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Impacts of the Farm to Keiki Program: An Anthropological Evaluation

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Abstract

Native Hawaiian health has been adversely impacted by dietary and cultural changes that resulted from colonization. Farm to Keiki is a farm-to-preschool program that introduces children in Hawai'i to healthy eating through gardening and eating local produce, including traditional Native Hawaiian foods. This study utilized anthropological theory and ethnographic evaluation methods to deepen the understanding of the Farm to Keiki program's impact through interviews with family members and focus groups with teachers at 2 Kamehameha preschools. The results demonstrate that children, families, and teachers learned about plants and healthy eating, and made healthier dietary changes following the program. Additionally, participants described ways in which the program helps bolster Native Hawaiian culture and benefits the local community.

Abbreviations

ECE = Early Childcare and Education
FTK = Farm to Keiki
FTS = Farm-to-School
IRB = Institutional Review Board
KS = Kamehameha Schools

Introduction

Hawai'i is often described as being the healthiest state in the US due to its long life expectancies and low rates of obesity, substance use, and diabetes-related deaths.[1-3] However, this is not the case for all Hawai'i residents. Native Hawaiian life expectancies are at least 10 years less than those of the state's Chinese-American residents, due in part to higher rates of cardiometabolic diseases like diabetes, hypertension, and coronary artery disease among Native Hawaiians.[4,5] Native Hawaiians, including children, experience high rates of overweight and obesity.[6]

Although conventional science often seeks to explain these health disparities in terms of genetic anomalies,[7] complex socioeconomic factors, many of which stem from more than 2 centuries of colonialism that led to the loss of land and traditional ways of life, contribute to health outcomes. Whereas foods like *kalo* (taro), *'ulu* (breadfruit), and *'uala* (sweet potato) once were grown as a community and shared, 85-90% of food in Hawai'i is now imported thousands of miles.[8] Obtaining traditional, healthy foods like these plants, fish, *limu* (seaweed), and poi has become expensive and time-consuming.[9]

One approach to addressing such health disparities involves increasing access to fresh, healthy foods, especially for *keiki* (children). Early childhood is an important time for the development of food preferences, which can influence the development of obesity.[10] As a result, Farm to School (FTS) and Farm to Early Childcare and Education (ECE) programs are increasing due to their promise for improving knowledge, attitudes, and behaviors about fruits and vegetables.[11] Extensive research has been published about FTS programs[10-18]; however, at the time of this writing, only 2 studies[10,12] examine the impacts of FTS programs in Native communities, and none involved Native Hawaiians.

Farm to Keiki (FTK) was created in 2011 by Kaua'i-born nutritionist Tiana Kamen to improve preschool-aged children's access to healthy foods and promote healthy farm-to-table food networks.[19] Farm to Keiki developed an educational curriculum that includes lessons on healthy nutrition, participation in school gardens, trying new foods, and other activities to engage *keiki*.

A pilot program was conducted at 2 Kamehameha Schools (KS) preschools on Kaua'i in 2021-2023 (funded by Hawai'i Pacific Health). The program included local food sourcing, FTK curriculum, and *'ohana* (family) education, as well as quantitative research for implementation of FTK programming in other preschools. Each month, FTK provided the schools with locally grown foods purchased from Mālama Kaua'i, a local food hub. The *kumu* (teachers) prepared foods and encouraged tasting by the *keiki*. Each classroom also had a garden that *keiki* helped plant and maintain. Monthly newsletters included recipes and information about the foods the *keiki* had learned about and recipes that could be made at home.

To complement the existing quantitative evaluation (discussed below), Migdol conducted an ethnographic program evaluation as part of his medical anthropology master's thesis. Medical anthropology seeks to understand how people approach health and illness, with a strong focus on the social, historical, and environmental factors that influence health. Its mostly qualitative approach empowers participants to speak open-endedly. This article presents the first study of an FTS program for Native Hawaiians by highlighting the rich insight into the impacts of FTK on the *keiki*, *'ohana*, and *kumu* through ethnographic evaluation methods.

Methods

This was a non-randomized, mixed-methods study with qualitative and quantitative data to evaluate the impact of

FTK interventions on the *keiki*, their *'ohana*, and *kumu* in areas such as diet, knowledge, behaviors, attitudes, overall health, and cultural values.

