

# Cultural influences on infant and toddler feeding among low-income Latinx mothers

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## Abstract

Latinx infants and toddlers experience higher obesity rates than their black or white counterparts, increasing chronic disease risk later in life. Infant and toddler feeding (ITF) interventions are shown to improve dietary behaviours, but few studies target Latinx populations. Culturally tailoring such interventions is imperative, but cultural influences on Latinx ITF practices remain unclear. The purpose of this study was to characterize how culture influences ITF practices among Latinx mothers of low income. A brief survey and semistructured interview informed by the theory of planned behaviour (TPB) were conducted on Zoom with New York City-based Latinx mothers of children 4 to 24 months old. A directed content analysis approach was used to identify themes using TPB theoretical codes and inductive codes. Transcripts were coded independently by two researchers using NVivo 12. Survey data were analyzed using descriptive statistics in Excel. Participants ( $n = 19$ ) were of Dominican, Mexican and Central and South American origin, had low acculturation scores and mean child age was 16.7 months (range: 5–24 months old). The central theme identified was that participants balanced cultural information with evidence-based health information to determine which ITF practices were most beneficial to infant/toddler health. This resulted in the adoption of evidence-based ITF recommendations, adoption of cultural practices that aligned with evidence-based recommendations and dismissal or postponement of cultural ITF practices that contradicted evidence-based recommendations. The present results can be applied to culturally relevant ITF education as follows: emphasizing the benefits of desirable ITF practices on children's health and promoting healthy cultural ITF practices.

## KEYWORDS

behaviour, community-based, cultural context, infant and child nutrition, infant feeding decisions, qualitative methods

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## 1 | INTRODUCTION

During infancy and toddlerhood (3- to 24-months old), Latinx children in low-income households have a significantly higher rate (13.8%) of excess weight (weight-for-length >97.7<sup>th</sup> percentile on World Health Organization [WHO] sex-specific growth standards) than non-Hispanic Black (11.9%) or White (11%) children (Freedman et al., 2017). Excess weight in early life is associated with an increased risk of adverse health conditions during childhood (e.g., obesity, prediabetes and high cholesterol) (Lanigan et al., 2019) and adulthood (e.g., obesity, type 2 diabetes and cardiovascular disease) (Weihrauch-Blüher et al., 2019). Considering the growing Latinx population who will account for 31.9% of US children (<18 years) by 2060 (Vespa et al., 2020) and high costs of treating chronic diseases (direct health care treatment for chronic health conditions was \$1.1 trillion in 2016) (Waters & Marlon, 2018), addressing these health disparities is of national importance.

Infant and toddler feeding (ITF) practices can influence obesity risk. For example, exclusively formula-fed Latinx infants were more likely to be obese at 2–5 years old compared to those fully breastfed (Whaley et al., 2017). Among Latinx toddlers, indulgent feeding practices (placing few demands on child's eating but high engagement with child's needs) (Power et al., 2021) and high sugar-sweetened beverage intake are associated with excessive weight gain (Rosinger et al., 2017). Infancy and toddlerhood also are pivotal times in influencing future dietary patterns and food preferences (Luque et al., 2018), which can impact later obesity and chronic disease risk (Asghari et al., 2017; Fanelli et al., 2020; Hu et al., 2020).

Educational ITF interventions can promote desirable ITF practices and mitigate obesity risk over the life course. However, in a review of obesity interventions for Latinx children in the first 1000 days, in which only five interventions were identified, Ismaeel et al. (2018) highlighted a critical need for more high-quality studies. It is especially important that interventions are tailored to reflect cultural norms and practices. Culturally tailored interventions have been shown to be more effective in improving health outcomes than interventions for a general audience, in various racial/ethnic adult populations (Joo & Liu, 2021). A culturally tailored ITF intervention is promising for building more effective interventions for Latinx mothers. The present study focuses on food and feeding culture (herein *culture*), defined as traditional foodways and shared beliefs about feeding as shaped by Latinx mothers' families and/or country of origin (Simko & Olick, 2020).

