

# Culturally Tailored Health Strategies: Grounded Theory Analysis of Tongan American Dietary Experiences

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## Abstract

The objective of this research was to shed light on the dietary experiences and perspectives of Tongan Americans, which play a role in the higher prevalence of obesity among this population. The findings aim to provide insights that can inform culturally sensitive health strategies, nutrition education, and health policies. Using a grounded theory approach, data were gathered through in-depth, semi-structured interviews with a diverse sample of Tongan Americans (n = 12), focusing on their dietary experiences and the cultural factors influencing their dietary behaviors. The findings highlighted several key barriers to a healthy diet within the Tongan American community, including a prevailing home environment typified by increased consumption of Westernized foods, reliance on food delivery services, and a decline in traditional cooking. Further challenges were found in the physical environment, such as limited access to nutritious, culturally appropriate food and a scarcity of land for traditional farming practices. A marked preference for fast, convenient foods driven by busy lifestyles and low health literacy that hinders informed dietary choices was also noted. The findings from this study form a basis for developing culturally tailored interventions, nutrition education initiatives, and policy suggestions aimed at addressing the intricate dietary habits of Tongan Americans and encouraging healthier eating practices within this community. However, despite these findings, it is evident that more research is needed to fine-tune these strategies, ensuring their efficacy in addressing the increasing issue of obesity and diet-related diseases among Tongan Americans.

**Keywords:** obesity, public health strategies, tongan americans

## 1. Introduction

Obesity and overweight are public health concerns and the leading causes of death globally. More than 4.72 million people die annually due to obesity, which accounts for approximately 8% of global fatalities (World Health Organization [WHO], 2004). Studies show that obesity and obesity-related diseases will contribute 30% of global deaths by 2030 (WHO, 2011). Over 1 billion people worldwide are obese; among them are 650 million adults (Obesity Statistics, 2023). Obesity is a chronic disease associated with many complications. Not only is it a significant risk factor for several diseases, including heart disease, type 2 diabetes, and some cancers, but it is also associated with a significant increase in mortality, with a life expectancy decrease of 5–10 years (Jastreboff et al., 2019). Its prevalence and impact underscore the critical need to understand the factors contributing to obesity and overweight conditions, with a particular focus on dietary behaviors (Kelly & Barker, 2016).

Public health efforts to combat obesity have traditionally focused on promoting healthy eating and active lifestyles (Anderson & Durstine, 2019). These initiatives stress the importance of balanced, nutrient-dense diets and regular exercise to maintain a healthy weight and overall well-being (Hargreaves et al., 2022). Governments, non-profit organizations, and healthcare providers have implemented various programs and policies to cultivate environments that encourage these healthy behaviors (Popkin et al., 2021). From educational campaigns about nutritious food choices to creating safe and accessible spaces for physical activity, the goal has been to shape societal attitudes and infrastructure to make healthier choices easier (O'Connor et al., 2020). However, these efforts often need to consider the complexities of dietary behaviors and the cultural, social, and economic factors that shape them. As a result, they may only effectively reach or resonate with some populations (Walugembe et al., 2019).

Obesity is pervasive in the United States, disproportionately impacting specific ethnic populations. Notably, obesity rates among Latinos and blacks register at 47.0% and 46.8%, respectively, compared to the 37.9% rate

among whites (Curley, 2019). A demographic displaying alarmingly high obesity rates traces its roots to Polynesia, specifically those of Tongan descent (Panapasa et al., 2012). This expanding demographic, although modest, manifests an elevated prevalence of obesity and associated health complications. Adult individuals within this group have a notable obesity incidence, with 67% indicating they are overweight, which is significantly higher than the nationwide average of 40–50% (Panapasa et al., 2012). However, despite this population's higher risk, there is a sizable gap in the body of knowledge regarding Tongan Americans' dietary habits and the factors that support or hinder a healthy diet in this community. Moreover, public health efforts to promote healthy eating may not be effectively tailored to the unique cultural and dietary practices of this community (Joo & Liu, 2021).