Participants

The 2 main research populations were the *kumu* (teachers) and school staff from the 2 preschools and the *'ohana* (specifically, the parents and caregivers) of the students. The children themselves did not directly participate in research activities; impacts upon them were evaluated through the reports of the *kumu* and *'ohana* and through secondary data from FTK.

The participants included 15 *kumu* (all women) and 14 parents (12 women), including 5 from Kaumakani preschool (representing 6% of students) and 9 from Anahola preschool (representing 23% of students). *Kumu* were notified that optional focus groups would be conducted in the afternoon of a professional development day. Fifteen of the 18 *kumu* (83% of the *kumu in the* 2 preschools) chose to attend the focus groups and signed the IRB-approved consent. *'Ohana* were emailed an IRB-approved flyer and were asked to provide their contact information to *kumu* if they were interested in participating. Additional respondents were recruited via word of mouth and directly by Migdol at the preschools before and after school. Demographic data such as age, ethnicity, and socioeconomic status were not recorded to avoid inadvertently revealing participants' identities, given the small class sizes and close-knit communities. However, 99.9% of KS *keiki* and 45% of *kumu* have Native Hawaiian ancestry.[20]

Data Collection and Analysis

FTK implemented an evaluation plan before Migdol's involvement, with quantitative measures including:

- Taste-testing tracker: teachers recorded the names and quantities, preparation methods, and *keiki* approval of foods onto Google Sheets spreadsheets each month. To determine approval, *kumu* asked *keiki* to give a "thumbs-up" or "thumbs-down" after they ate and recorded the responses. Some teachers provided numerical details on the breakdown of responses and others just recorded an overall "yes" or "no" whether the majority of students gave a thumbs-up or down to the particular food.
- Garden tracker: plants growing in each classroom's garden and any foods that the *keiki* tasted from the garden were recorded on Google Sheets spreadsheets by teachers each month.
- Curriculum trackers: monthly Google Sheets documentation of how lesson components were implemented, what teachers believed worked well, and what did not.
- Resource trackers: Google Sheets documentation of the items purchased for gardens or food preparation.
- *Keiki* "bingo cards" (**Figure 1**): photos of 9 foods included in the curriculum. The *keiki* were individually asked at the start and end of the schoolyear to identify each food, which foods they had eaten before, and which they would eat if it were served at school. This served as a pre- and post-test by comparing the numbers of foods selected by *keiki* on each question, with a maximum score of 9 per question (representing the 9 foods). Students' first names or initials were recorded by *kumu*, enabling independent and paired sample t-tests to be performed with chi square analysis using SPSS software Version 29.0.1 (IBM Corporation, Armonk, NY).
- Year-end *'ohana* surveys: An anonymous 11-question Google Forms survey assessing experiences with FTK and any changes in *keiki*'s and *'ohana*'s knowledge, attitudes, and behaviors associated with the program. Voluntary participants were solicited directly via email by Farm to Keiki.
- Anonymous *kumu* surveys: A 12-question paper survey, adapted from Sharma et al,[13] assessing teachers' comfort level with the program components, *keiki* and *kumu* knowledge and attitudes, effectiveness of interventions, and overall program satisfaction (at the school year start and end).

To supplement these quantitative measures, Migdol designed an ethnographic evaluation to provide greater insight into the participants' experiences with the program. He conducted semi-structured interviews with parents exploring how the program impacted the *'ohana*'s diet, behavior, interpersonal interactions, finances, and health. Two in-person focus groups were held with *kumu* to understand the program's implementation, successes and areas for improvement, and the impacts on the *keiki* and *kumu*.

The interviews and focus groups were transcribed verbatim and uploaded into MAXQDA Analytics Pro 2022 (Verbi Software, Berlin, Germany). Migdol identified keywords in participants' responses and then grouped those keywords into codes, such as "eating healthy" or "behavioral changes". Next, Migdol re-read the transcripts and searched for instances of those codes being used in other participants' interviews, then revised the codes as necessary, repeating this process until he had exhausted all potential codes. This process facilitated the analysis of the common themes in the interviews. These qualitative data were collected through the lens of interpretive theory, which prefers exploring nuance in people's words and actions over seeking a measurable objective "truth." Thus, additional raters were not utilized to confirm the identified codes.

This study was approved by the University of North Texas Institutional Review Board (IRB) (#22-824). Study participation was voluntary and written consent was obtained using IRB-approved informed consent forms prior to participation.

