if cultural activities such as Fijian molimoli were positioned within learning; in the current study, many of the students appeared to concur with this statement. On the other hand, some students did not value the inclusion of cultural activities and values in physical education because they appeared to value Western activities in physical education more. There seemed to be a perception that cultural activities are not valued. Hence, to enhance student interests in the inclusion of cultural activities in physical education, it is important to educate students about the perceived value of such activities (Lu'uwai, 1997).

Nabobo-Baba (2006) suggested various ways to encourage cultural practices in physical education. One way for schools to prioritize cultural activities is by holding a cultural days and festivals every Friday in the schools. Furthermore, Nabobo-Baba also suggested that education administrators encourage cultural experts in the community to be part of the school's system so that they can create opportunities for the students to become involved in various cultural workshops.

The next section reports the findings from the qualitative data related to students' responses to items that formed nutrition as an important part of cultural activity in physical education. Students who undervalued nutrition in physical education were also considered.

Theme 2: Student' perspectives of nutrition when participating in an inclusion cultural activity in physical education

Nutritional awareness is an important part of cultural activities and quality of life (Leipold *et al.*, 2022). The qualitative items showed that some students supported nutrition in physical education, whereas others were less enthusiastic. However, overall, most of the students who provided positive responses on the importance of nutrition in cultural activities made very few negative comments. The first three comments were from students who perceived nutrition as relevant to cultural activity (Fijian molimoli) in physical education.

A Year 10 student said:

> When participating in an inclusive cultural activity …I think about nutrition …this helps me improve my performance in physical education. Lookingafter myself by … bringing …. joy (Stud0014.Y10m).

Another Year 10 commented:

> Nutrition is eating the right food …I saw kids buying pies and fizzy drinks at the shop before coming to school this morning …yummy …getting active occupies me not to get into trouble... think that physical education is important because it helps me think positive and to become healthy.

In addition, a Year 9 student said that she valued nutrition as an important part of cultural activity in physical education.

> I would enjoy learning about nutrition in physical education …my family and I work every Saturday … sometimes we skip breakfast, and we have lunch later …I go without food mostly in the morning because … I enjoy physical education (Stud0013.Y9f).

Another Year 10 students said:

> Nutrition is a major issue at school. I do not bring money at school because I have oranges and mangoes for lunch …I enjoy having fruits before physical education …I have so much energy …cultural activities. (Stud0018. Y10m).

However, other students did not value nutrition when participating in cultural activities. The following two quotes were from these students:

A Year 10 student said:

> I do not want to learn about having nutritionist food in physical education …I had a pie and fizzy drink this morning …I feel tired eating a couple of pies …coming to physical education difficult to move around. with the inclusion of cultural activities and values in physical education because I hate doing culture and it does not do any good for me. (Stud0016.Y10m).

Also, a Year 9 students explained:

> I eat pies every morning … do not watch my eating in physical education. I do not see why we learn about nutrition when participating in a cultural activity …I do not think nutrition would help me improve my diet in physical education. (Std00015.Y9m).

In conclusion, students who responded to their perspectives on nutrition when participating in a cultural activity in physical education mostly believed that nutrition is essential for participation in sports and physical education. Nutrition helps students understand their well-being (Leipold *et al.*, 2022) and enjoy healthy lifestyle. Students' beliefs that understanding nutrition can help with their academic studies and the study supported that good nutrition and PA levels significantly improved students' achievement scores in sports and academic achievements (Asigbee *et al.*, 2018). However, some students did not understand the importance of nutrition when responding to cultural activities in physical education and the curriculum. However, a few students commented that nutrition is not important in school (Stewart-Withers & Hapeta, 2023). Therefore, it appears that most students valued physical education as an important part of the curriculum and believed that nutrition in physical education formed a significant component of students' learning in literacy and numeracy. One study reported that regular exercise helped in weight loss, which is why the focus should be on nutritional awareness and overall physical health by including physical activities in daily life (Caudwell *et al.*, 2013).

