Mapping and Assessing Effective Participatory Planning Processes for Urban Green Spaces in Aotearoa New Zealand's Diverse Communities

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Abstract: The multicultural landscape of Aotearoa New Zealand presents a rich tapestry of diversity and community needs, underscoring an imperative for inclusive participatory planning processes. This paper presents findings from an investigation of the challenges and opportunities inherent in community engagement initiatives, particularly within the context of New Zealand's major ethnic groups, including New Zealand European, Māori, Chinese, and Pasifika. Drawing from the importance of community participation in reshaping public open spaces, this research addressed the gap in understanding which participatory planning processes are most effective across diverse cultural groups. To investigate the effectiveness of various approaches to community engagement, this research involved focus groups from the Wellington suburbs of Newtown and Porirua, utilising both on-site and online meetings. The findings identify the most effective participation processes for planning public open spaces in relation to each ethnicity. Correlations between participant preferences and their unique cultural backgrounds were assessed. In addition, the least effective participation methods along with several relatively effective participation methods are discussed. By highlighting engagement methods that can foster inclusivity, equity, and a sense of community, this research advances a collective goal of building a more cohesive and effective society for all its inhabitants.

Keywords: participatory planning process; effectiveness; focus groups; cultural diversity

1. Introduction

Since the signing of the Treaty of Waitangi in 1840, Aotearoa New Zealand has witnessed a remarkable transformation into a society with multiple ethnic groups, characterised by a rich tapestry of diversity and community needs. This multicultural landscape brings with it a multitude of perspectives, traditions, and experiences, contributing to the vibrant mosaic of New Zealand's social community fabric [1].

Community participation has become increasingly important as cities have become more ethnically diverse and racially divided. The opportunity to participate in civic life has been identified as a core human need, essential to the communities' sense of place [2]. People rely on public open spaces for social interaction as well as access and connection to the surrounding communities [3]. The goal of participatory planning is to incorporate the public perspective into the planning process and actual design of the public open space [4].

This equally aligns with earlier research, which argues that implementing high-quality participatory planning of public open spaces is a fundamental approach to embracing this cultural diversity, cultivating a deeper connection to community, and encouraging a higher sense of community for the major ethnic groups in Aotearoa New Zealand [5].

However, in terms of practical experience in community participatory planning, this growing cultural diversity and difference can create challenges for the participation processes. For example, a change undertaken to suit the needs of one cultural ethnicity could

be seen as threatening or otherwise inappropriate for another. In addition, even though community members using public open spaces often possess the knowledge and physical proximity to those resources, they are frequently not included in transformation and maintenance processes. Due to these kinds of cultural conflicts and obstacles to participation, community engagement in planning can make it difficult to reach consensus within a limited time. These barriers have significantly restricted the ability of community participation in planning to address the challenge of conflicts and differences [6].

On the path to dealing with such issues and difficulties with community participation, there exists a notable gap in understanding the effectiveness of community participation processes among the major ethnic groups in Aotearoa New Zealand. In this context, the most effective participatory planning processes should be explored and discovered not only to better recognise and resolve these cultural differences and conflicts but also to "provide creative ways for interaction and negotiation of competing visions, interests, values, and identities" [6] (p. 312). While community engagement initiatives are essential for promoting inclusivity and empowering diverse communities, there is limited empirical evidence on how these processes operate within specific cultural contexts and whether they adequately address the needs and preferences of different ethnic groups. By addressing this knowledge gap, this research explores evidence-based strategies for enhancing the inclusivity, equity, and efficacy of community engagement initiatives across diverse cultural landscapes, thereby fostering a more effective, cohesive, and resilient society in Aotearoa New Zealand (Figure 1).
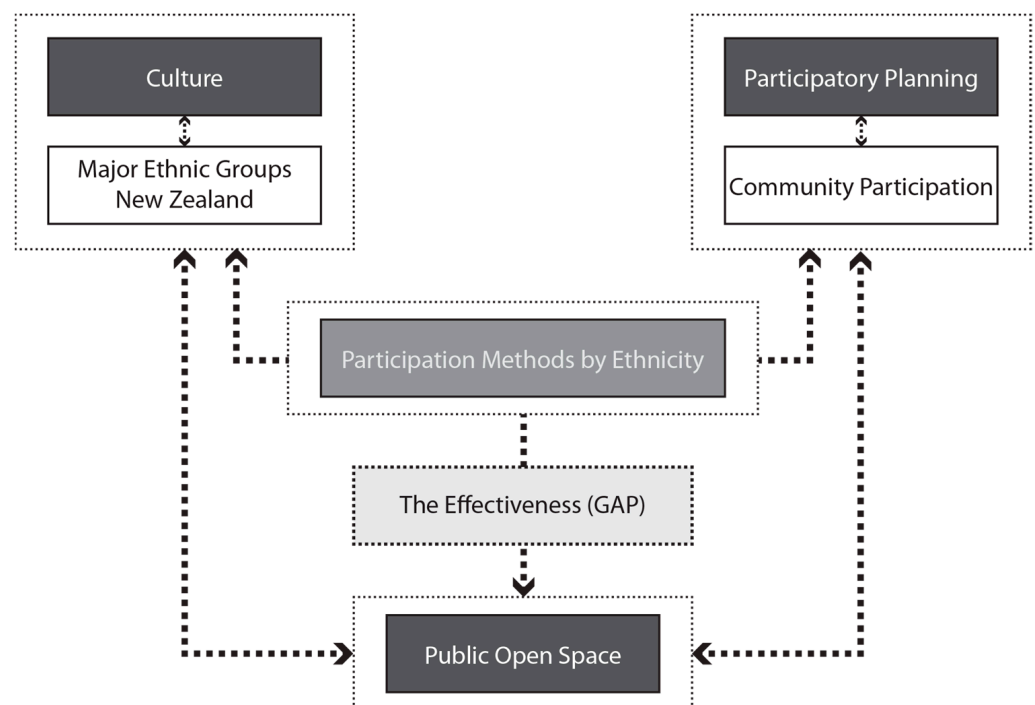
Figure 1. Gap and opportunity.