Results

Analysis of the tracking spreadsheets, surveys, and *keiki* bingo cards provided useful data to guide future development. The taste testing tracker offered insight into which foods were popular with the *keiki*, including cucumber, ba-

Figure 1. Keiki "Bingo Card", Annotated with Food Names Used by Farm to Keiki

[1] Kalo (Taro) [2] 'Uala (Sweet Potato) [3] Mai'a (Banana) [4] Cucumber [5] Beans and Peas [6] Citrus [7] Leafy Greens [8] 'Ulu (Breadfruit) [9] Asian Vegetables

nana, poi, and citrus fruits, but data was inconsistently recorded. Although this presents limited scientific value, it helped the program identify foods to emphasize in the future. Similarly, data on amounts of food needed and costs helped the program plan the following year's curriculum.

The *keiki* bingo cards demonstrated changes in knowledge and food consumption before and after the program. In independent samples t-tests of combined student results, there was a statistically significant increase in the number of plants the *keiki* could identify, from 6.92 out of 9 plants on the pre-test to 8.4 on the post-test (n= 74 and 63 respectively, $P<.001$); this indicates that students had learned at least 1 new plant. Paired sample t-tests showed an increase of 2 new plants identified, from 6.57 plants before to 8.51 after (n=49, $P<.05$). The bingo cards also showed an increase in the number of foods *keiki* re-

Table 1. Pre- and Post-Program Bingo Card Findings about Foods in the Farm to Keiki Program, Kauaʻi 2022-2023

	Independent Samples T-Tests			Paired Samples T-Tests		
	Pre-test	Post-test	*P* value	Pre-test	Post-test	*P* value
Number of plants *keiki* could identify (out of 9)	6.92 *(n=74)*	8.4 *(n=63)*	<.001	6.57 *(n=49)*	8.51 *(n=49)*	.002
Number of foods *keiki* recalled eating before (out of 9)	6.5 *(n=74)*	8.44 *(n=63)*	<.001	6.31 *(n=49)*	8.41 *(n=49)*	.049
Number of foods *keiki* were willing to try (out of 9)	7.14 *(n=74)*	7.71 *(n=62)*	.046	6.81 *(n=47)*	7.57 *(n=47)*	.001

ported having eaten, from 6.5 out of 9 plants on the pre-test to 8.44 out of 9 on the post-test (n=74 and 63 respectively, *P*<.001) using independent samples t-tests, and an increase of more than 2 plants utilizing paired sample t-tests, from 6.31 to 8.41 plants before and after (n=49, *P*<.05). Independent samples t-tests showed an increase in the number of foods they were willing to try, from 7.14 before to 7.71 at the end of the school year (n=73 and 62 respectively, *P*=<.05), and paired samples t-tests showed an increase from 6.81 to 7.57 foods (n=47, *P*=<.01). This demonstrates that the students had eaten at least 2 new plants and were slightly more willing to try eating new plants. There were no statistically significant differences between the preschool classes. **Table 1** provides a summary of these findings.

Year-end *ʻohana* surveys were completed by 31 family members (61% from Anahola preschool, 39% from Kaumakani). As they were anonymous, it is unknown how many respondents also participated in interviews.

Analysis of the interviews and focus groups provided deeper insights into the impacts of the program, not only on the students, families, and teachers as intended by this study, but also for the community and for Native Hawaiian culture. Using MAXQDA to label themes described in the interviews, it was possible to obtain percentages of interviewed parents who described particular observations. In the following section, percentages denote the number of parents who spoke about a given theme during their interview, divided by the total number of interviewees.

Benefits for Keiki

Parents and teachers associated several positive changes with the FTK curriculum, including new excitement about plants and food, new knowledge, changes in attitude and behavior, and eating healthier. Almost all parents (93%, *n*=13) mentioned their child becoming more interested in or excited by plants/new foods, which they attributed to active participation in growing and harvesting food. Several parents noted their children began proudly reciting facts about plants.

Participants also discussed improvements in the children's behavior, including increased confidence, improved mood, and greater open-mindedness about trying foods. The vast majority (86%, *n*=12) of parents noted their *keiki* became more willing to try new fruits and vegetables, which they attributed to the teacher's influence and positive peer pressure. This aligned almost exactly with the year-end *ʻohana* survey, in which 27 out of 31 respondents (87%) answered "yes" when asked the same question. When asked in interviews about changes in their children's eating habits, about 25% of parents described a shift from their children perceiving new foods as disgusting (with many using the word "ewww!") to being desirable (or "cool", as many parents described.)