Students who commented positively on the questionnaire perceived cultural activity in physical education to be an important part of improving nutrition, physical activity, and obesity in schools.

Furthermore, reporting the findings from the qualitative data, relating to students' responses to items that formed physical activity as an important part of cultural activity in physical education. Students who undervalued physical activity in physical education were also considered.

Theme 3: Student' perception of physical activity while participating in a cultural activity in physical education

Physical activity challenges students to view cultural activity in physical education as a lifelong sustainable development movement in schools. Tinning (2008) believed that physical activity is linked to cultural activity because it's another way of moving the body. Physical activity is a form of human movement ranging from Pacific fusion dance to Cook Islands dance, chores, fishing, agricultural production, and weaving. These activities are socially and culturally supported and involve students from different cultural backgrounds (Fabian *et al.*, 2024).

The qualitative data presented the third theme of the research, which was students' perception of physical activity and how this enhances their participation in physical education. In addition, comments showing students' positive attitudes toward physical activity in physical education were presented. Consequently, students opposing statements were considered in this study.

A Year 9 student reported:

> I enjoyed cultural physical activity in physical education because it challenged me to be aware of obesity...not a good thing …tried my best (Std0018.Y9f).

Another Year 10 student believe:

> Physical cultural activity …really enjoyed moving around …because of its social interaction and happiness, and …even I am big and obese …I feel better in physical education (Std0018.Y10m).

In addition, a Year 9 student saw the benefit of cultural physical activity, improving her self-confidence.

A Year 9 student said:

> I enjoyed cultural physical activity because it helped me to be confident …being obese …I must do something about it. I am usually a shy person in class, but when we play a cultural physical activity, I enjoy having fun (Std0019.Y9f).

From these three quotes Dorovolomo (2018) highlighted how cultural physical activity plays an important role in improving the movement of students in physical education. Even though some students may not enjoy the benefits of cultural physical activity in physical education, they applauded their friends' motivation to enjoy cultural physical activity because they encouraging each other to stay strong and keep working at it.

However, students perceive cultural physical activity as not benefiting from it. They believe that this is not an important part of physical education.

A Year 10 student said:

> I think that cultural physical activity is not an important part of academic learning. I do not get graded for this. for fun (Std0019.Y10f).

Another Year 9 student reflected:

It is not important, and it does not bother me at all if I don't learn (Std0017.Y9m).

These quotes highlighted above indicate how students lack the support of cultural physical activity in physical education and how it was not a priority of the school's physical education program. However, they improve their well-being through physical education. Te Ava and Page (2018) indicate that cultural activity and well-being in physical education are not

valued in schools because of the need for academic learning and scholarships. Students were used to engaging in Western sports rather than cultural activities in physical education. Hapeta, Palmer, and Kuroda (2019a) suggested that cultural activity supports students' development of healthy minds and well-being in physical education. Students learning cultural identity, leadership, and the history of storytelling contribute to well-being which leads to understanding students' perceptions of personal development in physical education, as discussed next.

Theme 4: Students' perspectives of obesity whilst participating in an included cultural activity in physical education

According to WHO guidelines, it is estimated that 38.9 million children under the age of five are moderate or overweight (WHO, 2025). Obesity is detrimental to health and wellbeing and excess weight (obesity) is associated with many health conditions, including type II diabetes, ischemic heart disease (IHD), stroke, several common cancers, osteoarthritis, sleep apnea, and reproductive abnormalities in adults. Children with obesity are more likely to be obese as adults and have abnormal lipid profiles, impaired glucose tolerance, and high blood pressure at a younger age. Obesity in children is also associated with musculoskeletal, asthma, and psychological problems, including body dissatisfaction, poor self-esteem, depression, and other mental health problems (WHO, 2025).

The qualitative elements of theme 4 echo students' perspectives on obesity while participating in an included cultural activity in physical education. The four quotes below show students' enthusiasm for obesity in physical education, how to respond to obesity, and what is needed to maintain a healthy environment.