This study seeks to address the following research question: "what differences are there for New Zealand European, Māori, Chinese, and Pasifika (also called Pacific Peoples) community members in the process of participatory planning for community public open space?" By investigating the unique participation processes of these ethnic groups, this research aims to uncover how cultural and community dynamics shape engagement in public open space planning. Through this inquiry, the outcomes of this study help to explore and discover insights that can inform more effective participatory planning strategies.

2. Literature Review

Participatory planning is an "attitude about a force for change in the creation and management of environments for people" [7] (p. 12). The goal of participatory planning is to cut across the differences that can develop between professional advisers and the public, and to encourage different perspectives on the planning and design process of public open spaces [8]. Most often, it is the community projects dealing with public open spaces that citizens can feel directly influencing their daily lives.

In the 1960s, community participation created opportunities for direct involvement of the public in planning their closely related physical environment. Following this wave of movement, communities started to offer design and planning processes or methods to enable community members to join in and implement their own planning projects and goals [7].

2.1. Community Participation and Public Open Space

Public open space functions as "a place to provide opportunities for any kinds of recreational activities promote social interaction" [9] (p. 311). To create a successful public open space, participation of the community in the decision-making process is very important as the community members are the primary stakeholders and can help ensure the success of the public open space [9]. In addition, participatory planning and design serve as the foremost approach in addressing community concerns, and it has remained a vital method for local communities to actively shape the creation of public open spaces [10]. The involvement of community members at every stage, from setting goals to designing programs and projects, represents a wide range of community interests and can result in a system that is better equipped to address the diverse needs of the community.

However, community participation has experienced an increasing number of reassessments in the literature on planning. According to Mark Francis, "community participation has become firmly institutionalised, it also has become more of a tool for defending exclusionary, conservative principles than for promoting social justice and ecological vision" [11] (p. 61). Jean Hillier also discussed the institutionalisation that results from the inefficiency and formalisation of the participation process. This institutionalisation, whether intentional or unintentional, tends to favour particular groups' participation while discouraging or even preventing others from participating [12]. These obstacles have significantly limited the capacity of community participation in planning to effectively tackle conflicts and differences, which confirms that the breadth and significance of community participation in planning have progressively diminished [6].

In the past few decades, methods of conflict resolution and consensus building have been developed to deal with different perspectives and interests. However, some of these methods have also been discovered to be inadequate, especially when interactions and negotiations happened during a formalised participation process [6]. Firstly, the formalised process can "deflect discussion of value issues, to control difficult participants, and to manipulate participative processes" [13] (p. 177). Secondly, the formalised process creates obstacles for planners when they are confronted with issues related to cultural diversities and nuances [14,15]. The array of cultural diversities and nuances poses a challenge to participatory planning when participation is constrained by rigid formal rules and procedures detached from the social processes and dynamics within communities [6].

2.2. Community Participation Methods—General

As an alternative to the formalised participation process in community planning, an informal participation process that can offer a broader range of more effective opportunities for engagement, dialogue, and interactions that help overcome the institutional barriers and address the community and cultural differences should be considered [6]. The existing literature related to community participation in planning has certified the concept and influence of the informal participation process [16,17]. For instance, informal participation

such as walking tours, design games, and social events could provide opportunities and catalysts for building mutual trust and a better understanding of the design ideas [17].

Given the strong evidence in the literature, it is clear that informal community participation processes can "significantly contribute to the effectiveness of participatory planning at the community level" [6] (p. 303). Community participation processes should effectively incorporate the available resources and engagement techniques. Techniques such as walking guides, surveys, and small focus groups are a few options for future design. With an appropriate participation process or method, people could have an active role in the community planning process, and multi-stakeholders may also be involved in finding practical, locally based, and long-term solutions to community regeneration and conservation programs. When community members participate in creating their own environment, they will have a feeling of control. And this is the only way their needs and values can be considered [4].

The following methods can be utilised to encourage and guide public participation.

2.2.1. Participatory Mapping

Participatory mapping "engages community members in geographic mapping of their community's assets, needs, opportunities and other considerations to inform the community planning process" [18] (p. 31). It has surfaced as a crucial tool in community planning, enabling the identification and communication of development needs, and it has also gained acknowledgment as a method to foster social change [19].

Participatory mapping is an approach to creating maps, aimed at highlighting the connections between a location and its communities by employing cartographic techniques [19]. An ordinary form of participatory mapping comprises an aerial map or the conventional base map of a community for potential participants to write or draw on with magic markers or stickers. These maps might include labels for street names, public open spaces, key locations, and other features that help participants locate themselves and can inform the particular purpose of the mapping activity [20].