Importantly, *ʻohana* and *kumu* noticed the *keiki* began eating healthier. *Kumu* saw *keiki* bringing more fruits and vegetables to school and making connections between the foods in their classmates' lunches. By the year's end, 79% of parents (*n*=11) interviewed reported their *keiki* were eating more produce, and those who did not notice a change typically remarked that their *keiki* already regularly ate fruits and vegetables before the program. Parents also noted *keiki* choosing fruit and vegetable snacks over chips and other unhealthy foods, and started requesting foods like kale and pesto. One child reportedly told his mother that he wanted to become a vegetarian. **Table 2** presents key themes identified regarding keiki impacts.

Benefits for the ʻohana

Although FTK focuses on children, families reported positive impacts on other family members, including changes in diet, health, knowledge, interactions, and finances. About a third of parents interviewed mentioned siblings' willingness to try new foods. Half of parents said they started preparing foods with more vegetables, even adding vegetables into processed foods like macaroni and cheese. Most parents did not notice any personal health changes associated with the program, but 1 parent said that she was sleeping better and had more energy. Another said her husband lost 30 pounds, which she attributed to his new awareness of food consumption.

Most parents (69%) spoke about learning new things through their child's participation in FTK, including the nutritional benefits of foods like *ʻulu* and new options for obtaining fresh local produce. Newsletters were described as helpful, particularly the recipes, cooking tips, and Hawaiian cultural lessons. Of those who indicated that they did not learn anything, many added that they were not as involved with the program as they would have liked to have been.

Table 2. Benefits for *Keiki* Described by Participants in *'Ohana* Interviews and *Kumu* Focus Groups

Theme	How Demonstrated	Sample Quotes
New Excitement About Plants and Foods	• Interest in watching plants grow • Enjoyment of garden work • Talking more about plants/food	"He's more excited to eat fruits and vegetables now, and I think that the fact that they're trying new foods, and seeing their peers trying them, really helps spark more interest… He talks about plants a lot more now, like, "Poi comes from *kalo*, and *kalo* has apple snails." He's eager to share what he's learned at school." *(Mother at Anahola)*
New Knowledge	• Understanding life cycles and parts of plants • Observations of animals/pests associated with plants • Increase in plant identification • Understanding how food comes from plants • Mentions of nutritional values of foods, especially vitamins	"He knows like, bananas, you pick off of a tree. Oranges you pick off of a tree. The *'uala*, the sweet potato - he always like talks about how it comes from the ground." *(Mother at Kaumakani)* "I learned that carrot is a good snack and apples is a good snack…You know what is not good? Chips." *(Mother at Kaumakani, quoting her son.)*
Changes in Attitude	• Increased confidence • Better behavior • More open-minded • Increased willingness to taste food • Positive peer pressure	"He definitely has a lot more energy and less anger, since he started eating healthy… if you give kids too much to artificial sugars and ingredients and all that kind of stuff, it affects their brain and their mood… he isn't as short tempered in the past 6 months or so." *(Mother at Kaumakani)*
Eating Healthier	• More fruits/vegetables in lunches • Increased number of fruits/vegetables eaten • *Keiki* choosing healthy snacks	"My son loves fruits and vegetables now… if he wants to be a vegetarian, I think that's great and awesome…" *(Mother at Kaumakani)*

All parents described how FTK activities brought their family closer together, including discussing what was learned at school, gardening, cooking, and *keiki* helping around the house. Most parents (73%) mentioned gardening or growing plants at home. Three parents (21%) already had gardens, and 2 (14%) restarted their old gardens. Six parents (43%) planted foods or started a new garden due to their child's interest in gardening. This aligns with the year-end *'ohana* survey, in which 18 of 31 (58%) reported starting a garden because of the program and 7 of 31 (23%) had existing gardens. About half of parents interviewed also noted their *keiki* have developed an interest in cooking and helping in the kitchen, a finding supported by the year-end survey in which 20 of 31 respondents (65%) reported that *keiki* began wanting to help cook as a result of the program.

Most parents did not immediately identify any potential economic impacts of the program; however, all but 1 parent mentioned the produce that was sent home with the *keiki* periodically, and most found this saved them money and time. **Table 3** offers key themes related to impacts on *'ohana,* and **Figure 2** shows the results of the year-end *'ohana* survey.