A Year 10 student reported:

> I enjoyed cultural activity even though I look fat; I still value myself mentally. And I think that if everyone plays together in one sport, then it will be better because I believe that it is good to keep people in shape and great fun to get to know them (Std0019.Y10f).

A Year 9 student said:

> I like participating in physical education because it can keep me healthy and strong, and this is very healthy for my overweight body. (Std0015.Y9m).

Another Year 9 student stated:

> I chose 'strongly agree' because I really love doing physical education …will be good if we have a garden in the school to teach us how to farm vegetables …teach us to farm as well. (Std0018.Y9f).

The following two quotes were from students who disliked being part of their physical education because they were obese: A Year 10 student said:

> I do not really enjoy myself being obese, participating in physical education during the daytime when it is cold, and I do not have the energy in the morning. (Std006.Y10m).

A Year 9 student said:

> I do not like people looking at me when I am participating in physical education. feel intimidated by students. I am obese …just wanted to be part of the group. (Std001.Y9f).

Discussion

This research challenges schools prioritizing their health and well-being terms of physical education. Cultural activities play an important role in physical education. In the qualitative data, most students' perceptions of cultural activity, nutrition, physical activity, and obesity in physical education were an important part of their lives because they saw how lifelong health benefits well-being. Buchanan *et al.* (2023) reported that the addition of healthy diet options to the diet lowers the incidence of overweight and obesity and was successful in promoting physical activities in school children.

On the other hand, a few students did not believe in the inclusion of cultural activity, nutrition, physical activity, and obesity in physical education. However, Greene (2023) reported on her field data collection in Rarotonga in the Cook Islands with Year 9 and Year 10 classrooms in four secondary schools and showed that cultural activities such as coconut

husking empower students to enjoy physical activity. It has been reported that the implementation of healthy interventions in the classroom is successful in raising students' awareness of nutrition, physical activity, and eating habits (Jardim-Botelho *et al.*, 2022). Nutrition and physical activity are essential for students' performance in physical education. This can minimize obesity in physical education (World Health Organization, 2024). It is also pointed out that anything that moves the body for younger people enhances their well-being. Young people liked outdoor activities during the PE. Students who did not value cultural activities, nutrition, physical activity, or obesity were students who had sedentary lifestyles. It seems that those students might have challenging times with their families because they don't like to participate in various activities at home. Therefore, coming to school and participating in physical education was a burden for them (Sajdakowska *et al.* (2023)).

The New Zealand Health and Physical Education curriculum reported that active students, such as physical activities and participation in physical education, help the brain and body stay healthy. According to the report from New Zealand Ministry of Education (2007+), students learn to accept various leadership roles when they develop skills in physical education. Their relationships with others improve, with greater cooperation and with other students and teachers. Students who dislike physical education may have difficulty in learning because of the physical demands of learning. Such students may feel left out of the activities and may not choose other sports. An emphasis on Western physical education appears to encourage a form of competition, whereas cultural activities foster the participation and socialization of all students (Dorovolomo, 2017). The study showed the breadth of activities that could be included in physical education and how teachers can implement these activities (Buchanan *et al.*, 2023). Such activities provide opportunities to enable physical education to become a positive experience, not just for competitive, physical, capable students, but also for those who dislike physical education, as the inclusion of cultural offers more opportunities for all students to participate and work together for success. The students expressed a desire to have their own vegetable gardens. This is a place where people feel socially engaged and appreciated. Such opportunities may provide the foundation for students to become fit and help them to live a healthier lifestyle (Fyall *et al.*, 2023).