2.2.2. Guided Tours

Guided tours "are among the emerging mobile methods that emphasise the importance of the evaluator being present and in motion with the participant, to make data collection a shared journey" [21] (p. 1383). It involves pre-planned tours through a neighbourhood area aimed at familiarising participants with current conditions and can be utilised to explore potential improvements in the area [18]. The planner or designer accompanies the participant, actively listening and posing questions to encourage dialogue and grasp the participant's viewpoints [21]. Moreover, guided tours can serve as optional perspectives for exploring the issues under investigation [22].

A guided tour gathers potential community members with different backgrounds, enhancing the project's awareness and interests, which could bring increased engagement and satisfaction and finally result in a consensus solution [22].

2.2.3. Focus Groups

Focus groups are "a small group of people guided by a facilitator to provide feedback on a given topic, which has applications throughout social-science research and marketing campaigns as well as in community planning" [18] (p. 37). A focus group stands out as a distinct type of gathering due to its specific purpose, size, composition, and methodology. It is utilised to gain deeper insights into people's sentiments or thoughts regarding an issue, idea, product, or service [23].

A typical focus group has four to six participants, who are selected representatives from community associations, community-based organisations, or direct community members living in that area who have certain characteristics in common that relate to the topic of the focus group [23]. Because of the smaller size of the sessions, focus groups are always considered to be cost effective and time efficient.

2.2.4. 3D Visualisation

3D visualisation "allows stakeholders to see the potential results, development and design projects through computer modelling and photographic imaging" [18] (p. 39). Utilising 3D visualisation tools with a high level of interactivity should be pivotal in fostering effective communication, which can lead to increased participation in dialogue processes [24].

This 3D technique provides opportunities for all stakeholders to check the existing conditions and the proposed planning more straightforwardly. It can also provide different options for design and planning as all related images and design can be digitally manipulated so that planners or community members can better evaluate various possibilities and scenarios [18]. Compared to the two-dimensional plans, 3D visualisation allows community members to visualise directly and accurately what the proposed design or planning will look like.

2.2.5. Interactive Planning

Interactive planning "taps into the public's memories and emotions of place through building models for a community's built environment from found, recycled objects" [18] (p. 40).

Regardless of professional background and skills, interactive planning provides a great opportunity to help community members translate abstract and conceptual planning into actual physical items and forms. These physical models represent the focus site, including the general streets, landmarks, and other key features. This platform is supposed to be reorganised and manipulated by community members, which creates a better understanding of the built environment and the proposed planning [18]. People will have the experience and accessibility to building possible solutions rather than merely talking about them. This interaction between community members and planners can also facilitate the communication and relationship between them, which will also encourage potential participation in the project [25].

2.2.6. Visual Preference Surveys

Visual preference surveys (VPSs) enable community members to evaluate physical images of natural and built environments [18]. The VPSs help community members "envision design alternatives in ways that words, maps, and other communications media cannot" [26] (p. 271). They can be used as a tool for identifying values and setting goals for community planning and have been proven to help develop a consensus between developers and the public [27].

The VPS requires participants to review and assess a sequence of slides. Participants examine each slide and assign it a score based on their immediate reaction or preference to the image, whether they find it appealing and whether they believe it is suitable for their community [18]. The most common way to assess preferences is with ratings on a Likert scale. The result of the survey stands for the collective preferences of the participants [26].

2.3. Community Participation Methods—Local

2.3.1. Hui—Māori

In Māori Indigenous culture, hui "refers to an occasion where people come together to renew old friendships, to celebrate, debate, tell stories and to listen to", which would be hosted precisely in the local marae (meeting grounds) [28] (p. 5).

At the present time, the contemporary hui can be held in a number of public venues or locations other than the local marae, including the public hall at schools or universities, the city council, and the conference room. All of those places can be appropriate if proper cultural protocols are adopted [29].

In the modern use of hui, an essential element is the ceremonial form that establishes the context for the ensuing discussion [28]. Moreover, hui has gained growing recognition

as a culturally suitable method for individuals or institutions to interact with Māori and to gain a high level of trust and respect [29].

2.3.2. Talanoa—Pasifika

From the perspective of Pasifika, talanoa is a word that promotes open discussion and respect among each other [28]. It is a combination of two terms. Tala means telling stories or talking and noa represents heartfelt communication without concealment [30].

In Pasifika communities, talanoa occurs within the groups when Pasifika are trying to reach a consensus and agreement on a new idea or issue. It also creates a friendly and informal environment so Pasifika community members can freely communicate without hesitations or concerns [30]. It is a good opportunity to reconnect with the Pasifika community members and promote their interactions. Therefore, talanoa "enables participation in the way that the participant wishes, sets the connections within the group which promotes good relations, delves deep to uncover rich data and build consensus within the group around a topic" [31] (p. 539).

3. Method

To answer the research question, this study adopted the qualitative research method of focus groups, which was perfectly matched and useful for exploring, discovering, and identifying people's experiences of participation processes in community planning. It also helped to understand not only what they think but also how they think and why they think that way.

3.1. Ethical Issues

Throughout all focus group sessions, the authors took precautions to ensure that engagement with respondents was ethically and culturally appropriate. To build the relationship of trust and connection, the authors were advised by local residents' associations, community centres, and city councils. A person from the liaison group was appointed to work with the researchers to ensure the collected data could be well protected throughout the project, in line with cultural and Treaty of Waitangi protocols.