Considering the early-life establishment of dietary patterns, how culture influences the adoption of ITF practices can have lifelong implications on diet and, in turn, obesity and chronic disease risk. Early evidence suggests that culture plays a role in ITF practices among Latinx mothers, such as the strong role of family in making ITF decisions (Cheney et al., 2019) and the perception that overweight children are healthy (Tamayo et al., 2021). However, the body of research characterizing how culture influences ITF practice among Latinx mothers is insufficient. Existing research vastly focuses on older children (Howe et al., 2019; Mena et al., 2015) or is limited to breastfeeding (Efrat et al., 2015), seldom exploring feeding practices for older infants or toddlers. Additionally, participants of these studies are mainly of Mexican heritage

### Key messages

- Low-income Latinx mothers balanced cultural information with evidence-based information to determine which infant/toddler feeding (ITF) practices were beneficial to infant health.
- Participants highly valued culture, but, guided by evidence-based information, cultural ITF practices were evaluated as being beneficial or detrimental to infant health.
- Important considerations for culturally-relevant ITF education include emphasizing the benefits of desirable ITF practices on children's health and promoting healthy cultural ITF practices.

(Beck et al., 2018; Cheney et al., 2019; Sloand et al., 2018). Given that the US Latinx population is becoming more diverse (Noe-Bustamante, 2019), research with Latinx mothers from diverse subgroups is needed.

The purpose of this study was to characterize how culture influences ITF practices among mothers of low income from diverse Latinx subpopulations. Mothers were chosen as participants because, though all family members can influence ITF practices, mothers typically exert the strongest influence on children's dietary patterns, such as through food modelling, food purchasing and ITF decision-making (DeJesus et al., 2018; O'Connor et al., 2018). The research questions that guided this study were, 'What value do Latinx mothers place on cultural ITF practices?'; 'How do mothers decide whether to use cultural ITF practices?'; 'How do influential others play a role in mothers' use of cultural ITF practices?'

## 2 | METHODS

### 2.1 | Study design

One-time semi-structured qualitative interviews, accompanied by a brief survey, were conducted with Latinx mothers of low income. A phenomenological approach, a qualitative methodology that seeks to capture phenomena soon after they are experienced (Denzin & Lincoln, 2018), was used to understand how culture influences ITF.

The interview guide was informed by the theory of planned behaviour (TPB; Table 1), which posits that behavioural intention (willingness to execute a behaviour) is the primary predictor of individual behaviour (Ajzen, 1991). Perceived behavioural control (influenced by control strength and control belief), attitudes towards the behaviour (influenced by perceived benefit and risk) and subjective norms (influenced by normative belief and moral obligation) act together to affect behavioural intention (Ajzen, 1991).

To obtain face validity, the guide was reviewed by a community nutrition researcher, ascertaining that the questions and terminology were appropriate and then pilot-tested with three mothers of young

**TABLE 1** Semistructured interview guide questions with corresponding theory of planned behaviour (TPB) construct

TPB construct	Interview guide question
Behavioural beliefs	1. How much do you value your culture in how you feed your child? 2. What are the benefits of following these cultural practices?
Normative beliefs	3. Does anyone encourage you to follow cultural practices for feeding your child? <i>Prompt if needed: How important for you was it to follow this person's advice?</i> 4. Has anyone ever discouraged you from following a cultural practice for feeding your child? <i>Prompt if needed: How important for you was it to follow this person's advice?</i>
Control beliefs	5. What makes it difficult to feed your child using your cultural practices? 6. What makes it easy to feed your child using your cultural practices? 7. How confident are you that you can feed your child using your cultural practices?

children. This resulted in small changes to wording and terminology and revealed that the interview flowed well. Open-ended questions and probing techniques were used, ensuring that all relevant topics were explored.

## 2.2 | Participants and recruitment

Mothers who met the following criteria were eligible to participate: (1) at least 18 years old; (2) self-identified as Latinx, Hispanic or of Spanish origin; (3) had a 4- to 24-month-old child; (4) and were low-income (as defined by qualifying for or having a household member who qualified for  $\geq 1$  federal assistance programme). Mothers were recruited through community partner sites: two Federally Qualified Healthcare Centers and two Cooperative Extension offices located in the Bronx and Queens in New York City (NYC), NY. Latinx make up 29.1% of NYC's population and 22.4% of NYC residents speak Spanish with the highest concentration of Latinx occurring in the Bronx (55.9%) and Queens (28.0%) (American Community Survey Profile, 2019; New York City). The largest Latinx subgroups in NYC are Dominican (28.7% of Latinx population), Puerto Rican (27.6%), South American (15.7%) and Mexican (13.3%) (American Community Survey Profile, 2019; New York City). Lactation consultants and Cooperative Extension educators from the community partner sites shared a recruitment email with eligible participants who attended virtual clinic visits or nutrition education classes. The primary researcher attended nutrition education classes to advertise the study to class attendees.