Benefits for Kumu

The *kumu* described personal benefits, including new knowledge of plants and nutrition and improvements in their own diets. Learning to garden was valuable for promoting sustainability and potentially saving money. Kumu also noticed that their own eating habits changed as the year progressed. The program provided access to fresh produce and offered an incentive to set a better example for the students. **Table 4** demonstrates the impacts of the program based on the kumu focus groups.

Benefits for Hawaiian Culture

Although preserving Hawaiian culture was not an objective for FTK, this was a major theme during the *kumu* focus groups and the *'ohana* interviews. Specific elements referenced were education about Hawaiian history, the return to traditional Hawaiian values, and the use of traditional Hawaiian plants and foods. Hawaiian children's books and *'ohana* newsletters incorporated Hawaiian history and *mo'olelo* (stories) about "canoe plants" brought by the original Polynesian settlers.

Kumu and 93% of parents (*n*=13) drew a connection between the FTK activities and a return to traditional Hawaiian values, especially *mālama 'āina*, described as "taking care of the land that takes care of us." *Kuleana,* a reciprocal responsibility between 2 people or entities, was also referenced. *Kumu* described how the *keiki* had a *kuleana* to help maintain the garden by watering the plants or removing weeds. Sharing food was the third most referenced traditional Hawaiian value and examples were provided by *kumu* and *'ohana* in which *keiki* took pride in bringing home food to share with their families.

Kumu and *'ohana* praised FTK's use of Hawaiian native plants and canoe plants. Parents mentioned 13 Hawaiian foods, including *kalo* (taro, named by 79% of parents), *'ulu* (breadfruit, 71%) and *'uala* (sweet potato, 64%). Parents frequently described these as Hawaiian "staple" foods offering health benefits and sustainability. Asked if any traditional Hawaiian foods may have been omitted, parents overwhelmingly responded that the program covered the

Table 3. Benefits for *'Ohana* Described by Participants in *'Ohana* Interviews

Theme	How Demonstrated	Sample Quotes
Dietary Changes	• Other family members became more willing to try fruits/vegetables • Parents tried new foods they hadn't eaten before	"I don't think my older daughter would have tried some of the things if her little sister wasn't bragging about how she ate all of this stuff and had that at school." *(Anahola mother)*
New Knowledge	• Learned nutritional value of traditional foods • Learned options for obtaining local produce	"We learned about poi, and citrus, and about the vitamins in the foods. The flyers tell you why it's good for you to eat, how it can grow, and then a simple recipe that you can make. I learned a lot, and seeing my children being excited about foods like this really helps encourage me to want to learn more too. *(Anahola Mother)*
Family Interactions	• Provided an opportunity for family to discuss activities/ lessons • Families started or resumed gardening at home • *Keiki* started helping in the kitchen	"One of the best things about the program is doing these projects at home,.. cooking is time that gets spent with the kids… to take the time to be like, "Let's make this together." That's something that memories and knowledge that you can't ever get back that time, you know?" *(Anahola Mother)*
Economic Impacts	• Produce sent home with *keiki* offered savings and convenience	"We've been getting bags of poi and just a whole bunch of great vegetables. I, we really appreciate it, especially with the price of food nowadays." *(Anahola mother)*

