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An Ecocultural Perspective on Eating-Related Routines Among Low-Income Families With Preschool-Aged Children

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Abstract

Eating-related routines, such as regular mealtimes, can protect against obesity. Little is known about eating-related routines among preschoolers or the factors that shape those routines. Ecocultural Theory and qualitative interviews with 30 caregivers of preschoolers in Colorado were used to describe eating-related routines at home and parents' perspectives on the factors that shape routines. Qualitative content analysis was used to analyze and interpret data. Consistent with clinical recommendations, parents' goals included dinner meals where adults and preschoolers eat the same food, in the same place, at the same time. However, parents' employment schedules and challenges in managing preschoolers' behavior prevented parents from consistently enacting recommended routines. Educating parents alone may not be sufficient to ensure optimal eating-related routines among preschoolers, and the household context needs to be considered. Families organized routines according to cultural values and available resources.

Keywords

United States; Ecocultural Theory; daily routine; low-income; preschool; mealtime; qualitative methods; home environment

Introduction

Among children in the United States, one in six are obese and overall diet quality is poor (Banfield, Liu, Davis, Chang, & Frazier-Wood, 2016; Ogden et al., 2016). Obesity is increasingly prevalent at earlier ages, rising from 11% to 14% among children age 2 to 5 years between 1999 and 2016, with a corresponding increase in overweight prevalence from 21 to 26% over the same period (Skinner, Ravanbakht, Skelton, Perrin, & Armstrong, 2018). Obesity-promoting dietary habits in childhood can track into adulthood, and obesity is associated with type 2 diabetes, cardiovascular disease, social and psychological issues, and

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lower quality of life (Ambrosini, Emmett, Northstone, & Jebb, 2014; Chung, Onuzuruike, & Magge, 2018; Griffiths, Parsons, & Hill, 2010; Quek, Tam, Zhang, & Ho, 2017).

Across the US population, obesity is distributed unevenly. Obesity prevalence is almost double among children from families with lower versus higher incomes (Ogden, Lamb, Carroll, & Flegal, 2010). This income-related disparity is likely due, in part, to poorer diet quality and lower physical activity among children in families with lower income. Eliminating income-related disparities in obesity requires an understanding of the types of environments that shape dietary intake among children in households with lower incomes.

Characteristics of the home environment have been linked to children's dietary intake, including parental feeding practices, household food availability, maternal employment status, and neighborhood of residence (Boles, Scharf, Filigno, Saelens, & Stark, 2013; Carroll-Scott et al., 2013; Datar, Nicosia, & Shier, 2014; Jansen et al., 2017; Shier, Nicosia, & Datar, 2016; Ventura & Birch, 2008). Daily routines, defined as *the activities we do from the time we wake up to the time we go to bed*, support children's overall well-being and development when they provide predictability and structure (Kamp Dush, Schmeer, & Taylor, 2013; Miller, Waldfogel, & Han, 2012; Weisner, 2011). Routines related to family meals have been linked to a reduced risk of obesity among children (Anderson, Johnson, & Cameron, 2011; Hammons & Fiese, 2011). Frequent family meals, and other eating-related routines such as regular parental offering of fruits and vegetables and role modeling, are positively associated with children's diet quality (Berge et al., 2017; Couch, Glanz, Zhou, Sallis, & Saelens, 2014; Loth, Friend, Horning, Neumark-Sztainer, & Fulkerson, 2016). Furthermore, parents report that predictable mealtimes provide a sense of security for children, and opportunities for family togetherness and healthy eating (Berge, Hoppmann, Hanson, & Neumark-Sztainer, 2013; Fulkerson et al., 2011; Hayter et al., 2015).

