

# A Case Study on the Dietary Shifts in an Older Tongan Migrant to the United States

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<https://www.doi.org/10.62547/TKOU6982>

## Abstract

This case study, anchored in the Social Ecological Model (SEM), delves into the dietary behaviors of a 67-year-old first-generation Tongan woman in Utah. It uncovers pivotal themes through narrative and thematic analysis: cultural identity, economic constraints, environmental adaptation, and health perceptions. The study underscores the importance of cultural preservation, economic stability, and the centrality of traditional Tongan foods, revealing a complex interplay between cultural adaptation and health awareness. Community support and engagement emerged as crucial in sustaining healthy dietary practices amid cultural changes. The study advocates for an SEM-based framework to guide future research and develop culturally sensitive interventions to improve dietary behaviors among first-generation Tongan immigrants and similar groups and offers valuable insights. The limited generalizability of this study due to its single-case design necessitates future investigations to incorporate broader and more diverse samples to validate the findings and tailor more precise interventions.

## Keywords

cultural health strategies, migrant health, Tongan American health

## Introduction

The dietary shift from traditional, land-based foods such as taro, *ufi* (yam), fruits, and vegetables to a Western diet rich in processed foods that are high in sodium, saturated fats, and cholesterol has been identified as a contributing factor to the prevalence of chronic diseases among Tongan American adults.<sup>1,2</sup> Historical analyses reveal that before the migration spurred by significant changes in United States (US) immigration policy in 1965, Tongans maintained healthier dietary behaviors.<sup>3,4</sup> The migration and subsequent acculturation to Western society disrupted traditional Tongan political systems and social behaviors, leading to dietary shifts that brought about adverse health outcomes, including increased consumption of unhealthy foods and a consequent rise in obesity, diabetes, and coronary diseases.<sup>5</sup>

Current health data underscore the impact of these dietary changes, with Tongan Americans showing a disproportionately high rate of obesity and diabetes compared to the general US population.<sup>6</sup> While adopting healthy dietary behaviors is critical to combating chronic diseases, research indicates a gap in

adherence to dietary guidelines among Indigenous populations exposed to Western diets.<sup>7-9</sup> Factors such as cost, accessibility, the availability of processed foods, and the influence of stress and family support play significant roles in dietary choices.<sup>10,11</sup>

Despite the recognition of these factors, there remains a paucity of research exploring the complex interplay of influences on the dietary behaviors of Tongan Americans. This study aims to fill this gap by employing a qualitative approach grounded in the Social Ecological Model (SEM) to explore the intrapersonal, interpersonal, community, policy, and institutional factors affecting dietary behaviors among Tongan Americans.<sup>12,13</sup> Through narrative interviews and thematic analysis, this research will delve into the personal experiences, cultural identity, economic circumstances, and environmental adaptations of a 67-year-old first-generation Tongan woman in Utah, offering insights into the broader implications for health promotion and policy.

The findings aim to inform culturally tailored health strategies and interventions that address the specific needs of Tongan Americans and the challenges they face in adopting healthier dietary behaviors.

## Theoretical Framework

This case study, anchored in the Social Ecological Model (SEM), provides a detailed exploration of the factors that affected the dietary behaviors of a Tongan immigrant in Utah, spanning intrapersonal, interpersonal, institutional, community, and policy levels.<sup>12</sup> By employing the SEM, the study illuminates the significant role of environmental contexts and interpersonal relationships in shaping an individual's dietary choices, specifically focusing on a Tongan immigrant's dietary transitions. Through the SEM framework, the research delved into the interplay between individual decisions and broader socio-environmental influences, highlighting the impact of cultural identity, economic constraints, and adaptation to a new food environment on dietary practices.<sup>14</sup> This theoretical lens effectively bridged the study's insights with larger factors driving dietary behavior in immigrant communities, contributing valuable perspectives for crafting culturally sensitive health promotion strategies in similar contexts.