Conclusion

This study paper explored students' perspectives on cultural activities in physical education as a curriculum area. Some students saw the benefits of cultural activities in physical education to achieving health, active, and well-being. On the other hand, students who did not value cultural activity in physical education commented negatively. Thomas, Nelson, and Silverman (2011) suggest that these students do not perceive the benefits of cultural activity in physical education as part of their learning. Students who positively commented on perceived cultural activity in physical education were to an important part of their well-being and enjoyed the inclusion of cultural activities in physical education. Rossi *et al.* (2008) suggested that students who participate in cultural activities in physical education seem to perform better in their schooling. This means that the students were alert and engaged better with their peers, communicating with each other, and valuing their cultural identity. On the other hand, Dorovolomo (2017) reported that not only do students become better in their relationships with other students, but it also supports students' overall health at school, and is an important part of well-being. Similarly, Dagkas (2007) argued that students from an ethnically diverse society perceived cultural activity in physical education as helping them become active learners. The qualitative results showed that most students had positive attitudes towards cultural activity in physical education and viewed it as an imperative part of their lives and physical education in school. However, this research shows the benefits of teaching cultural activity in physical education in a holistic way, and how this could also be beneficial for the cultural physical education curriculum and policy of the New Zealand Ministry of Education.

Declarations

Ethical approval was granted by the Massey University Human Ethics Committee (Ethical notification no. 4000027799). All the participants provided written consent to participate.

Data availability statement

The dataset collected in this research cannot be shared due to ethical and privacy concerns of participants. The request for access to the data may be made directly to the email address Dr. Aue Te Ava; a.teava@massey.ac.nz There are no extra conditions required for access to the data.

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1. There is a significant disconnect between what the paper claims to argue and what it actually presents. For instance, the study completely omits "nutrition knowledge", a central component of the title, as a measured construct.
2. The originality and strength of the argument are further weakened because the authors attempt to make broad, sweeping conclusions about health, obesity reduction, and policy implications based on only a very small, limited set of student quotations.
3. The material's reliability is questioned because the methodology contradicts itself. The abstract mentions one approach, while the methodology section introduces confusing shifts between card-sorting, interviews, observations, and survey questionnaires without clear justification.
4. The core topic—investigating students' perspectives on a specific cultural activity (Fijian *Molimoli*) in a school-based physical education setting—is meaningful and holds practical value. It brings a culturally specific lens to standard PE curricula.
5. he paper suffers from a confused research design. The abstract states that a "card-sorting methodology" was used , yet the methodology section claims "interviews and observations" were employed , and the results section suddenly references students who completed "survey questionnaires" . The reviewer correctly flags this as a major issue requiring clear explanation of what tools were actually used .
6. While the authors mention using "open coding" and thematic analysis , there is a lack of sufficient detail regarding how this coding process was actually carried out .
7. The authors make a glaring error by claiming that because the majority of the students were non-Pasifika (95%), the research is "credible and reliable" . This is a bold and inappropriate claim, as credibility in qualitative research is not established by a demographic majority .
8. While the paper references secondary literature regarding physical education and health, it fails to sufficiently engage with the specific cultural context of its intervention. The manuscript lacks a clear explanation of why the *Fijian Molimoli* activity was chosen for a New Zealand school context, or whether cultural experts and community members were involved in its design . Addressing this is crucial for establishing the study's cultural and

ethical foundation .

9. Basic factual reporting is inconsistent, such as the study dates, which are reported simultaneously as "October 2023 to April 2024" and "October 2023 to August 2024".
10. While the study claims 118 participants, the findings lean on just a handful of quotes. The reporting does not make it clear how many students provided usable qualitative data or if those selected quotes accurately represent the entire dataset.
11. Overall, the manuscript struggles with language quality and fails to logically align its objectives with its methodology and findings.
12. The study's title and stated objectives do not align with the evidence presented. Most glaringly, "nutrition knowledge" is positioned as a core component of the title, yet the study fails to actually measure it as a construct.
13. The argument is severely weakened because the authors make massive leaps in logic. They use a very small, limited set of student quotations to draw sweeping, broad conclusions about overall health, obesity reduction, and national curriculum policy.
14. **Privacy Restrictions:** The authors state that the dataset collected during the research cannot be openly shared due to the ethical and privacy concerns of the participating students.
15. **No Added Barriers:** The authors explicitly note that there are no extra conditions required to access the data once the email request is made.
16. The study attempts to address a gap in Western-dominated physical education curricula by exploring how traditional indigenous games, specifically the Fijian *Molimoli*, can be integrated into modern classrooms.
17. The underlying premise explores how culturally responsive teaching might foster better social interaction, cultural identity, and overall well-being among students from diverse backgrounds.