3.2. Participants

A total number of 30 participants were recruited for this research, including New Zealand European, Māori, Chinese, and Pasifika (Table 1) ethnic groups. As snowball and purposive sampling methods were employed, local community associations and church parishes as well as city councils provided tremendous help in spreading information and recruiting potential participants. These entities have built and continue to maintain close relationships with local residents and the local Māori tribe, including Ngāti Toa. This assisted with the recruitment of Māori participants and ensured appropriate adherence to protocols.

Table 1. Number of participants.

	Newtown		Porirua			
Ethnicity	NZEU	Chinese	NZEU	Māori	Chinese	Pasifika
Number of participants	5	4	4	3	5	9

As this research is meant to gain an understanding of people's experiences of participatory planning, and the researcher typically seeks more in-depth insights about how people in each ethnic group perceive its effectiveness, a small focus group is best suited as it is "easier to recruit and host, and they [small groups] are more comfortable for participants" [23] (p. 74). While the focus groups may be relatively small, the deliberate recruitment strategy aimed to capture a wide array of viewpoints within each ethnic group, strengthening the validity and generalisability of the findings. This also allows the researcher to focus on

creating a conducive environment for meaningful dialogue and discussions as well as a safe environment for those who are participating [32].

In addition, the recruitment process for the small focus groups involved collaboration with local community associations, which assisted in disseminating information and identifying potential participants who met this study's criteria. While specific demographic details cannot be disclosed due to ethical considerations, efforts were made to ensure a diverse range of perspectives within each ethnic group and to enhance the richness of the data and support the credibility of the findings [33]. Participants were recruited from various backgrounds and included individuals with varying levels of community involvement, professional experiences, and affiliations with aforementioned organisations. The snowball sampling method can be effective in reaching hidden populations or those with varying degrees of engagement, provided that recruitment is guided by a conscious effort to maximise diversity [34].

Recruiting Māori participants is generally more challenging due to factors such as geographical dispersion and smaller community size and differing levels of engagement with this research. Moreover, Māori communities often have specific cultural protocols and ethical considerations that need to be respected when conducting research. Key principles, such as whakapapa (relationships) and mana (authority and dignity), underscore the importance of building trust, engaging with the community in a culturally respectful manner, and ensuring that the research process is aligned with Māori values [35]. This type of engagement can be time-consuming, as it involves establishing genuine relationships and ensuring that the research is conducted in a way that benefits the community. These factors can naturally limit the number of participants, as the focus is on quality of engagement and ethical rigor rather than quantity. Finally, during the same period of this research, the global spread of the pandemic also created some obstacles, which both physically and virtually limited the number of potential participants.

3.3. Focus Group Sessions

Table 2 presents the general description of all focus group sessions. Each focus group was arranged exclusively for participants from that ethnic community. As people prefer to reveal "sensitive information when they felt they were in a safe, comfortable place with people like themselves" [23] (p. 6). Focus group sessions were being held in locations where community members are more familiar and comfortable, such as the Community and Cultural Centre in Newtown and the Cultural Centre and City Hub in Porirua.

Table 2. General description of focus groups.

Community	Ethnic Group	Location	Number
Newtown	New Zealand European	Newtown Community Hall	3
		Newtown Community Centre	2
	Chinese	Online	4
Porirua	New Zealand European	Online	4
	Māori	Online	3
	Chinese	Online	3
		Online	2
	Pasifika	City Hub, Porirua	2
		Online	7

Initially, the focus group sessions were organised and hosted on-site. However, due to the COVID-19 pandemic outbreak, the remaining focus group sessions changed to online meetings through a digital visual communication platform.

3.4. Coding and Transcription

To ensure better and continuous communication during the conversation and avoid losing data, it was necessary to audio record the whole focus group session using a recorder

and then transcribe the content into an abridged transcript without irrelevant or redundant parts.

The transcriptions were coded and entered into NVivo 12.0, a software commonly used for qualitative research to document and sort focus group recordings and transcriptions.

Each participant was assigned a letter code to protect their identity (Table 3). Moreover, the six numbers in Table 4 represent the six participation methods concluded from the literature.

Table 3. Description of the focus group letter-codes.

	Community	Ethnicity	Participant Code Sample
Focus Group	Newtown	New Zealand European Chinese	FG-NT-EU-A (A-E) FG-NT-CH-B (A-D)
	Porirua	New Zealand European Māori Chinese Pasifika	FG-PR-EU-C (A-D) FG-PR-MA-B (A-C) FG-PR-CH-E (A-E) FG-PR-PA-F (A-I)

Table 4. Participation methods coding.

Coding	Participation Methods	Abbreviation
No. 1	Participatory Mapping	PM
No. 2	Guided Tour	GT
No. 3	Focus Group	FG
No. 4	3D Visualisation	3D
No. 5	Interactive Planning	IP
No. 6	Visual Preference Survey	VPS

Numbers 1 to 3 represent the prioritisation of the effective participation methods selected by the participants during the focus groups. Participants rated the effectiveness of those methods, from No. 1—extremely effective to No. 3—slightly effective (Table 5).

Table 5. Scale of effectiveness.