This study aims to fill this knowledge gap by conducting an in-depth exploration of the eating experiences among this population using a grounded theory approach. Grounded theory is an apt methodology for this exploratory study (Foley & Timonen, 2015). By focusing on the lived experiences of individuals within the Tongan American community, this study seeks to generate a nuanced understanding of the dietary behaviors within this community.

This research aligns with the broader goal of promoting health and reducing the burden of obesity, not only within the Tongan American community but also among other similar populations (Kaholokula et al., 2013). The goal of providing a platform for this discussion is to encourage further research and policy development sensitive to diverse populations' cultural, social, and economic realities (Stafford, 2010). Ultimately, the fight against obesity is not just about individual behaviors but about creating environments and societies that facilitate and support healthier lifestyles (Kaholokula et al., 2013).

## **2. Methodology**

This study was conducted using grounded theory methodology, which was systematic and allowed for a thorough exploration of the data (Charmaz, 2006). This approach facilitated the refinement and development of ideas about the data. This study's adoption of grounded theory methodology was driven by its capacity to investigate methodically and deeply understand the dietary experiences peculiar to those of Tongan descent in America. The decision to use this approach was based on the perceived shortcomings of quantitative methods. It required adjustments to effectively grasp and interpret the subtle interpretations that participants with Tongan roots in America associated with their individual experiences (Foley & Timonen, 2015).

### *2.1 Sampling*

The purposive and snowball sampling technique were used to select participants. In purposive sampling, those with relevant knowledge or experience were chosen (Creswell, 1998). Snowball sampling was also used, which involves participants recommending others from their network (Waters, 2015). This approach benefited this study due to the cultural sensitivities around discussing dietary behaviors. This method helped build trust and allowed the initial participants to guide the process by suggesting other potential Tongan American participants.

### *2.2 Population Sample and Inclusion Criteria*

This study involved twelve interviews with Tongan American adults from Hawai'i and Utah. The participants identified themselves as self-identified Tongan Americans, lived in Utah or Hawai'i, and over the age of 18. The research study included a diverse group of participants in terms of gender, age, and location to capture a wide range of dietary experiences (Webber-Ritchey et al., 2021). This diversity was essential for comparing different perspectives and understanding Tongan Americans' experiences more deeply. The key stakeholders in this research were the Tongan American participants, who provided invaluable first-hand insights into the phenomenon under study. Grounded theory respected and validated the voices of these participants, making it a suitable choice (Charmaz, 2006; Foley & Timonen, 2015). The current research context conceptualized individuals as social actors, continually navigating their environment and existing in a reality that was uniquely interpretable by them (Charmaz, 2006). The implementation of grounded theory in this context fostered inductive scrutiny of individual narratives, augmenting the authenticity and thoroughness of the study.

### *2.3 Data Collection*

The primary data collection method involved conducting individual, semi-structured interviews lasting between 45 and 60 minutes (Watling et al., 2017). The interviews were personalized based on the language preference of each participant, either English or Tongan. The questions asked during the interviews were a combination of pre-determined and exploratory inquiries, focusing on the participants' eating habits. The interviews took place in person at a mutually convenient location and were meticulously recorded and transcribed without any alterations to ensure accuracy.

## 2.4 Data Analysis

The data analysis in this study adopted a rigorous three-step methodology: open coding, axial coding, and thematic analysis, as per grounded theory principles (Glaser & Strauss, 2017). This process involved an impartial dissection of raw data, identifying relationships between segmented data, and synthesizing emergent themes into core concepts, respectively, underscoring a meticulous approach to data exploration.

### 2.4.1 Open Coding

The initial phase of the analysis, open coding, consisted of fragmenting the data into condensed segments and classifying them into several subcategories (Qureshi & Ünlü, 2020). This methodology permitted an organized analysis and recognition of patterns and trends within the data. This thorough examination was essential to conceptualizing and describing the phenomenon. During open coding, the primary objective was to generate a set of codes that efficiently described the data. This process meant analyzing the data and posing perceptive queries that encouraged the development of new codes (Ellis et al., 1992).