The recruitment email included a link to an online survey (Qualtrics), available in English and Spanish, for which mothers were asked to complete an online consent form followed by a screener survey to ascertain mothers met the inclusion criteria, described above. If mothers were eligible to participate, they then completed a demographic survey and the Brief Acculturation Scale for Hispanics (BASH). Through the online survey, eligible mothers shared two available times to be scheduled for an interview and their preference for a phone interview or video interview using conferencing software (Zoom Meetings, version 5.7.8).

Purposive maximum variation sampling was carried out targeting self-identified Latinx mothers originating or descending from various Latin American countries. Purposive maximum variation sampling is a strategic sampling technique to study a wide variety of participants to

get a balanced perspective of a group's collective experiences (Etikan, 2016). Mothers received a \$50 gift card for participation.

The Cornell University Institutional Review Board approved this study.

## 2.3 | Data collection

Participants completed a screener and demographic survey and the BASH before being scheduled for an interview (described above). The survey included questions about the following: age, ethnic/racial identity, heritage or descent from Latin American countries, highest degree obtained, marital status, number of children and youngest child's age. The BASH, a four-item language-based measure of acculturation found to be valid and reliable for the US Latinx population (Norris et al., 1996), was administered because the degree of acculturation can influence how culture influences dietary practices (Arandia et al., 2018; Damas et al., 2018), a critical consideration for the data analysis phase.

The interviews were audio-recorded and conducted in the language that corresponded to the online survey they completed unless the participant indicated they wanted to use the other language (English or Spanish) during the interview. All interviews were conducted by the primary researcher (ALMU), a native English and Spanish speaker, who also took brief notes. A research assistant was present and took notes of verbal inflections and nonverbal cues (for video interviews) and summarized points related to the research questions.

At the time of the interviews, the interviewer (ALMU) was a postdoctoral fellow, trained in qualitative methods through graduate-level coursework, mentorship and research experience. The research assistants were trained by ALMU, took an online qualitative methods course and read relevant scientific articles.

## 2.4 | Data analysis

### 2.4.1 | Qualitative analysis

Saturation was continually assessed following each interview during debriefings, in which the interviewer and research assistant summarized the discussions relevant to the research questions.

Data saturation was defined as exhaustion of possible responses or consistent responses to the three research questions (Fusch & Ness, 2015). Confirmation of saturation was based on a continual review of these summaries.

English-language audio recordings were transcribed verbatim. Spanish-language recordings were transcribed and translated to English by bilingual transcribers. The transcripts were checked for accuracy and deidentified. Interviews were analyzed using the following directed content analysis (Hsieh & Shannon, 2005), a blended deductive and inductive approach: (1) the primary researcher (ALMU) created a codebook with deductive codes based on the TPB constructs; (2) the deductive codes were applied to the text via line by line reading and in vivo coding, performed independently by two researchers; (3) the data for each deductive code was summarized for each participant; (4) inductive codes were created based on deductive code summaries; (5) inductive codes were applied to the text via line by line reading and in vivo coding, performed independently by two researchers; (6) the data for each inductive code was summarized; (7) inductive code summaries were discussed between the two researchers and deviations were discussed until consensus was reached; (7) memos facilitated reflection on codes and emerging patterns; (8) overall themes and subthemes were based on the codebook (deductive and inductive codes) and memos. NVivo 12 Plus (QSR International Pty Ltd.) assisted data organization and analysis. The final codebook is presented in Table 2.

### 2.4.2 | Quantitative analysis

Descriptive statistics were used to analyze demographic survey data in Microsoft Excel (version 16.49).

### 2.4.3 | Trustworthiness and reflexivity

A team-based approach to coding and data analysis helped establish trustworthiness. Two researchers coded all interviews independently and then discussed the codes, adding to the confirmability of findings. During the analysis process, the researchers created memos that reflected on ideas or themes that surfaced during the analysis process; this further enhanced trustworthiness by creating a record of the meaning being extracted from the data.

For a reflexivity process addressing confirmation bias, the researchers completed journal prompts, followed by group discussions, of how their professional and personal backgrounds, experiences and prior assumptions are related to the participant's wider social context and how this might impact interview-participant interactions. Following each interview, the interviewer and research assistant reflected on biases (e.g., if questions or discussion uncovered cultural differences, whether leading questions were asked or if the interviewer disregarded or overemphasized topics) and whether they influenced the interview. These biases were considered during subsequent interviews and the analysis.