Coding	Scale
①	Extremely Effective
②	Moderately Effective
③	Slightly Effective

4. Data Analysis and Discussion

The general procedure of the analysis is shown below (Figure 2). The cross-case analysis and discussions were focused on targeting ethnic groups separately, including New Zealand European, Māori, Chinese, and Pasifika, in terms of the comments and feedback provided by the participants. The experience and effectiveness of the community participation process were examined, and the reasons for selecting each of the focused ethnic groups were analysed and discussed. Moreover, cultural background and influence, two of the most critical concepts in this research, were analysed and discussed in conjunction with the highly effective participation methods selected by the targeting ethnic groups.
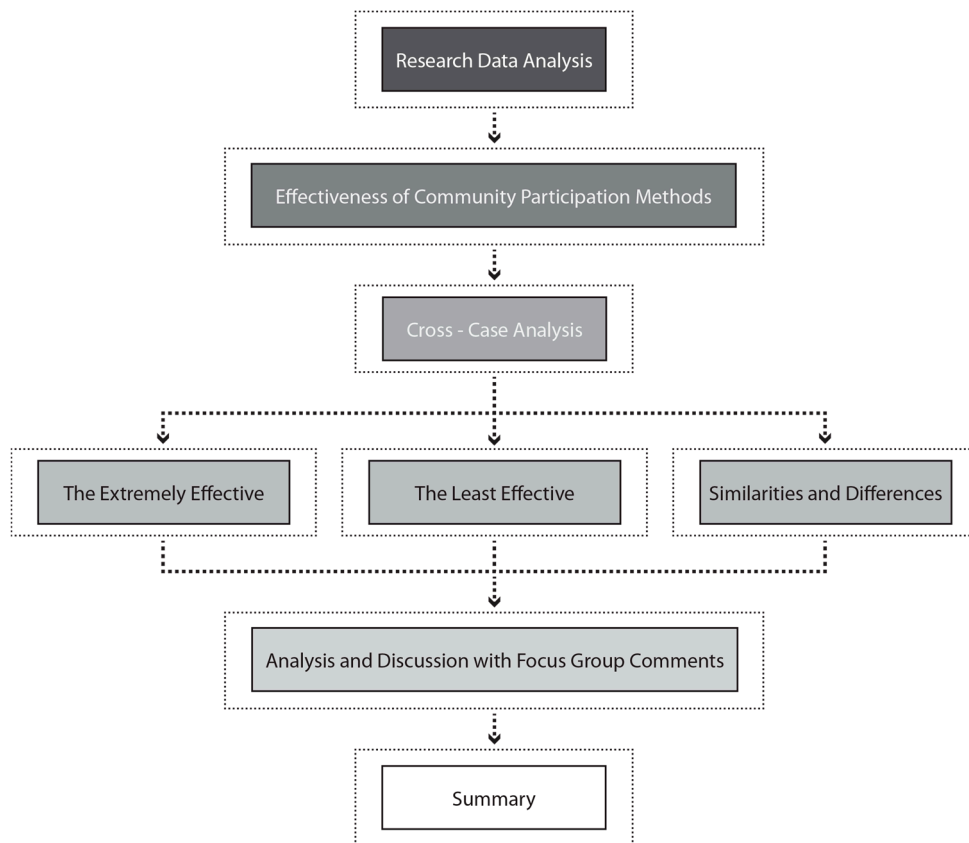
Figure 2. Data analysis procedure.

4.1. Extremely Effective Participation Methods by Ethnicity

In Table 6, for the selections of the extremely effective methods, the majority of New Zealand Europeans chose No. 4, the 3D visualisation; a great number of Māori selected No. 2, the guided tour; most Chinese chose No. 6, the visual preference survey, and numerous Pasifika chose No. 2, the guided tour.

Table 6. The most effective participation method for each of the four ethnic groups in the study.

Ethnic Group	PM	GT	FG	3D	IP	VPS	Hui	Talanoa
New Zealand European				①				
Māori		①					☆	
Chinese						①		
Pasifika		①						☆

In addition, all Māori participants chose hui as the specific method, which should be placed at the start of the participation process. All Pasifika participants selected talanoa as an extra method that was unique and appropriate to their ethnicity.

4.2. Cross-Case Analysis and Discussions by Culture

The relationship between cultural influence and the selection of the effective participation method by the corresponding ethnic groups is analysed and summarised in this section.

4.2.1. 3D Visualisation for New Zealand European

From the focus group discussions with New Zealand Europeans, the selection of the 3D visualisation refers to the latest 3D technology employed in the participation project.

According to modern Western philosophy, the different ways people relate to nature can be characterised as (1) humans being influenced by nature, (2) reacting to nature, and (3) finding ways to tame elements of nature through new technologies to solve problems [36]. New technologies have played an important role since the Industrial Revolution by promoting the harmonious relationship between humans and nature. So, from the perspective of human's relationships with nature, Western culture pays particular attention to and prefers developing and implementing science and technology.

This focus and preference are expressed as the following viewpoints in pursuing 3D technology from focus groups. Firstly, from the point of the visualised perspective provided by 3D visualisation, the following point was made:

> *For 3D visualisation, I like your idea of doing it for 3 dimensional rather than as flat mapping.* (FG-PR-EU-A)

The participants emphasised that it provides a better visualisation in comparison to other methods, which is a key point from the literature that this three-dimensional visualisation allows participants to directly and accurately visualise the proposed design [37].

Secondly, from the point of convenience and time efficiency, the following points were made:

> *It's easier for me to interpret than the 2D plan.* (FG-NT-EU-A)

> *It's also convenient for me to see that in my own time and my own space. I can do this quickly and I can spend as much time as I want. So, it's time efficient.* (FG-NT-EU-A)

> *The 3D visualisation is the least amount of effort on my part. It's great that I could still be involved, but little effort.* (FG-NT-EU-D)

The feedback is matched with the existing literature that the 3D visualisation method is a more straightforward way and will simplify the design process and settle with realistic and accurate images [24,37]. What is more, the participants confirmed this factor of 3D visualisation, making the participation process convenient and time-efficient with the least amount of effort [24].