### 2.4.2 Axial Coding

Next, axial coding was employed to understand the relationships among the categories and subcategories that emerged from the open coding phase (Strauss & Corbin, 1998). This procedure reflected grounded theory's focus on unveiling themes' interconnectedness and the data's underlying dynamics. However, the goal was not to establish causal relationships but to explore patterns and connections that offered a richer understanding of the subject matter. This process necessitated continual cross-referencing, analysis, and data refinement (Williams & Moser, 2019). As a result, axial coding led to the identification of a significant overarching theme and subthemes.

### 2.4.3 Thematic Analysis

Lastly, the thematic analysis identified and integrated key patterns into overarching themes (Heydarian, 2016). This step embodies grounded theory's iterative approach, involving continuous refinement of emerging themes based on data, thereby maintaining its grounded nature. The themes and insights they gained provided an in-depth understanding of the participants' experiences. Thus, the method of analysis used in this study, although not intended to develop a theory, still adheres to the tenets of grounded theory (Williams & Moser, 2019).

## 2.5 Ethics

This research study was approved by the University of Hawai'i Institutional Review Board (IRB) under the reference number 2019-00340. Prior to their involvement in the study, all participants provided their informed consent by signing a consent form.

## 3. Results

The data analysis revealed several themes from the coding and thematic analysis processes (Table 1). These themes were interconnected by a central overarching theme: *"barriers to adopting healthy dietary behaviors."*

### 3.1 Barriers to Adopting Healthy Dietary Behaviors

The overarching theme that emerged was the barriers to adopting healthy dietary behaviors. Several barriers were identified, including the home and physical environment, reliance on convenient foods, and low health literacy.

#### 3.2 The Home Environment

One significant theme that emerged from the individual research study was the impact of the home environment as a barrier to healthy dietary behaviors. The findings highlighted the influential role of the domestic setting in shaping the dietary choices and behaviors of individuals. Participants consistently reported that the home environment presented a significant challenge to adopting healthier eating habits, mainly due to the dominance of Westernized foods, reliance on food delivery apps, and a decrease in traditional home cooking.

Most participants reported that Westernized foods, often nutrient-poor, are increasingly common in Tongan American households replacing healthier traditional Tongan dishes. This shift risks promoting unhealthy dietary habits and escalating diet-related diseases. When discussing the availability of Westernized foods in the home, this participant shared:

*"It's hard. Especially because I love mayonnaise so much. I take mayonnaise everywhere I go. I use it as a dipping sauce, I use it in all of my foods, and I use it anyway possible. It is so tasty. I could not eat without it. Even my husband and kids feel the same way about mayonnaise. It would also be hard to give up junk food. My pantry at home looks like a Costco. We have so much junk. Saimin, cookies, granola bars, candy, a lot of cereal, Nutella buckets, mayonnaise, and ketchup. I know that the traditional Tongans would use coconut milk like mayonnaise,*

*but it would be too hard for me to give up. I think that having access to a different variety of foods today makes it so difficult to change the way I eat."*

Most participants also reported that the rise of food delivery apps exacerbates this problem by providing convenient but often unhealthy meal options, undermining traditional meal preparation and communal eating. When discussing meal preparations in the home, this participant shared:

*"We have simplified the cooking process in my home. Especially with all the new tools and gadgets we have available now a days. I love to use delivery apps. But it's important to know that every restaurant uses a different app. For example, if I want wingers, I would use grub hub. If I wanted McDonald's then I would use Uber Eats, then Door Dash, and a meal from a sit-down restaurant. I just love the convenience of using the apps, it makes it easier for me to feed my family."*

Furthermore, a decline in preparing traditional home-cooked meals, influenced by factors like changing work schedules and the allure of convenience, impacts both nutrition and cultural food practices. When discussing the barriers to preparing home-cooked meals, this participant shared:

*"I think that access or preparation of food is a lot easier now compared when compared to our ancestors. Today, I have options other than a traditional umu. I can go to the store and buy meat and vegetables and cook it in my kitchen on the stove or microwave, or I can choose to go out and eat. I always joke that the easiest meal to cook fast food. I mean, all I do is simply drive up to a window, choose my foods, then pull up and pick it up. The time spent on a meal would total about 10 minutes, depending on the choice and location of the restaurant. I know that an umu takes time to prepare, which includes digging the hole, gathering rocks, wrapping the food, and then waiting a few hours to cook. I don't think I would have the time and patience to eat the traditional way. Now that I think about it, it would be almost impossible to eat via umu every day in the U.S. except for special occasions."*