## 3 | RESULTS

Twenty-three Latinx mothers were recruited (October 2020–April 2021) and 19 interviews were conducted (6 via video conference, 13 via phone). Three mothers were lost to follow-up and one mother did not meet the inclusion criteria. Three interviews were conducted in English and 16 in Spanish. All interviews averaged 31 min in length (range, 18–54 min). Saturation was verified at interview 16; three were conducted thereafter to ensure no new information would be uncovered.

**TABLE 2** Final codebook, with corresponding Theory of Planned Behaviour construct, for analysis of interviews with Latinx mothers ( $n = 19$ )

Theory of Planned Behaviour construct	Code	Code definition
Attitudes towards behaviour	Value	Perceived value of culture, in general, and in relation to infant and toddler feeding (ITF) decisions.
	Evaluation	Reasons why participant decided to use or not to use a cultural ITF practice.
	Benefit	Perceived benefits of following a cultural ITF practice.
	Harm	Perceived harms of following a cultural ITF practice.
Subjective norms	Information	Acquisition of ITF information.
	Familial influence	Ways in which participant believed that family influenced their ITF decisions.
Perceived behavioural control	Autonomy	Participants' account of exercising autonomy when making ITF decisions.
	Barriers	Perceived barriers to following cultural ITF practices.
	Facilitators	Perceived facilitators to following cultural ITF practices.
	Self-efficacy	Participants' perception of her ability to carry out ITF practices of her choosing.
	Support	Perceived support from a variety of sources (e.g., family, health professionals) for making ITF decisions.

**TABLE 3** Sociodemographic and acculturation characteristics of interview participants ( $n = 19$ )

Age (years) (mean $\pm$ SD)	32.9 $\pm$ 2.5
Hispanic/Latino origin or descent, $n$ (%)	
Central American	3 (16)
Dominican	2 (11)
Mexican	3 (16)
South American	11 (58)
Racial identity, $n$ (%)	
Asian	1 (5)
Mestizo	5 (26)
Mulatto	1 (5)
White	7 (37)
Identifies with Hispanic/Latino heritage only	
Identifies with $\geq 1$ race	1 (5)
Highest degree obtained, $n$ (%)	
Less than a high school diploma	2 (11)
High school degree or equivalent (e.g., GED)	4 (21)
Some college, no degree	2 (11)
Associate degree (e.g., AA, AS)	4 (21)
Bachelor's degree (e.g., BA, BS)	7 (37)
Marital status, $n$ (%)	
Single	3 (16)
Living with partner	6 (32)
Married	9 (47)
Separated	1 (5)
Number of children, $n$ (%)	
1	6 (32)
2	7 (37)
3	5 (26)
4	1 (5)
Age of youngest child (months) (mean $\pm$ SD)	16.7 $\pm$ 13.1
BASH acculturation score (mean $\pm$ SD)	1.9 $\pm$ 0.6

Abbreviations: AA, Associate Degree in Arts; AS, Associate Degree in Science; BA, Bachelor of Arts; BASH, Brief Acculturation Scale for Hispanics; BS, Bachelor of Science; GED, General Education Degree.

Demographic characteristics are presented in Table 3. Participants' age ranged from 28 to 38 years old. The age of participants' youngest child ranged from 5 to 24 months old. One participant's youngest child was 5 years old, which was not realized by researchers until the interview was conducted; she was included in the analysis as her experience was similar to other participants'. The youngest children of two participants were

twins; all others were singleton births. Seventeen of 19 participants (89%) had a high school degree or higher. The BASH acculturation scores ranged from 1.0 to 3.0 with all participants' scores indicating that they had low acculturation.