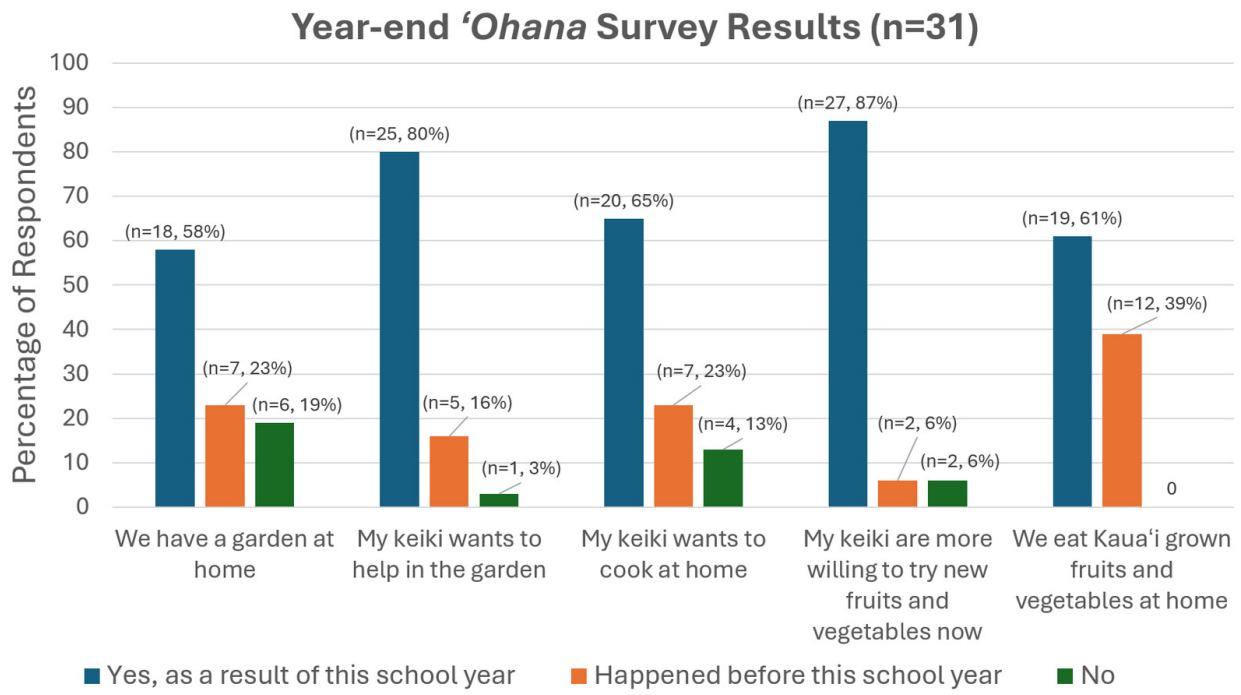

Figure 2. Year-end *'Ohana* Survey Results

important staple foods. **Table 5** provides the impacts of FTK on Hawaiian culture.

Benefits for Community

Participants described FTK as benefitting the local community by increasing demand for locally-grown produce, encouraging farming as a profession, and promoting sustainability through teaching children how to grow their own food. Additionally, FTK spent over $2,600 in 2022-2023 on local food that was purchased from area farmers and food hubs, thereby providing support for local growers. **Table 6** describes community benefits of FTK.

Discussion

While there is abundant literature on FTS programs, studies on the implementation and impact of these programs among Indigenous communities are scarce. Only 2 studies on FTS programs among Native people were identified,[10, 12] and none specifically with Native Hawaiians. This is the

Table 4. Benefits for *Kumu* Described in *Kumu* Focus Groups

Theme	How Demonstrated	Sample Quotes
Gardening	• Learned to garden • Started gardening at home	"To be given this gift of space and soil and time and education… we were literally learning alongside the kids… You can actually try it at home and you can help sustain your family as well." *(Kumu)*
New Knowledge	• Learned nutritional value of foods • Learned about new foods and new uses for plants	"I never heard of poha berry before Tiana introduced it… There's an edible flower up Kokeʻe and I never knew we could go and pick." *(Kumu)*
Eating Healthier	• Increased availability of fresh produce for *kumu* • Inspired to model healthy eating • Tried new foods	"I've been making healthier choices in what I eat around the students because I want to model actually eating vegetables." (*Kumu)*

Table 5. Benefits for Hawaiian Culture Described by Participants in *ʻOhana* Interviews and *Kumu* Focus Groups

Theme	How Demonstrated	Sample Quotes
Preservation of History and Stories	• Lessons about history, traditional uses, and *moʻolelo* (stories) about canoe plants.	"The flyers they sent home even had, like a cultural like story or history behind it. And so I thought that… benefited, you know, just the whole Hawaiian culture, as things have been lost over the years in our generations." *(Anahola mother)*
Perpetuation of Hawaiian Values	• *Malama ʻāina* • *Kuleana* • Sharing	"Yes, it's great to grow food, but it's also very important that we take care of the land that we're growing the food in because, optimally our health is connected to that component of it." *(Kumu)*
Promotion of Hawaiian Foods	• Keiki eating traditional foods • Parents and *keiki* learned how to grow *kalo* and make poi	"…especially kalo because it has the whole family analogy… My generation… we were just white rice every day was every meal… and we're paying the price for that. This is about shifting back, trying to rebalance that some…" *(Kaumakani father)*

Table 6. Benefits for the Community Described by Participants in *ʻOhana* Interviews and *Kumu* Focus Groups

Theme	How Demonstrated	Sample Quotes
Promoting Local Food	• Spent $2600 on local farmers and food hubs • Increased respect for farming	"I think the more we educate the younger generation about the importance of eating healthy… there'll be more demand for healthy options and maybe even it can go back to… agriculture as being our main source of economy." *(Kaumakani mother)*
Sustainability/ Resilience	• Promoting gardening at home helps families have access to food at home • Reduces dependence on imported food	"For keiki's future, self-sufficient is a big skill… so we don't rely on outsourcing too much." (*Anahola mother)*

first study of an FTS program that primarily serves Native Hawaiian students.