Similarly, another participant noted: *"There are just too many distractions. I can't think of how to free up four hours a day just to cook. I am just too busy with my life and with my kids' busy schedules, so the thought of making a full-course meal for dinner every night is kind of overwhelming."*

In essence, these home environment factors pose substantial barriers to healthy eating among Tongan Americans, necessitating strategies that promote nutritional awareness, traditional cooking, and healthier food marketing and delivery practices.

### 3.3 Physical Environment

Another significant theme from the study was the role of the physical environment. The data highlighted two main aspects of this barrier: limited access to nutritious food choices and the unavailability of land for traditional cultivation practices. The findings underscored the challenges communities face in accessing diverse, nutritious, and culturally appropriate food options. A participant shared their difficulties in obtaining healthy foods within their community in the following way:

*"I think that environment plays a big role in how we eat. Unfortunately, the same cannot be said about having access to healthy foods in Utah communities with heavy Tongans populations. I have Tongan relatives living in Salt Lake City who live in communities with a large population of Tongans with little access to healthy eating options. I remember visiting one last week and going to the local store. They only had one supermarket in their community that was stacked with low-grade quality foods. I did not see any whole food stores or little stores offering higher-grade quality ingredients or foods. It is disturbing that I did not see any of these because I know that healthy foods come with a cost. The political powers in the area deny access to my Tongan people because of their perceptions about their socioeconomic status. My cousin and I went looking for healthy foods and drove for a while just to get them. It is not fair. The drive costs money for gas, plus it takes time. I can see why it would be easier not to eat healthy foods. I like eating organic foods. It is better quality. It is also healthier. It also just tastes better. I never have to worry about where the food comes from. It is just a peace of mind thing. That is why I feel that it is important that all Tongan Americans have the same access to these types of healthy foods."*

Most participants shared that another significant barrier for Tongan Americans is the lack of land for traditional cultivation. The Tongan diet is traditionally rich in locally grown root crops, leafy greens, fruits, and seafood. In the United States, however, many Tongan Americans live in urban or suburban environments where land is scarce or unsuitable for cultivation. This scarcity significantly hinders their ability to grow traditional foods, thereby narrowing their dietary choices and potentially leading to a shift towards less healthy alternatives. When speaking about land for cultivation, this participant shared:

*"I think that having no land makes it difficult. I mean, I know that the Tongans lived off the land and that the land*

was meant to feed us.

Another participant stated: *"I think it all starts with owning our land. The land is so expensive out here in Utah. I also think that living around water is essential for fishing."*

These findings highlight the need for holistic approaches to address the barriers to healthy dietary behaviors. Such approaches should aim to improve the availability of nutritious, culturally relevant food options in Tongan American communities and explore innovative solutions to overcome the challenges of land scarcity for traditional cultivation.

### 3.4 Reliance on Convenient Foods

Most participants strongly preferred convenient, fast foods due to their busy lifestyles and the time-consuming nature of preparing healthier meals. Fast-food restaurants were perceived as more readily available, time-saving, and affordable than cooking healthy meals at home. When discussing the process for choosing meals, this participant stated:

*"I would eat fast food at least two or three times a day. At a minimum two times a day. At lunch I would eat fast food at work, then when I get home, my wife would be too tired to cook because she also works early in the mornings, so she wouldn't have the time or energy to cook. So, we would go out to eat fast food every night. On top of that, I would often eat another late-night snack at a fast-food place because I have a hard time sleeping. My late-night meal would be like a burrito or hamburger you know. It was a very bad habit."*

Another participant shared:

*"I have so many options and choices to pick from that it is easy to get a meal whenever I want one. If I want a burger, I can easily have one in minutes; not only can I get one, but there are also five other burger spots surrounding the one I choose. That goes for any type of food I want here in America; I can easily have access to all types of foods from here and around the world in minutes."*

Another participant also stated:

*"Because I live in America. The availability of foods is everywhere. If I wanted to eat something I would just simply drive down the road. I also have a refrigerator that is just full of all kinds of food and stuff. At the same time, a lot of the stores around my house stay open late, so I always have a place to go if I get a food craving. I can't emphasize enough how accessible the food is here in the U.S."*

The desire for convenience and limited access to healthy food options contributed significantly to the reliance on fast foods among the Tongan American adults in this study. This finding suggests that interventions to improve dietary behaviors should address convenience and consider strategies to make healthier food more accessible and appealing.