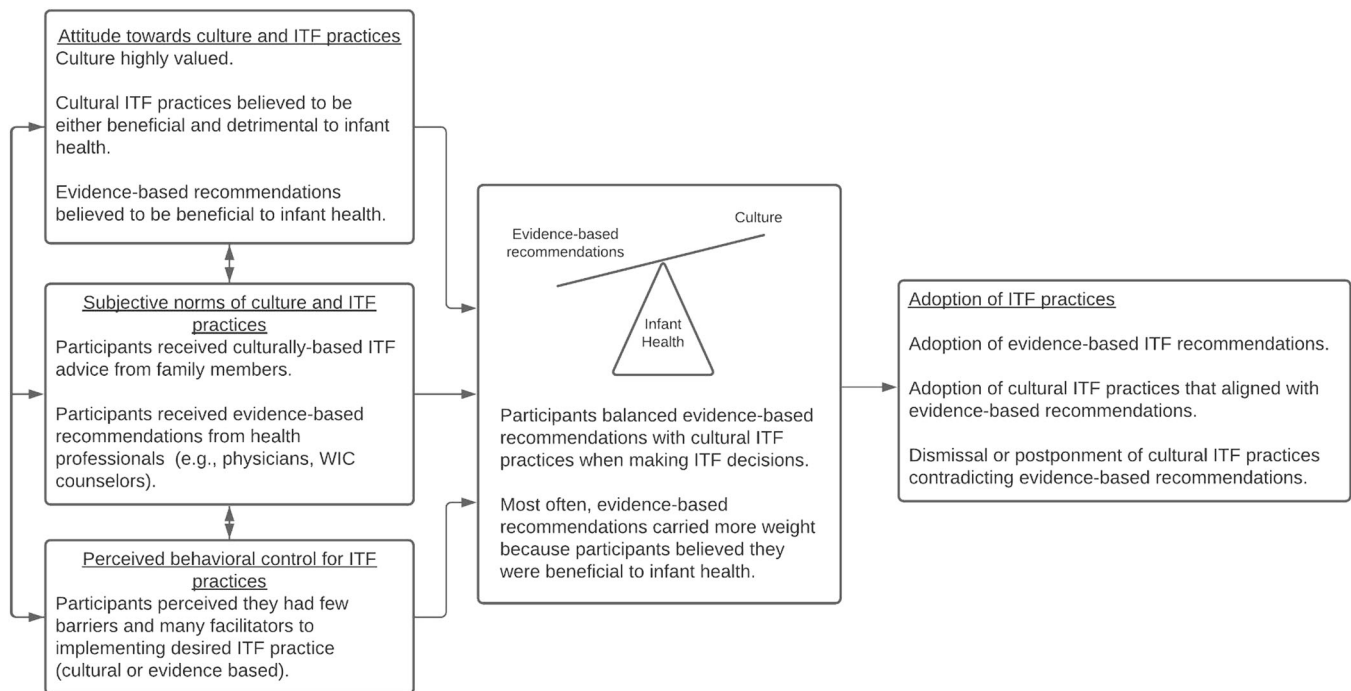
The central theme identified was that participants balanced cultural information with evidence-based health information to determine which ITF practices were most beneficial to infant/toddler health (Figure 1). The study results were informed by the TPB; as such, findings are organized by corresponding TPB construct below and graphically presented in Figure 1.

### 3.1 | Attitude towards cultural and evidence-based ITF practices

Evidence-based information was highly regarded by participants and always perceived to be beneficial for the infant. In contrast, participants often evaluated whether cultural ITF practices were beneficial or not. As one South American participant shared: 'I try to give [my culture] 100% importance, as long as they are good things for [my baby], but if they are not things that are good for them then I do not'.

Participant's evaluation of cultural ITF practices, often reflecting adherence with evidence-based information, led to beliefs that some practices were healthy while others were harmful to infant health. Healthy and harmful cultural ITF practices were often associated with short- and long-term health outcomes. Short-term benefits of following healthy cultural ITF practices were often related to the therapeutic properties of foods (e.g., specific fruits) for resolving constipation or diarrhoea. One South American participant shared how she used fruits to resolve her child's gastrointestinal issues: 'If they suffer from constipation, you give them plums or grenadine; if suddenly the baby has a lot of diarrhoea, you give them apples'. Other benefits of healthy eating patterns often associated with cultural ITF practices included child getting sick less often and desirable growth patterns during infancy. One South American participant associated a healthy diet with good long-term development and health: 'A healthy diet is one that is not introducing many chemicals to your body because what we feed is what our body is receiving and showing in your development and you are no longer prone to go to the hospital'. Many cultural foods were believed to be healthy because they were 'unprocessed', 'natural' and '*hecho en casa*' (home-made). In contrast, in the dominant US culture, participants perceived children were fed processed, pre-packaged infant foods, which were viewed as unhealthy.

In contrast, unhealthy cultural foods (e.g., fried foods, dishes with lots of sauces, fatty foods) were associated with gastro-intestinal distress (e.g., reflux, upset stomach) and increased chronic disease risk (such as heart disease). Furthermore, unhealthy cultural practices, like early introductions of particular foods (e.g., beans, porridge), were said to be '*pesado*' (heavy) for infants' fragile stomachs. As one South American participant shared, 'I think maybe at 4 months, porridge is still too heavy for a baby, sometimes I am afraid that it is heavy and that it will cause reflux'.