In summary, the focus group discussions with participants from New Zealand Europeans underscore a deep-seated connection between their preferences for new technology and the broader cultural backgrounds. This interest is rooted in the historical context of the Western world's dominance in technological innovation; participants expressed a natural affinity for methods that leverage advancements in technology to enhance efficiency [38]. This inclination was also reflected in the focus group discussions, where participants were keenly interested in utilising the latest technologies, such as 3D visualisation, to engage in participatory processes.

4.2.2. Guided Tour and Hui for Māori

Culturally speaking, it is necessary and appropriate to organise hui at the beginning of the whole participation process, as this will be an essential procedure for building trust and respect for individuals or institutions to engage with Māori [29,39]. The Māori participants also proposed that getting to know everyone and the potential projects is an important part of relationship-building. Hui is one of the extremely important procedures when engaging with Māori as an outsider:

> *So, bring them from the early stages, being able to introduce yourself, and then be able to take their engagement throughout the whole process is really key.* (FG-PR-MA-A)

> *That can be as simple as just an initial hui for everyone to get to know everyone and what projects are happening.* (FG-PR-MA-C)

Hui is a Māori term and a special ceremony targeting and providing opportunities for Māori community members to be involved and freely present their different opinions on potential projects with respect [28,40]. According to the feedback provided during the

sessions, hui is an essential process at the beginning to start making connections and trust so that they can better work together and collaborate on good ideas:

I think a big part comes to that is the relationship building or the connections, especially hui at the start. (FG-PR-MA-B)

You get a sense of transparency. A sense that you are being informed. People will feel more confident that you are being told everything you need to know. (FG-PR-MA-A)

Māori also have a unique perception and affinity with the land [41,42]. Most of the Māori participants believed that their understanding, feeling, and attachment to this land are much more profound when compared with other ethnic groups nowadays:

Our understanding of the land is a lot deeper than anyone else. As you know, historically, it was their land before colonisation. (FG-PR-MA-A)

This shared journey of a guided tour provides them with an excellent opportunity to experience and feel the land so closely, to put forward their specific concerns, and to exchange valuable ideas when walking with designers [18,21].

For Māori, that guided tour helps you to get a feel of reality, so that you are trusting your own eyes in your own sensibilities. (FG-PR-MA-B)

When you are out there, you can capture those holistic relationships and you can capture those cultural landscapes. (FG-PR-MA-C)

From a Māori perspective, the connection between humans and ecosystems is critical, believing that the selection of a guided tour promotes a deeper connection to mana whenua (territorial rights over the land) [41]. It is understood that Māori need to establish a solid and intimate connection with whenua (the land), which leads to the practical selection of the guided tour. In addition, the Māori worldview acknowledges that all living things and natural resources are connected, and this holistic interaction between humans and nature can also significantly impact their health and wellbeing [39,41,43].

This reveals another reason for selecting the guided tour as the highly effective participation method, which is conducive to strengthening the connection to the land and potentially increasing their mana (spiritual power):

Because Māori has a lot more connection with the land. When we start to touch the whenua, that always has a direct impact on the people. (FG-PR-MA-A)

So, their main concern is around their people, their iwi and their mana whenua, and what the impacts there are going to be on them. (FG-PR-MA-B)

To conclude, this selection of the extremely effective participation method for Māori is based on their historical and cultural background, which is closely related to and concentrated on the connection to the land and the better health and well-being associated with establishing this intimate connection and relationship.

4.2.3. Visual Preference Survey for Chinese

Historically speaking, the community in China is based on the kinship network, and the family members live geographically close to each other so that they can take care of each other when necessary. This means that the ancient Chinese culture developed from collective cooperation to ensure their survival in nature [44]. This collectivist spirit has been ingrained in Chinese culture for centuries, ensuring survival and prosperity amidst natural challenges.

Even in the contemporary era, this collectivist culture persists. Before 1978, society and communities were rooted in a traditional Chinese collectivistic culture. People at that time lived in public housing provided by their workplace or employment unit. Under this unique sociocultural background, their collectivist values existed within social ties and kinship all in the neighbourhood atmosphere of the public housing. After 1978, even though the old employment units were largely dissolved, and the kinship networks

considerably changed because of the new economic system, the traditional culture still exists, and people living in the new communities are also working collectively to address their own community needs and issues [45].

The focus on collectivism is reflected explicitly in the following perspectives on their selection of the visual preference survey. Firstly, from the perspective of multiple options and solutions for the potential project, the following points were made:

I chose No. 6, because we are not professionals, and No. 6 will help broaden our horizons and make a more diversified choice. (FG-NT-CH-D)

For the images in the VPS, they are all based on the mature program. (FG-PR-CH-D)

A point of view from the literature corroborated the argument above. This method aims to make community members evaluate the images or slides of natural and built environments to help identify value and set goals for community planning [18].

Secondly, from the perspective that this method provides collective contributions for the potential projects, the following points were made:

VPS can grab people's opinions as a collective preference so that the designers can help us in a scientific way. We need to collect most people's opinions. (FG-NT-CH-A)

The results from the VPS will be a collective view from all the participants in the community. (FG-PR-CH-E)

The collective response value on the images or slides represents the collective consciousness of the whole of the surveyed participants, which will stand for a collective understanding and will be consistent with the preference of the whole community [46].