### 3.5 Low Health Literacy

Low health literacy emerged as a substantial obstacle to embracing healthy dietary behaviors among the individuals who participated in the study. Numerous participants expressed challenges in comprehending and interpreting nutritional information, which directly impacted their ability to make informed food choices. One participant highlighted the influence of health literacy on meals within their household, stating:

*"We didn't even know what eating healthy meant. We just thought that if you get a lot of vegetables and if you drink water, and you only eat a little meat, then we are good. We weren't educated on the type of meat. We didn't know that there should be balance of the types of vegetables to eat, how much meat we can eat, and that water was the only thing that we could drink."*

Furthermore, participants needed clarification about the conflicting and often contradictory dietary advice they received from various sources, such as friends or family members. The limited knowledge of the health risks associated with specific dietary habits was a significant contributor to continued adherence to unhealthy dietary practices. When discussing the conflicting health messages, this participant shared:

*"I think another thing for me is to look at my parents. Remember, they migrated to the U.S. Most of them, including my parents, have very little understanding of a healthy diet. When you sit down to eat dinner in a Tongan home, the foods might not be the healthiest, but a lot of times, our parents don't understand and when we try to correct them, they get upset"*.

Table 1. Coding and Thematic Analysis

Theme	Open Coding	Axial Coding	n=12	%
<b>Home environment</b>	Unhealthy food availability in the home	Westernized foods	10	83
	Sugary snacks			
	Lack of traditional foods in the home			
	Family influence			
	Convenience (Door Dash, UberEATS, etc.)	Reliance on Food delivery apps for home meals	11	92
	Busy schedules			
	Accessibility			
	Lack of knowledge and practice of traditional dietary practices	Decrease in traditional home cooking.	11	92
	Failure to adhere to cultural dietary norms.			
<b>Physical environment</b>	Low access	Lack of access to nutritious food choices	9	75
	Cheap cost			
	Distance			
	Cost			
	Proximity to healthy food options			
	Cost of land	Absence of land for traditional Tongan cultivation practices.	11	92
	Lack of knowledge about traditional cultivation practices			
	High time demand			
<b>Reliance on convenient foods</b>	Lack of time (church, work, and family)	Readily available	11	92
	Proximity to fast food options			
	Poor planning (home meals)			
	Dual income families	Busy Schedules Poor Time Management	8	67
	Stress			
	Convenience			
	Cost of healthy foods	Affordable than cooking healthy meals at home.	10	83
	Microwaveable foods			
	Finances			
<b>Low health literacy</b>	The need to conceptualize a healthy diet.	Understanding and interpreting nutritional information	11	92
	The difficult transition from the traditional to a Western dietary culture			
	Peer/Family influence			
	Obstacles with acculturation	The limited knowledge of the health risks associated with specific dietary habits	9	75
	Cultural barriers			
	Commercialism			

#### 4. Discussion

The complex challenges surrounding healthy dietary practices among Tongan Americans require a comprehensive and nuanced approach to public health initiatives and policymaking (Novak & Brownell, 2012). Our findings provide important insights into the specific cultural barriers that hinder the adoption of healthier diets within the Tongan American community. Limited research has been conducted to gain insight into the culture, lifestyles, and dietary experiences of this particular group, which could provide valuable information for designing targeted

health interventions aimed at reducing rates of obesity and other non-communicable diseases (Shaghghi et al., 2011). Therefore, the results from this study should prompt public health and government officials to reassess current dietary intervention methods.