Despite the clear benefits and perceived value of routines among parents, routines that support healthy eating among American families are reported to be difficult to maintain (Agrawal, Farrell, Wethington, & Devine, 2018; Neumark-Sztainer, Larson, Fulkerson, Eisenberg, & Story, 2010), especially among families with low incomes (Neumark-Sztainer, Wall, Fulkerson, & Larson, 2013). In fact, intensive educational interventions among parents to improve the consistency and quality of eating-related routines have had limited success (Bekelman, Bellows, & Johnson, 2017; Haines et al., 2013). This raises questions about environmental conditions that may inhibit families from implementing routines that support optimal eating and growth. The lack of progress may be due, in part, to an incomplete understanding of the challenges parents face in maintaining healthy eating-related routines.

Ecocultural Theory is a useful approach for understanding children's eating-related routines. This theory focuses on daily routines as the unit of analysis and is based on the idea that families organize daily routines according to cultural values and available social and economic resources (Gallimore, Weisner, Kaufman, & Bernheimer, 1989). Ecocultural Theory was selected for the current study because it may inform our understanding of why children follow particular growth trajectories (Daley, Weisner, & Singhal, 2014; Weisner, 2002; Weisner, Matheson, Coots, & Bernheimer, 2005). Ecocultural Theory utilizes the Ecocultural Family Interview (EFI), a conversation-style interview in which participants

describe a typical day-in-the-life for their family (Weisner et al., 2005). In this way, the EFI is congruent with the theoretical orientation of the study and expands on a primarily quantitative perspective most often used in other studies of eating-related family routines (Hammons & Fiese, 2011; Neumark-Sztainer et al., 2013). Ecocultural Theory was used as a framework throughout the research process, from the development of research questions to the interpretation of results.

The purpose of this study is to describe the cultural and sociostructural aspects of eating-related routines among low-income families in Eastern Colorado. This study aims to build on current literature by providing an in-depth understanding of the sociocultural context in which parents make choices about eating-related routines. We focus on families with preschool-aged children because early childhood is a critical window to shape lifelong eating habits. The research questions are the following:

Research Question 1: What are the daily eating-related routines among low-income families?

Research Question 2: What are the cultural and sociostructural factors that shape those routines?

Methods

An anthropological and theory-driven approach was applied to data collection and analysis to describe the eating-related routines of families with young children and the factors that shape those routines. Consistent with the traditions of medical anthropology, our approach was person-centered, in-depth, and holistic and considered how cultural norms and social conditions may shape eating routines and ultimately child growth (Panter-Brick & Eggerman, 2018).

Study Design

This focused ethnographic study (Pelto, Armar-Klemesu, Siekmann, & Schofield, 2013) used qualitative, semistructured, 90-minute interviews with 30 primary caregivers of preschool-aged children (3–6 years old) to assess caregivers' views of families' daily routines in Eastern Colorado, with a focus on eating-related routines and the factors that shape those routines. Interviews were conducted by a trained interviewer and observed and documented by a note-taker. The study was conducted between November 2016 and May 2017 and was approved by the Institutional Review Board at Colorado State University (Protocol #16-6412H). All participants provided written informed consent.

Setting and Participants

This study was conducted in Eastern Colorado where approximately 70% of the population is rural, compared with 14% for the state overall (Colorado Department of Local Affairs, 2010). The proportion of the population that is of Hispanic or Latino origin is higher in many counties in Eastern Colorado compared with the overall Hispanic population in the state (21%; Colorado Department of Local Affairs, 2010). Eastern Colorado is a region of the Great Plains characterized by small cities and towns, farming communities, depopulation

due to rural-to-urban migration, limited employment opportunities, and high rates of child poverty which range from 9% to 40% at the county level (Colorado Children's Campaign, 2018; U.S. Census Bureau, 2017). These characteristics may be due, in part, to geographic location. Eastern Colorado historically has not reaped the benefits from major Colorado industries, including ski tourism in the western Rocky Mountain region, mining in the Mineral Belt of central and southwestern Colorado, or urban employment opportunities in major population centers.