The focus group discussions with participants from Chinese backgrounds illuminate a profound connection between their participation preferences and the cultural value of collectivism. Rooted in their traditions, Chinese culture places a strong emphasis on collective action. This cultural tradition is reflected in the focus group discussions, where participants prioritised methods that foster collective contributions and consensus formation. Participants expressed a preference for this VPS approach that allows for the consideration of diverse perspectives and the pooling of collective wisdom to inform decision-making processes. The emphasis on collective decision-making resonates with their broader cultural values of cooperation and community cohesion within the Chinese community. Moreover, participants viewed this VPS as an opportunity to harness the collective consciousness of the community and ensure that decisions align with the shared values and preferences of the group.

From ancient to contemporary perspectives, Chinese culture continuously emphasises the spirit of collectivism. From this point of view, their selection of the highly effective participation method of the visual preference survey and the keyword of collectivism mentioned above can be interconnected.

4.2.4. Guided Tour and Talanoa for Pasifika

Talanoa is normally "a traditional Pacific reciprocating interaction, which is driven by common interest, regard for respectfulness, and is conducted mainly face to face" [47] (p. 31). All participants proposed that this is an essential and required method, which should be not only placed at the beginning of the community participation process but also is a continuous process to go through for the whole project:

This process would probably be the first consultation for our pacific communities, primarily because we would like to do things together communally. (FG-PR-PA-A)

I think talanoa is not a one-off process, it is a continuous process that need to ensure it is on-going. (FG-PR-PA-I)

For Pasifika, in both formal and informal settings, the talanoa process can be adopted and used for all of these situations, and it is suitable for enabling the potential participants

to communicate [28]. Therefore, talanoa enables the participation of community members and helps promote good relationships within a permissive environment [31]:

> *It's what brings the Pacific people together.* (FG-PR-PA-I)

> *For me, the talanoa is based on the trust. If you are hosting the talanoa very successful, and we will follow the process and the pace.* (FG-PR-PA-C)

This permissive environment allows all participants to share their views to make sure all voices are heard rather than that all views are presented [28]. This environment also promotes open discussions and respect among participants, which is echoed by the aim of talanoa to facilitate inclusivity by providing comfortable environments and encouraging discussions [31]:

> *The talanoa process is the most respectful way of being able to talk freely in a space for everyone.* (FG-PR-PA-D)

> *The talanoa is an opportunity to have a free discussion in a safe place. It's an inclusive of everyone, and we are running the meeting equally.* (FG-PR-PA-F)

This inclusivity creates a healthy social relationship, which is vital to Pacific peoples' wellbeing and a sense of community in life [47], and this relationship should be maintained through positive interactions with community members. What is more, the Pasifika self is meaningful only in relation to others, and this relational self as a source of mental wellbeing is balanced with the physical interactions with families and community members [48]:

> *Because we are very interactive people, we like to feel each other and we are reciprocal learners. Like we learn from you and you learn from us.* (FG-PR-PA-F)

> *Everyone from different backgrounds will come and interact. Then you will see the other one's ideas and you will see their mana.* (FG-PR-PA-G)

Their selection of guided tours provides excellent opportunities for Pasifika participants to interact on-site. This is consistent with the literature about the importance of social interaction, which encourages people's involvement. In Pasifika communities, social and community interactions are perceived to be a valuable aspect of Pasifika culture and an opportunity to contribute to and improve their own communities [49].

In conclusion, for Pasifika, from the relationship to self and others and the emphasis on talanoa, the selection of the highly effective participation method is mainly connected to interactivity, which is closely related to the Pasifika cultural background and strongly supported by the literature.

4.3. The Least Effective Participation Method

After analysing the highly effective participation methods, Table 7 identifies that No. 1, participatory mapping, is the least selected and, thus, the least effective method for all ethnic groups studied in this research. The main reasons are that most of the community members are not professionals, making it difficult for them to understand and read two-dimensional mapping within that short period of time during the participation sessions:

Table 7. Frequency of the selected effective methods by all ethnic groups.

Ethnic Group	PM	GT	FG	3D	IP	VPS
All Ethnic Groups	4	20	12	23	13	18

> *I may be struggle to read the 2D maps.* (FG-PR-EU-D)

> *I think the 2-dimensional mapping will be not straightforward and easy for us. Most of us are not professionals, and reading the maps require some knowledge.* (FG-NT-CH-C)

> *We are not the professionals, when you see a map, it's just a map.* (FG-PR-PA-H)

For PM, I really don't understand how to read maps. And I have been to a session like that. When I was looking at it and it meant nothing to me. (FG-PR-PA-F)

The use of participatory mapping generally requires a facilitator with a professional background who will introduce the project and the required activities, including how to review the maps and the instructions for marking and labelling [18]. As such, this approach was selected as the least effective participation method.

4.4. Series of the Relatively Effective Participation Methods

Other than the most and least effective participation methods for targeting ethnic groups, different combinations of relatively effective participation methods are identified (Table 8). This analysis helped us to understand the common areas of overlap and the areas of difference when it comes to the series of effective participation methods by ethnicity.

Table 8. Mapping the most to the slightly effective participatory method by ethnicity. The coding is described above in Table 5.