**FIGURE 1** Graphical representation of key findings on the role of culture in adoption of infant and toddler feeding (ITF) practices among Latinx mothers of low-income, as informed by the Theory of Planned Behaviour. Adapted from Ajzen (1991, p. 182)

Overall, all participants appeared to strongly value the culture of their country of origin, though, as previously described, participants contemplated cultural ITF practices in terms of whether it was beneficial to infant health. The strong sense of cultural identity that participants often expressed is exemplified in one South American participant's sentiment: '[Culture is important to me] because it's our roots. We have our roots, our family and the way we are raised. We appreciate that. We are who we are thanks to our people, our traditions, our culture'. Several benefits of engaging in one's culture were shared by participants, such as receiving guidance from older and experienced individuals and feeling tied to a place. As one South American participant noted, 'The advantage [of culture] is that you can have a guide to help you and advise you of many things that maybe you do not know. I think it is like a guide that makes it easy'. Many participants noted that this sense of cultural pride was important to pass down to their children, which was often done through preparing cultural foods and dishes and getting their children accustomed to the typical flavours of their country of origin so that they would later accept these foods. For example, one Dominican participant shared:

As a Dominican, the way you eat is one of the things that make you Dominican. Like the rice and beans, the *mangú*. Even my baby, giving him those things, so he can like those things. So, as he grows up, it's part of me.

### 3.2 | Subjective norms of evidence-based and cultural ITF practices

Participants had several sources of ITF information, primarily healthcare professionals (e.g., paediatricians, WIC nutritionists), family members and the Internet. Evidence-based information from health professionals was highly trusted by participants and often led participants to evaluate cultural ITF practices. Information from the Internet was least trusted. Internet information seeking was primarily limited to low-risk ITF practices (e.g., recipes of healthy dishes or meal ideas for child) or the information was verified with a trusted source (almost always a health professional). Participants' attitudes about ITF information from the Internet is exemplified in one Dominican participant's evaluation: '[I trust] WIC, his paediatrician. Who I trust the least are those on the Internet. I always confirm that information with the paediatrician'.

Cultural ITF advice came from family members. Participants expressed varying levels of familial pressure to follow cultural ITF practices. Several participants described family members communicating that it was their choice as to which cultural ITF practices they chose to follow. For example:

[My family members] do not impose anything on me. They don't tell me, 'Your grandparents did this and taught me, so you have to do it as well'. No, they just tell us what the basis is for starting and I decide whether or not I want to do it (South American participant).



In contrast, a few participants felt pressure from family members to follow cultural ITF practices, leading to arguments with family members or pretending to follow cultural ITF practices to 'keep the peace'. The idea of 'keeping the peace' is captured in one South American participant's account:

My grandmother was the one who told me about the milk porridge. She told me, 'It's time for him to get milk porridge because, when he would be 4-months-old, only breast is not enough and he needs something more'. So I said, 'Okay. Yes, yes', but I said yes so they wouldn't tell me anymore.

Many participants indicated that they found it easier to make their own choices regarding cultural ITF practices because they were not in their country of origin and, thus, had less direct influence from their family. However, when some participants returned to their country of origin, they were more strongly influenced by their family to follow cultural ITF practices. For example, one Mexican participant shared how her friends' feeding practices, who still live in Mexico, are different to her own because they have much more familial influence:

They seem to be feeding their babies differently than I am. Usually because they are surrounded by more older family members, because they are mostly in this together with their moms, their sisters, cousins. And I'm completely by myself. I'm separate from my family... So, I kind of think to follow more what the nurse tells me. And they seem to follow more of what their moms and their *tias*, like, aunts, tell them.

### 3.3 | Perceived behavioural control for ITF practices

Participants had few perceived barriers and several facilitators to implementing desired ITF practices (cultural or evidence-based). Facilitators included cooking skills to either prepare cultural foods at home or modify cultural dishes to make them healthier, high access to cultural foods in the United States and experience feeding an older child. Furthermore, most participants reported feeling very confident that they could feed their baby according to the cultural ITF practices they chose to follow, indicating high self-efficacy.

Many participants felt supported by health professionals or family members, contributing to their high self-efficacy in making informed ITF decisions. Some participants described family members communicating that it was participants' choice as to which cultural ITF practices they chose to follow (as described above) and others shared that paediatricians or WIC professionals encouraged participants to make their own decisions.