Participants were recruited from a larger sample of primary caregivers participating in the Healthy Environments Study (HEROs), a family-based intervention to promote healthy lifestyles among preschool-aged children at increased risk for obesity (Bellows et al, 2018). Participants were enrolled in the current study preintervention. The six Head Start/preschool centers where the larger sample was recruited were located in counties where the median household income was lower than the state overall (US\$54,564 vs. US\$63,945) and the proportion of children receiving WIC program vouchers was higher (38% vs. 32%; Colorado Children's Campaign, 2018). Head Start, a program serving one third of U.S. preschool-aged children living in poverty makes noted contributions to children's school readiness and physical health, including reduced obesity incidence (Child Trends, 2015). Parent recruitment in HEROs was initially conducted using surveys. Briefly, surveys for HEROs were distributed to parents at six Head Start/preschools. The survey included a request for demographic information. Caregivers who completed the survey could opt-in to be re-contacted by phone for an in-person study on family routines. The sampling procedure was designed to ensure adequate representation of the Eastern Colorado Head Start/preschool population for ethnicity, parent education, parent employment status, and child sex. All participant names reported here are pseudonyms.

The Ecocultural Family Interview

The interview guide was developed by a multidisciplinary team with expertise in anthropology, nutrition, pediatrics, public health, and qualitative methodology. The semistructured interview guide contained 16 open-ended questions that assessed the five features of family routines highlighted in Ecocultural Theory: participants, tasks to be performed, goals and values, a script for normative conduct, and motives and emotions. All questions included two or three open-ended probes. Sample questions and probes are shown in Box 1. Three pilot interviews were conducted among a convenience sample of caregivers with preschool-aged children, which resulted in refinement of the interview guide. Following the pilot interviews, the phrasing of several questions was refined to improve clarity. In addition, scripted text was added at the beginning of the interview guide to inform participants that the interviewer would not judge or be critical of the participant or his/her family's routine.

Data Collection

Consistent with Ecocultural Theory, most of the 30 interviews were conducted in participants' homes to gain a better understanding of the physical environmental conditions that may shape daily routines. Interviews were also conducted at Head Start/preschools or public settings, when requested by the participant ($n = 8$). Interviews were conducted in

English or Spanish ($n = 3$), depending on the participants' preference. Spanish-language interviews were conducted by a native Spanish speaker and included a Spanish-speaking note taker. Both the interviewer and the note taker documented extensive field notes for each interview. All interviews were audiorecorded. Participants received US\$40.

Analytic Approach

Qualitative content analysis was used to systematically analyze and interpret interview data (Hsieh & Shannon, 2005). This approach is common in the health sciences (Bermudez, Parks, Meyer, Muhorakeye, & Stark, 2018; Law, Jackson, Guelfi, Nguyen, & Dimmock, 2018). The interpretation of the interview text was constantly compared family-to-family. A deductive approach was subsequently used to evaluate correspondence between the interview text and the five features of Ecocultural Theory. Audio-recorded interviews were transcribed verbatim by a Health Insurance Portability and Accountability Act of 1996-compliant vendor and transcripts were anonymized. Transcripts were subsequently validated by a member of the research team who listened to each audio recording while reading the corresponding transcript to identify discordant phrasing. Transcripts were uploaded to Atlas.ti (Version 8, Scientific Software Development GmbH, Berlin, Germany) for coding. Transcripts were translated from Spanish to English when needed, according to the protocol described by Clark and colleagues (Clark, Birkhead, Fernandez, & Egger, 2017). Quotes from the Spanish-language interviews reported in this article in English were back translated to Spanish and compared with the original Spanish transcripts to improve data quality.