## Methods

### Participant Selection and Background

This case study investigated the dietary behaviors of a 67-year-old first-generation Tongan woman who migrated to the US in the late 1970s, initially settling in Hawai'i before relocating to Utah. Her migration experience, catalyzed by the Immigration and Naturalization Act of 1965, offered insights into the interplay between cultural traditions and dietary habits over several decades of residence in the US.<sup>15</sup>

### Data Collection

The data collection process benefitted significantly from the researcher's established connections within the Tongan community and with stakeholders in Utah, enabling access to a local religious venue that was integral to the participant's community life.<sup>16</sup> This venue fostered an environment conducive to open and authentic dialogue. The semi-structured interview leveraged the researcher's bilingual proficiency in both English and Tongan, enhancing the quality and depth of the conversation.<sup>17</sup> This linguistic versatility was crucial during the interview and the data analysis phase, ensuring an accurate, in-depth understanding of the participant's narratives.<sup>18</sup> The interview lasted approximately 90 minutes and was recorded using a hand recorder after informed consent was obtained from the participant.<sup>19</sup> This consent emphasized the participant's rights to voluntary engagement and the freedom to withdraw from the study without penalty. The study was reviewed and approved by the University of Hawai'i Institutional Review Board and determined to be exempt from full review. The researcher transcribed the recording to preserve the nuances of the dialogue. This meticulous transcription laid the groundwork for the data analysis phase, during which narrative and thematic analyses were conducted to explore the intricate patterns and themes within the data. These methodologies, aligned with established qualitative research practices, set the stage for detailed and robust data exploration and analysis in subsequent sections.

### Data Analysis

The data analysis for this single case study unfolded in 2 pivotal stages to expound the intricate relationship between migration and dietary behavior changes. Initially, a narrative analysis, guided by the SEM, meticulously mapped the participant's dietary evolution within the context of her migration and subsequent acclimation in Utah.<sup>20</sup> This phase laid the groundwork for a thematic analysis, which delicately interwove emerging themes to construct a comprehensive portrayal of the varied influences on her dietary habits.<sup>21</sup> Employing this dual-faceted methodology facilitated an in-depth exploration of the participant's narrative, with iterative coding uncovering key elements, patterns, and themes that delineated her unique dietary journey.

Reflexivity and member checking were paramount in this analysis, securing the integrity and depth of the interpretive process.<sup>22</sup> Reflexivity entailed critically examining personal biases and perspectives to markedly enhance the clarity and depth of the interpretation.<sup>23</sup> Member checking served as a crucial validation tool that involved the participant in confirming findings to ensure their authenticity and congruence with her experiences.<sup>24</sup> This collaborative process validated the thematic insights and highlighted the dynamic interplay of personal, cultural, and environmental factors influencing dietary behaviors. Through this meticulous approach, the study navigated the complexities of dietary adaptation, yielding profound insights into the nuanced narratives of migration and health, as experienced by this individual.

## Results

### Narrative Analysis

The narrative analysis investigated the dietary journey of an older first-generation Tongan immigrant, offering insight into the various factors that shaped her food choices before and after migrating with her family to the US in the late 1970s.<sup>25</sup> This analysis was aimed at comprehending the impact of cultural identity, commitment to traditional Tongan dietary practices, challenges encountered during migration, economic restrictions, and the influence of the American food environment on her dietary habits. Through this research, comprehensive themes emerged, detailing the complex interplay of factors influencing the dietary decisions of this older Tongan immigrant. The findings from the narrative analysis of her experiences before and after migration are presented below.

### Pre-Immigration Experience

The participant reflected on her upbringing in Tonga, emphasizing the challenges and humble beginnings she experienced living in a small village with modest living conditions and limited employment opportunities. She credited her resilience and work ethic to the foundational influence of her grandparents, stating, *"I grew up in a little village in the middle of the bushes with my grandparents. It was a very humbling lifestyle. We had nothing, but my grandparents worked very hard to provide the basic necessities of life..."*

The traditional Tongan diet, central to her family's sustenance, was characterized by the cultivation of crops and the harvesting of food directly from the land. She fondly remembered working alongside her grandfather on their land: *"We would plant kumala (sweet potato) and hopa (a type of banana grown locally). My grandpa didn't have a big farm. We also planted ufi (yam). I remember always planting fruits and vegetables. I had the most fun harvesting crops. We planted so many types of foods..."*

Her narratives highlighted her grandfather's commitment to providing for the family, particularly his efforts in fishing, preparing meals in the *umu* (earth oven), in which Tongans cook their meals under the ground with hot stones laid on top, and tending to their small farm. She expressed admiration for his hard work: "My grandpa made the *umu*, roasted the pig, went fishing, and grilled all the food that he caught. He was a hard worker. I saw him work in the bush all day, preparing the crops, fishing, and then coming home to prepare the *umu*."