### 3.4 | Adoption of ITF practices

Participants' intention to adopt any ITF practice (culturally based or evidence-based) was determined by the perceived impact of the ITF practice on infant health. If participants believed a cultural practice was beneficial to infant health (e.g., breastfeeding, 'natural' foods, homemade foods) or aligned with evidence-based information then they chose to follow it. If participants believed it was harmful or unhealthy for their child, they discarded the practice. A few participants also shared that they were going to postpone introducing a cultural practice (e.g., herbal tea, spicy foods, heavy sauces) until their child was older when participants perceived it to be less risky. For example, one Mexican participant shared, 'I'm just waiting for him to turn a year old so that I can feed him *maizena*, tea, stuff like that. That my aunts tell me that it's good for him. Instead of just purees'. With regard to unhealthy cultural ITF practices, many participants shared that they previously followed customs that they now believe to be unhealthy or harmful because of lack of knowledge at the time that they used the practice. For example, a Central American participant reflected on a cultural practice she realized was harmful after learning more about ITF feeding:

My first daughter suffered from constipation; now she is 14 years old, at that time my mother made her a tea that in my country is called *manna*. Now I have been educated by reading, and having two more daughters, how could I allow my 2-month-old daughter to be given that tea? Poor thing, good thing she is alive. So, that part of my culture is undone.

The preservation of healthy practices from participants' country of origin and the replacement of unhealthy cultural practices resulted in a blending of traditional with new ITF practices, as illustrated in this South American participant's comment:

I try to stay with the best of my culture, and with the knowledge I now have, I try to make a mixture, but as I told you a moment ago, it is 30% what I take [from my culture], and it is the best information.

## 4 | DISCUSSION

The purpose of this study was to characterize how culture influences ITF practices among mothers of 6- and 24-month-old children and of low income from diverse Latinx subpopulations. We found that participants balanced cultural information obtained from family members with evidence-based information obtained from health professionals (which was highly regarded) to determine which ITF practices were most beneficial to infant health.

The results of this study add to the limited evidence indicating Latinx mothers balancing cultural information with evidence-based

information (Cheney et al., 2019). Although culture was valued by participants overall, in the context of early childhood, infant and toddler health was the strongest guiding factor when deciding whether to follow a cultural ITF practice. This often led to discarding or postponing cultural ITF practices that were not aligned with evidence-based recommendations and/or were viewed as potentially harmful to the child.

Participants' acquisition of additional ITF information from trusted sources, such as paediatricians or WIC nutritionists, appears to shift beliefs about which ITF practices are best for their child's health, leading to adoptions of evidence-based ITF practices or reinforcement of cultural ITF practices that align with evidence-based recommendations. Trust in paediatricians and WIC nutritionists has been highlighted in similar qualitative studies (Cheney et al., 2019; McFarren et al., 2020). Furthermore, Cheney et al., 2019 found that immigrant Latinx mothers who resided in California balanced scientific information with information from their family when making decisions on which ITF practices to follow.

Participants appeared to hold strong emotional ties to their culture-of-origin and wanted to pass their food-related traditions down to their child, even from an early age. All participants had low acculturation as measured by the BASH acculturation scale, likely explaining why culture from their country of origin still played a strong role in their dietary and ITF traditions. Indeed, increased cultural influence in less acculturated Latinx immigrants has been documented in other health-related contexts, like beliefs about breastfeeding, feeding older children, weight status and physical activity (Bigman et al., 2018; Delaney et al., 2021; Tamayo et al., 2021).

Participants associated cultural foods with either short- and long-term health benefits or health risks. Participants often perceived healthy cultural foods that were aligned with evidence-based recommendations as 'natural' and minimally processed, which were beneficial to health whereas processed foods, typical in the dominant US culture, were regarded as less healthy. Similarly, Bleiweiss-Sande et al. (2020) found that parents of 4th through 6th graders (of which many were Latinx) viewed 'less-processed' foods that were fresh or homemade as healthier than processed foods. Most often shared by participants were the specific cultural foods used to remedy gastrointestinal distress in their child. Though participants often used foods to resolve minor health issues, many voiced waiting until their child was at least 1 year old to use home remedies they viewed as riskier (e.g., herbal teas). Using *remedios caseros* (home remedies), including giving infants dietary botanical supplements, is a common practice among US Latinx individuals (Acorda et al., 2020). However, the use of foods as *remedios caseros* on infants and toddlers among Latinx mothers is understudied.