The home environment was identified as a notable obstacle, primarily due to the growing presence of Westernized food options, the impact of food delivery apps, and a shift away from traditional home-cooked meals. Researchers also highlighted that the home environment serves as a crucial setting for learning and promoting dietary behaviors and for transmitting cultural and familial beliefs regarding dietary practices (Savage et al., 2007). To mitigate these effects, there is a need for an informed strategy focusing on education and awareness. Public health practitioners could initiate culturally relevant nutritional programs emphasizing the dietary benefits of traditional Tongan dishes and advocating for their inclusion in the contemporary diet (Dutta, 2007). Simultaneously, these programs could present strategies for healthier versions of Western foods, thereby catering to the evident cultural blend in food habits.

Interestingly, the rise of food delivery applications, though currently a barrier among Tongan Americans, could be strategically used as a conduit for change (Ventola, 2014). Collaborations between health organizations and these platforms could result in the promotion of healthier, culturally significant meal options. This could pave the way for a digital nutritional revolution, counteracting the unhealthy trend.

From the perspective of the physical environment, the challenges revolved around the accessibility of nutritious, culturally appropriate food choices and the absence of land for traditional Tongan cultivation practices. Systemic issues require policy interventions to address them. Researchers encourage the vital need for public and government officials to adopt a comprehensive approach to explore the interplay between food and health, aiming to identify public health policy's role in preserving and promoting health and well-being (Scott & Vallen, 2019). Implementing urban farming initiatives and local farmers' markets could provide access to fresh, culturally relevant produce, circumventing the problem of land scarcity. Non-profit organizations and governmental bodies could support such initiatives, creating an environment conducive to healthier eating practices (Novak & Brownell, 2012).

The widespread preference for convenience foods, often unhealthy, presents a unique challenge to this community. Educational programs highlighting the adverse health effects of fast-food consumption while providing affordable and time-efficient alternatives for home-cooked meals could counteract this trend (Coughlin et al., 2020). Policymakers could further contribute by introducing regulations that reduce the availability of fast foods in Tongan American-populated neighborhoods, thereby reshaping the food environment. Given the significant health care and economic burden of obesity, a coordinated national food and nutrition policy strategy should be a priority for policy makers (Pomeranz et al., 2018).

Another significant barrier that arose was low health literacy. It is crucial to foster a culture of health consciousness through comprehensive education and communication initiatives that involve the development of resources that relate to the cultural context and organizing community-based nutritional workshops (Panapasa et al., 2012; Taylor et al., 2019). Cultural tailoring entails crafting health messages that resonate with the background of the target group. It also acknowledges the influence of cultural context and the wider social environment on health behavior (Krumeich et al., 2001). Likewise, empowering community health workers to deliver educational efforts and advice to community members is also critical. Future endeavors could also use traditional and social media platforms to disseminate accurate, consistent messages about the importance of healthy diets and their benefits.

## **5. Limitations**

This study, while yielding rich insights into the dietary behaviors of Tongan Americans, is constrained by certain limitations. Its qualitative nature calls for a complementary quantitative approach to enhance statistical validity and generalizability, given the relatively small and geographically specific sample size (Mohajan, 2020). Additionally, the absence of objective health and dietary measures highlights the importance of future research incorporating such metrics for a comprehensive understanding of dietary practices and health outcomes.

## **6. Conclusion**

This study highlights the multifaceted barriers to healthy dietary behaviors within the Tongan American community, providing a solid basis for future public health strategies and interventions. However, these challenges are significant and present unique opportunities to establish culturally sensitive and effective interventions (Joo & Liu, 2021). Nevertheless, more research is needed to refine these strategies further and ensure their efficacy (Al-Bannay et al., 2014).

In conclusion, the burden of obesity among Tongan Americans necessitates a multifaceted approach encompassing

policy changes, health education, and community participation. By comprehending and addressing the specific dietary challenges faced by Tongan Americans, Tongan Americans can strive towards a future where every individual, irrespective of their cultural or social background, has access to the necessary resources and knowledge to lead a healthier life. Therefore, recognizing and addressing the complex cultural, environmental, and systemic barriers identified in this study is crucial for creating an environment that supports healthier dietary practices. By doing so, public health officials can work towards achieving equitable health outcomes for all.

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### Competing Interests Statement

The authors declare that there are no competing or potential conflicts of interest.

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