Many findings in this study align with and reinforce those of general FTS programs, particularly pertaining to the increased willingness to try new foods, increased produce intake, and increased nutritional knowledge.[13-17] However, there were some unique aspects of FTK, especially related to its impact on families and teachers and the inclusion of Hawaiian cultural elements in the curriculum.

Only 2 studies mention FTS impacts on families. Barnard et al note an unexpected finding in which a family member reported changes in their own eating habits due to their child sharing what they learned about healthy nutrition.[17] Sharma et al report that some parents described cooking and gardening with their children following the program.[13] The current study of FTK specifically sought to understand the impacts on families as well as the students, making this study unique among those reviewed. The combination of data from *kumu* and *ʻohana* paints a picture of a program that inspires families to eat healthier, grow food at home, spend time together cooking and gardening, and provides occasional free local produce. Some of these impacts were unexpected and will likely enrich the health and lives of the participants.

This study also examined impacts upon teachers, which was infrequently reported in the literature reviewed. Among studies that did include teachers, Bernard et al found that the FTS program increased the likelihood of

teachers eating in the school cafeteria, helped teachers make healthier food choices, and increased the number of fruits and vegetables consumed.[17] Dannefer et al found that educators reported aspects of teaching and promoting healthy eating to be rewarding.[18] The present study of FTK demonstrates the program helped teachers to eat healthier, learn or practice gardening skills, and expand their knowledge of local plants, foods, and healthier nutrition.

The most unique element of this study with FTK was its perceived promotion of Native Hawaiian culture. Although not a program objective, the use of traditional plants and foods, modeling of cultural values, and history lessons were described by participants as being important for the perpetuation of Hawaiian culture, and lessons about the canoe plants such as *kalo, ʻuala,* and *ʻulu* were commonly discussed by *kumu* and *ʻohana* as being important. Parents also identified the nutritional benefits of these plants and expressed a desire to see this generation eat more traditional plants. Intentionally taught or not, FTK participants saw the program as promoting traditional Hawaiian values like *mālama ʻāina*, *kuleana*, and sharing.

Finally, this study demonstrates that applied anthropology is well-suited to conducting program evaluations by empowering participants to describe their experiences, which can reveal unexpected information. In this study, quantitative tools like activity trackers and surveys provided data about the overall functioning of and satisfaction with the program, but this alone did not reveal the meaning of the program to participants. By interviewing and probing participants to explain how the program impacted them, participants unexpectedly revealed how it promoted Native Hawaiian culture and local community sustainability.

Limitations

This study had several limitations, including that the views of the *keiki* were not directly studied, inconsistent data collection, the relatively small sample size, possible self-selection bias, and potential recall bias. *Keiki* were not included in the research population to reduce potential risks, but their views were inferred from the adults around them. Data was collected inconsistently by *kumu;* however, their data was primarily intended for program evaluation rather than research. For example, some *kumu* did not use student identifiers when performing the pre- and post-test bingo cards, so paired samples t-tests could not be performed for about 14 students. The participants represented 12% of the total population of the 2 schools, and Anahola was overrepresented versus Kaumakani (23% vs. 6%). Since interviews were conducted with parents who volunteered to speak, it is plausible that people who had more positive experiences were more likely to volunteer. Lastly, participants recalled events from the year and could be at risk for recall bias.

Conclusion

Farm to Keiki helped *keiki*, their *ʻohana*, and their *kumu* learn about plants and nutrition and helped encourage them to make healthier dietary choices. Benefits like these have been described in previous literature, although few studies looked at these impacts on families and teachers. Beyond these expected findings, however, was the revelation that participants saw the perpetuation of Native Hawaiian culture through the inclusion of traditional Hawaiian foods and lessons about Native Hawaiian history and practices in the program. Quantitative data alone would have missed these findings. This underscores how anthropological theory and methods can be applied in program evaluation to gain a deeper understanding of program impacts on participants.

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