The participant also praised her grandmother's baking skills, reminiscing about the simplicity and resourcefulness of her culinary talents: "My grandma was a baking specialist. The only ingredients she had were flour and sugar. She made bread, *keke* (cake) and *dopai* (sweet dumpling)."

The use of the *umu* for cooking was a significant aspect of her culinary heritage, with the participant recalling, "My grandpa always cooked our food in the *umu*. When I was younger, my grandpa would wrap all of my food in *lu* (taro) leaves to help preserve the richness and the taste of the food before putting it into an *umu*."

The participant concluded her reflections by expressing a deep sense of gratitude for her upbringing, acknowledging the richness of a life filled with close family ties and traditional practices: "I was actually raised by my grandparents in Tonga. They took great care of me... That was just the lifestyle back in the early days of Tonga..."

### Post-Immigration Experience

Upon immigrating to the US in the late 1970s, the participant encountered a significant transformation in both her lifestyle and dietary habits. She initially perceived the US as a land of abundant opportunity, contrasting sharply with her previous experiences. "It was such a dramatic shift for myself. I know that life here in the US is so much faster with so many more opportunities... In Tonga, times were tough for me growing up; there wasn't much money or work."

The ability to work and support her family as a young mother in the 1980s and 1990s was a welcomed change; however, she quickly faced the realities of employment challenges, mainly due to her limited English proficiency. This struggle forced her to navigate various job settings while striving to balance work, childcare, and household responsibilities, and this influenced her food behaviors and dietary choices. "I worked at a nursing home. My job was tough because I was not used to that type of work... My limited English made it difficult for me to communicate or connect with my co-workers."

The economic hardships experienced by the participant after migrating echoed her childhood in Tonga, which had been characterized by limited financial resources. These challenges

significantly impacted her dietary behaviors, influencing her choices and access to food within the new environment. "My life in America is kind of reflective of my childhood. My family had very little, but nothing could stop my husband from raising our children in the US... I can remember my husband getting paid, then paying all of our bills and leaving us with \$2 for the next few weeks." She continued, "In my home, with my own family, I did most of the cooking. My husband was always out working. Plus, since my family didn't have much, I pretty much made whatever we had to put food on the table. There was no such thing as planning a menu or healthy options, I told my family that we eat what we have. Whatever is in there, that's it."

Adjusting to a new cultural and environmental setting introduced a range of challenges that persist to this day, yet her desire for traditional Tongan cooking methods and the freshness of meals prepared in Tonga remains strong. "I will always choose the traditional Tongan diet. I think that the Tongan diet is way healthier than what I have access to today. The foods that I ate as a child were always fresh. I can remember watching my meals being made right in front of me."

Shortly after her migration, the convenience and variety of fast-food options in the US initiated a shift away from her traditional dietary habits. This departure has become more pronounced over time. Despite acknowledging the health advantages of her traditional diet, she has increasingly incorporated meat into nearly every meal for the family, moving away from the Tongan custom of consuming meat sparingly. "Now I feel that there has to be meat in every meal in my home or else my husband and the kids will be upset or go crazy."

For the participant, it is still challenging to manage the cultural norm that views it as impolite to decline food when visiting other families. The practice of accepting food that is offered, deeply embedded in her cultural traditions, requires her to constantly find a balance between showing respect for her hosts' hospitality and adhering to her own dietary preferences. "One of the hardest things to overcome is trying to avoid foods that are offered whenever I go to visit families... when they offer, it is rude to say no, so I try my best to eat something small while we are visiting."

### Thematic Analysis

The thematic analysis, grounded in the SEM and derived from the participant's narrative, was instrumental in exploring the complex interplay of cultural, economic, and environmental factors that influenced the dietary behaviors of a first-generation Tongan woman in Utah.<sup>26</sup> This approach enabled a comprehensive examination and organization of the data and helped to illuminate the factors that shaped her dietary practices throughout her migration journey. The themes identified provide a detailed overview of her dietary adaptations, highlighting the profound impact of her migration experience. The analysis of her narra-

tive shed light on several of the factors that influenced her food choices, enriching the understanding of her lived experiences and leading to the identification of the following key themes within the SEM framework (**Figure 1**):

**Cultural Identity and Traditional Practices** aligned with the *interpersonal level* of the SEM, highlighting the role of cultural norms and family traditions in shaping dietary behaviors. This theme underscored the importance of social relationships and cultural heritage in influencing food choices, and it reflected the interpersonal connections and social norms that guide eating habits.