Ethnic Group	PM	GT	FG	3D	IP	VPS	Hui	Talanoa
New Zealand European		③		①		②		
Māori		①	②			③	☆	
Chinese		③		②		①		
Pasifika		①		③	②			☆

For the preferred method across all ethnic groups, it is clear that No. 2, guided tour, is the most common selection as one of the effective participation methods. For future potential projects, if some or all these ethnic groups are involved, this approach is suggested to be applied to the targeting of groups of diverse people, which will also make the potential projects and participation process more effective.

For New Zealand Europeans and Chinese, all three selections for effective participation methods are exactly the same. This means that, without considering the different rankings of effective participation methods, the choices of the community participation methods adopted and utilised for these two ethnic groups are similar. Based on this result, if future projects include these two ethnic groups, designers should adopt and focus on the same methods but with different priorities.

The other two preferences for Māori, except for the guided tour, are the focus group and the visual preference survey. For Pasifika, the other two choices are 3D visualisation and interactive planning. Based on the generalisations above, when targeting Māori and Pasifika, those effective participation combinations and strategies should be adopted and utilised according to their own selections.

The rankings shown in Table 8 deepen our understanding of the effectiveness of the different participation methods examined in this study. This also suggests that reliance only on the extremely effective participation method alone cannot solve all potential problems. Instead, it can be suggested that a series or combination of relatively effective participation methods can be more effective.

4.5. Implications

Practitioners and policy makers are encouraged to tailor community participation processes to specific ethnic backgrounds and cultural preferences, enhancing engagement effectiveness by aligning methods with unique needs and inclinations.

For practice, recognising the inclination of New Zealand Europeans towards technology and innovation, practitioners can employ digital tools and platforms to facilitate participation and communication. Emphasising Indigenous history, land connections, and wellbeing can enhance Māori engagement while acknowledging the collective nature of Chinese culture can promote group-based participation methods that emphasise collaboration and consensus building. Leveraging interactive methods can align with the cultural

preference for interactivity among Pasifika communities, fostering effective engagement through hands-on involvement and dialogue. Adopting a flexible approach by combining different participation methods tailored to specific ethnic groups can enhance overall effectiveness. Practitioners should consider a mix of practical methods that cater to diverse preferences and needs within communities.

Regarding policy, it is essential to integrate cultural values into community engagement frameworks. This includes allocating resources to support tailored participation methods and ensuring that policies reflect the diverse needs and preferences of communities. By incorporating cultural considerations into policy design and implementation, governments can promote inclusivity, equity, and meaningful engagement across diverse populations.

5. Conclusions

This research has examined community members' experiences of participatory design processes and explored the effectiveness of these methods in relation to their ethnic and cultural backgrounds.

The findings have primarily been organised according to ethnic groupings and further analysed in the context of the socio-cultural literature in order to identify possible reasons underlying people's preferences. The cross-case analysis indicated that the four ethnic groups each have specific preferences for methods for participating in community planning of public open spaces.

The cultural relationships and background for the selections were also explored through the focus group data. Focus group findings indicate the importance of the role of culture in the selection of the most effective community participation methods by targeting ethnic groups: (1) for New Zealand Europeans, their selection of the highly effective participation method is a representation of their cultural viewpoint and pursuit toward new technology and innovation; (2) for Māori, their selection of the highly effective participation method is closely related with their Indigenous history, connections to the land, and the distinctive pursuit of health and wellbeing; (3) for Chinese, their selection of the most effective method and their cultural element of collectivism are interconnected; and (4) for Pasifika, their selection of the highly effective method is connected to their cultural component of interactivity.

From a broader point of view, the results are consistent with previous research and knowledge on participatory design as a tool for community engagement. This emphasises the importance of culturally sensitive methods and stresses the significance of understanding cultural context, to effectively engage with diverse populations [4,50]. On a specific level, other studies found that Māori values and the connection to nature influence their community engagement practices, which aligns with this study where Indigenous cultural practices are central to the selection of effective participation methods [51,52].

The findings also reveal similarities and differences in the selections of all the targeted ethnic groups, including the least effective participation method and a different series of relatively effective participation methods. For the least effective participation method, findings highlight that participatory mapping is selected as the least effective community participation method for all four ethnic groups in this research. Generally speaking, this method is standard for designers but is not necessarily applicable to non-professional community members. While participatory mapping is generally and traditionally recognised as an effective tool in community planning [19,20], this study found it to be the least effective across all ethnic groups. This divergence could be contextualised by considering the specific characteristics of the targeted ethnic groups or the unique nature of the public spaces involved. This also highlights the need to explore and discover contemporary versions of participatory mapping that are culturally adaptive and technologically advanced, ensuring they are relevant and effective in diverse community settings. For the series of relatively effective participation methods, it is suggested that different combinations and series of participation methods should be embraced for different ethnic groups.

This research introduced the effectiveness of community participation methods to fill the gap by providing community members with different ethnic backgrounds the opportunity to engage in the planning of public open spaces effectively. In addition, this research allowed for different strategies to occur in relation to ethnicity, which complements the existing participation process.

6. Limitations

Some limitations emerged as a result of this research.

First, for the focus groups, some sessions took place using an online meeting platform, which limited the interactions or communications among participants. More on-site focus group sessions may help encourage communications and provide additional information to make the interpretation more accurate. At the same time, increasing the sample size for focus group sessions may enable a better understanding of participation methods in relation to different ethnic groups.

Second, because of the time limitation and the COVID pandemic, some potential project types were cancelled, such as an urban renewal project. Adding different project types in different regions may increase the reliability of the research results.

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