In summary, while the execution, data analysis, and structural alignment require major revisions before the paper can be considered scientifically sound, the *theoretical contribution* to the social and cultural discourse in physical education is valid and recognized.

Is the work original in terms of material and argument?

Not applicable

Does it sufficiently engage with relevant methodologies and secondary literature on the topic?

Partly

Is the work clearly and cogently presented?

No

Is the argument persuasive and supported by evidence?

No

If any, are all the source data and materials underlying the results available?

Partly

Does the research article contribute to the cultural, historical, social understanding of the

field?
Yes

Competing Interests: No competing interests were disclosed.

Reviewer Expertise: Research methodology parts.

I confirm that I have read this submission and believe that I have an appropriate level of expertise to confirm that it is of an acceptable scientific standard, however I have significant reservations, as outlined above.

Reviewer Report 30 March 2026

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The topic is meaningful, and the school-based setting gives the study practical value. However, the current version has several important issues related to conceptual alignment, methodological consistency, analytical clarity, and language quality. In its present form, the manuscript would benefit from a major revision before it is suitable for indexing.

1. After detailed revision, it is clear that the title, objectives, and evidence are not fully aligned.
   - Nutrition knowledge has been completely left out, even though it was considered a main part of the title. See if this can be measured as a construct; if not, the title needs to be revised accordingly.
1. The method does not seem to be consistent. What is said in the abstract contradicts the methodological section. Make sure both sections use the same method instead of an unnecessary shift.
   - Is it a card-sorting, interviews, and observation, or a survey questionnaire?
   - Do explain clearly what data collection tools were used, how they were used, and which data were considered to be analyzed for the findings.
   - Make sure the study date period is unified; it can be either “October 2023 to April 2024” or “October 2023 to August 2024.
1. Make sure the tendency is more on the qualitative side. By reading terms like “improves”, “enhances”, and minimizes obesity” gives a notion of a quantitative approach rather than a qualitative one.
2. The research question needs to be refined; it is very weak in its current form.
3. The analytical process is definitely underdeveloped. The manuscript talks about thematic analysis and open coding. Unfortunately, it is hard to find sufficient information related to the coding process.
4. The sample description needs stronger justification and clearer reporting.

5. Some of the methodological claims are too bold and inappropriate. Such as
   - The statement that the majority of the non-Pasifika sample "shows that the research is credible and reliable" is not methodologically sound. Credibility and trustworthiness in qualitative research are not established solely by demographic majority. This sentence should be removed or rewritten.
1. The sample description needs stronger justification and clearer reporting.
   - The manuscript reports 118 participants, but the findings appear to rely on only a limited number of quotations. It is not clear how many data points were collected, how many students contributed usable qualitative responses, or how representative the presented quotations are of the full dataset. This should be clarified.
1. The discussion often moves from a small set of student comments to broad conclusions about health, obesity reduction, curriculum reform, and policy implications.
2. The manuscript should explain more clearly why this particular cultural activity was selected, how it fits the New Zealand school context, and whether cultural experts, community members, or relevant knowledge holders were involved in the design or delivery of the activity. This would strengthen the study's cultural and ethical foundation.

Is the work original in terms of material and argument?
Partly

Does it sufficiently engage with relevant methodologies and secondary literature on the topic?
Partly

Is the work clearly and cogently presented?
No

Is the argument persuasive and supported by evidence?
No

If any, are all the source data and materials underlying the results available?
Partly

Does the research article contribute to the cultural, historical, social understanding of the field?
Yes

Competing Interests: No competing interests were disclosed.

Reviewer Expertise: Knowledge Management, Innovation Management

I confirm that I have read this submission and believe that I have an appropriate level of expertise to confirm that it is of an acceptable scientific standard, however I have significant reservations, as outlined above.