**Economic Opportunities and Constraints** were situated at the *institutional and community levels*. This theme emphasized how economic factors, including income and access to food resources, shaped dietary choices. The institutional context, such as employment opportunities and economic policies, along with community-level resources, directly influenced food availability and affordability.

**Adaptation to a New Environment and Cultural Shifts** reflected the *community and policy levels* of the SEM. It highlighted how migration and subsequent integration into a new cultural and environmental context led to changes in dietary patterns. This theme illustrated the broader societal and policy-related influences affecting dietary behavior when one is exposed to new food environments and cultural norms.

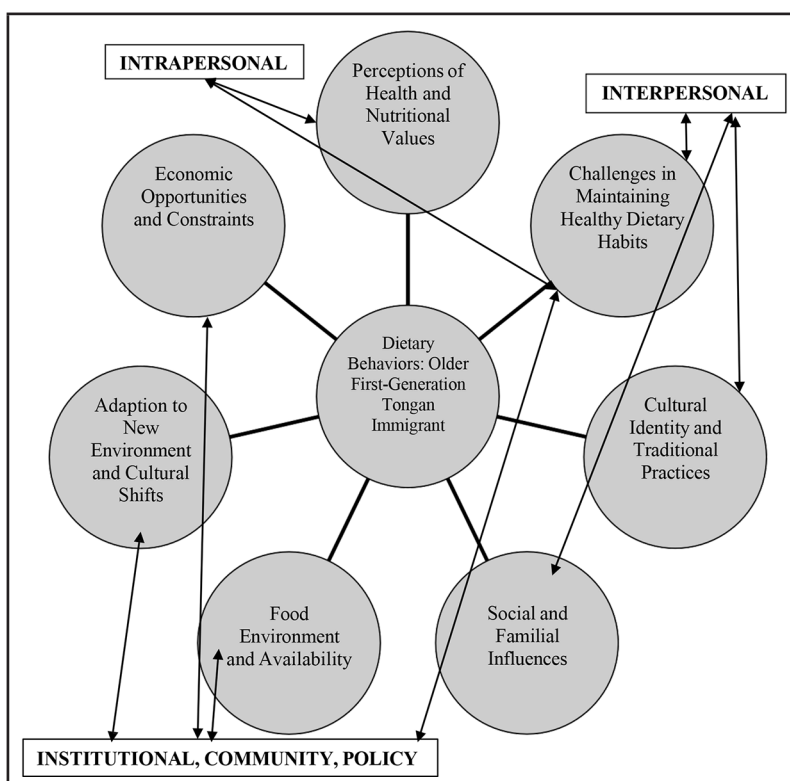


Figure 1. Conceptual Framework of Factors Influencing an Older First-Generation Tongan Immigrant

In the diagram above, circles represent the thematic elements identified from the thematic analysis, whereas rectangles denote the levels of the Social Ecological Model (SEM) framework. Arrows illustrate the interconnections among these themes, their alignment with specific SEM levels, and their collective influence on the dietary behaviors of an older, first-generation Tongan immigrant. This visual representation aims to clarify the convergence of intrapersonal, interpersonal, community, institutional, and policy-level factors that shape nutritional practices and decisions, providing insight into the multifaceted nature of dietary behaviors with the participant.

**Food Environment and Availability** also aligned with the *community and policy levels*. This theme focused on how the characteristics of the local food environment, influenced by community resources and policy regulations, determined the types of food that were accessible and affordable, thereby shaping dietary practices.

**Social and Familial Influences** resonated with the *interpersonal level*, emphasizing the impact of social networks and family on dietary decisions. This theme highlighted how personal relationships and social support systems, such as families and cultural norms, play a crucial role in influencing food choices and dietary habits.