In the present study, families played a strong role in providing cultural ITF advice and participants felt varying levels of pressure to follow familial advice. Familial social support is a central focus of Latinx culture, playing an important role in ITF practices, as documented in previous research (Rama et al., 2020). Some participants used strategies (e.g., agreeing with advice offered) to avoid offending family members while still following evidence-based recommendations, like findings of a recent qualitative study with Latinx mothers in California

(Cheney et al., 2019). This finding indicates that participants may still feel guilt or pressure to follow familial advice, likely due to the Latinx custom of respecting elders and appearing agreeable (*simpatía*) (Rodriguez-Arauz et al., 2019). This highlights the importance of teaching mothers more effective interpersonal strategies that address familial misinformation while preserving strong social relationships.

Participant's ability to disregard familial advice was often facilitated by a far geographic distance from their family, as family members were less able to exert direct influence on ITF practices. Similarly, the close proximity of family members has been linked to preservation of cultural infant feeding practices, as mothers feel pressure by family members to follow cultural practices that contradict evidence-based recommendations (Cheney et al., 2019).

Participants expressed having few perceived barriers and many facilitators in implementing desired ITF practices (cultural or evidence-based). This likely led to participants expressing high confidence in being able to feed their child the way they desired, indicating high self-efficacy. Furthermore, many participants felt supported by family members and health professionals in making informed ITF decisions. Previous evidence indicates that self-efficacy and social support are positively associated with breastfeeding initiation and duration and desirable complementary feeding practices (Bahorski et al., 2019), which, in turn, are associated with positive health outcomes for children (e.g., reduced obesity risk, type 2 diabetes) (Horta & de Lima, 2019; Thompson, 2020).

#### 4.1 | Limitations

The following limitations must be considered when interpreting findings from this study. The topics discussed during the interview related to motherhood. As such, participants may have felt societal pressure to appear as an idealized version of a mother (Keefe et al., 2018), potentially leading to social desirability bias. This bias was mitigated during the interview process by encouraging participants to share their true experiences and reminding them that their responses were anonymous. Though efforts were made to recruit mothers from a variety of Latin American countries, 58% of participants were from South America, likely leading to overrepresentation of this group's views. However, because South Americans are largely unrepresented in studies of US Latinx, the present study adds valuable and novel insight to the literature. Most participants were well-educated (37% held Bachelor's degrees). Studies demonstrate that mothers with higher educational attainment are more likely to implement evidence-based health recommendations (Bawaked et al., 2018), explaining participants' high regard for evidence-based information and limiting the findings' applicability to Latinx mothers with less education. Due to recruitment of participants through Cooperative Extension, many participants were part of an Expanded Food and Nutrition Education Program (EFNEP) class, potentially leading to recruitment of participants who prioritized infant and toddler health and felt empowered to make their own ITF decisions through the knowledge and support they were receiving. However, the classes did not focus on infant and toddler feeding topics and the EFNEP series typically includes only six to nine weekly lessons, making the influence of these classes to the present study



minimal. Finally, though the interviewer identifies as Latinx, the personal and professional backgrounds of the researchers and participants might have impacted data collection and analysis. This was mitigated through the researchers' reflection about potential biases throughout the data collection process.

The results of this study will be applied to the development of a culturally relevant obesity prevention intervention for infants and toddlers of Latinx mothers of low income. Before intervention development, additional research is needed on the views of other caretakers (e.g., father, grandmother) about how culture influences ITF decisions. Key insights for a culturally relevant intervention, gleaned from the results of this study, include strong emphasis on the benefits of desirable ITF practices for the child's health and the promotion of healthy cultural ITF practices. Additionally, empowering and encouraging mothers to make ITF decisions based on information from credible and trusted sources and offering strategies for speaking with family members who may offer advice that contradicts evidence-based information are critical components to developing an effective intervention.

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## CONFLICT OF INTERESTS

The authors declare that there are no conflict of interests.

## AUTHOR CONTRIBUTIONS

*Conceptualization and funding acquisition:* Alexandra L. MacMillan Uribe and Tashara M. Leak; *methodology and project administration:* Alexandra L. MacMillan Uribe; *formal analysis and data curation:* Alexandra L. MacMillan Uribe and Hannah G. Rudt; *writing—review and editing:* Alexandra L. MacMillan Uribe, Hannah G. Rudt and Tashara M. Leak. All authors have read and agreed to the published version of the manuscript.

## DATA AVAILABILITY STATEMENT

The data that support the findings of this study are available on request from the corresponding author. The data are not publicly available due to privacy or ethical restrictions.

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