**Perception of Health and Nutritional Values** was rooted in the *intrapersonal level* of the SEM. It shed light on individual knowledge, beliefs, and attitudes towards health and nutrition, showing how personal awareness and values guided dietary choices and behaviors.

**Challenges in Maintaining Healthy Dietary Habits** spanned the entire spectrum of the SEM, from *intrapersonal to policy levels*. This theme captured the individual, social, institutional, and policy-related barriers to adopting and maintaining healthy eating habits, reflecting the complex interplay of factors that influence dietary choices.

## Discussion

The findings from this study advance the scholarly understanding of dietary behaviors among first-generation Tongan immigrants in the US, revealing the intricate interplay between cultural identity, economic constraints, and adaptation to new food environments.<sup>27</sup> Employing narrative interview methodology and thematic analysis, the study illuminated the resilience of traditional dietary preferences and the profound influence of cultural identity on food choices. It uncovered themes related to economic opportunities and constraints, adaptation to new environments, and the impact of the American food landscape, offering insights into the dietary changes experienced by immigrants.<sup>28</sup> This nuanced understanding is crucial for public health professionals and policymakers in designing culturally sensitive interventions to foster healthier dietary practices within immigrant populations.<sup>29</sup>

The aim of this study was to examine the Tongan immigrant experience, enriching academic discussions on immigrant dietary patterns. It aligned with broader findings about the challenge's immigrants face in maintaining traditional food habits in the food environment of a new host country.<sup>30,31</sup> The exploration of the experience of this Tongan immigrant highlights the significant role of cultural identity in dietary decisions and can offer valuable directions for future research and the creation of targeted nutritional guidance and interventions that honor and incorporate immigrants' cultural backgrounds and preferences.

The findings from this study can inform future foundational framework for investigating Tongan immigrants' dietary behaviors and those of other groups facing similar dilemmas, opening avenues for a wider comprehension of immigrant dietary adaptations. This analysis provides a basis for future research that can extend the relevance and generalizability of these findings.<sup>32</sup> Further studies that include more diverse experiences and larger sample sizes are vital to validate the identified themes and uncover additional factors affecting dietary adaptation.<sup>33</sup> Such endeavors will deepen the understanding of the multifaceted influences on immigrant dietary behaviors, leading to the development of more effective, culturally sensitive public health interventions.

## Limitations

The single-case study design inherently limited the generalizability of the findings.<sup>34</sup> Recall bias from self-reported data may have also influenced the accurate representation of experiences and perceptions.<sup>35</sup> Despite efforts to maintain reflexivity throughout the research process, the qualitative approach remained susceptible to interpretation bias.<sup>36</sup> Additionally, the purposive sampling technique limited the diversity and range of experiences within this study.<sup>37</sup> Consequently, the findings should be interpreted with caution. Future research should aim to incorporate a broader sample and employ mixed-methods approaches to enhance the robustness and generalizability of findings related to immigrant dietary behaviors.<sup>38</sup>

## Conclusion

This case study delved deeply into the dietary behaviors of an older first-generation Tongan immigrant in Utah, revealing significant impacts and influences. The findings, derived from narrative and thematic analysis, underscore need for interventions that are attuned to the unique cultural, economic, and environmental contexts of immigrants' lives.<sup>39</sup> Moreover, the findings offer insight into the delicate balance between preserving traditional dietary practices and adapting to new food environments, advocating for culturally sensitive public health strategies.<sup>40</sup> By exploring the specific experiences of a Tongan immigrant, the study offered a glimpse of the challenges and opportunities that may shape the dietary practices among other immigrants and therefore these experiences can be considered in the development of health promotion programs.

This case study can act as a catalyst for further research into the dietary habits of immigrant populations, advocating for a broader exploration of how diverse cultural backgrounds influence food choices in new environments. The insights gained emphasize the need for evidence-based, culturally sensitive interventions designed to address the specific dietary needs and challenges of immigrant communities.<sup>41</sup> This research highlights the critical role of culture, economy, and environment in dietary choices, advocating for a comprehensive public health approach that

proactively recognizes cultural diversity within communities.<sup>42</sup> It sets the stage for future research and the proactive development of interventions, representing a significant step towards embracing the cultural mosaic within local populations and promoting healthier dietary practices and overall well-being among immigrants.<sup>43</sup>

## Conflict of Interest

The author does not identify a conflict of interest.

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