Four of the 30 transcripts were subsequently reviewed by two members of the research team who did not participate in data collection to identify data-driven topics that appeared repeatedly in the transcripts (e.g., family meals and child feeding). Next, all transcripts and field notes were rigorously read and reread by two members of the research team to identify subcategories that appeared repeatedly (e.g., technology use at mealtime or location of family meals). This included weekly team meetings to discuss emerging subcategories (herein defined as codes). This process resulted in 80 distinct inductively generated codes and a codebook in which each of the 80 codes was assigned a definition, a sample quote, and inclusion and exclusion criteria. Two coders with formal training in the use of Atlas.ti software then coded two transcripts to identify potential problems with the codebook and make adjustments as needed. Participants' statements were systematically coded independently by the two trained coders. After every 10 transcripts, the coders met in-person as part of consensus coding to review discrepancies, resolve differences in coding, and negotiate consensus. This resulted in a single, agreed upon application of codes in all 30 transcripts. Finally, members of the research team independently reviewed a list of coded statements, followed by in-depth discussions to reach consensus on findings and identify major themes. Next, findings were grouped into the five features of Ecocultural Theory (participants, tasks to be performed, goals and values, a script for normative conduct, and motives and emotions; Weisner, 2002). Before drafting the manuscript, field notes were reread to confirm overall consistency with the interview findings.

Findings

Consistent with Ecocultural Theory, findings were organized by the five features of family routines: (a) participants, (b) tasks to be performed, (c) goals and values, (d) script for normative conduct, and (e) motives and emotions (Weisner, 2002). The “participants” feature focuses on the characteristics of the participants and their role in the daily routine, including who is present and when. The “tasks to be performed” feature focuses on the activities that make up the daily routine (e.g., cooking dinner) and how they are carried out. The “goals and values” feature provides context for the daily activities by describing the participants’ sense of purpose and what they are trying to achieve with the routine. The “script for normative conduct” focuses on the rules that regulate participants’ behaviors, including participant perspectives on the appropriate way to engage in activities. Finally, the “motives and emotions” feature focuses on how participants feel about the routine and why the daily activities are conducted as they are. Figure 1 shows the relationship between the five features of family routines and children’s nutrition-related health outcomes. Four of the five features of Ecocultural Theory (participants, goals and values, script for normative conduct, and motives and emotions) make up the sociocultural context. The sociocultural context shapes eating-related routines, or the tasks to be performed by families. Eating-related routines, in turn, are thought to influence children’s eating behaviors (e.g., picky eating) and dietary intake. Eating behaviors and dietary intake are determinants of child growth outcomes, such as obesity. Key findings within each feature are presented in Table 1.

Participants

Interviews were conducted with 26 mothers, two fathers, and two grandmothers. The ethnicity of participants in this study (57% Hispanic, 43% non-Hispanic White) was similar to the overall ethnic makeup of Head Start participants in the region (Office of Head Start, 2016). Participants were married or living with a domestic partner (83%), single parents living with extended family (10%), or single parents living with children only (7%). Thirty-seven percent of participants had three or more children.

In terms of employment status, participants lived in dual-earner households in which both parents were employed full-time (50%), dual-earner households in which one parent was employed full-time and one parent was employed part-time (13%) and households with one full-time stay-at-home parent (37%). Shift work was common, and many families had at least one parent who worked weekends, worked at night and slept during the day, traveled out of town for several days at a time, juggled multiple jobs, left for work before everyone else in the household was awake, or had unpredictable work hours.

Parents in some dual-earner households relied on staggered work schedules (e.g., dad works during the day and mom works at night), trading off child care responsibilities throughout the day, or using their lunch hour to take care of childcare responsibilities. Mothers reported feeling like “there is not enough time in the day” and “I need three of me”; they are “rushed for everything,” and “scrambling home from work.” Parents reported that time constraints were particularly prominent around dinner because of the short window between when parents get home from work and when children were ready to eat. While fathers played an

important role in family life, in most cases mothers took primary responsibility for managing family routines, even when mothers worked outside the home.

Tasks to be Performed

The tasks to be performed are the activities that make up the daily routine and how they are carried out. The three main tasks that parents discussed were establishing a mealtime routine, ensuring that children consume an adequate volume food, and ensuring that children consume an adequate variety of food.

Establishing a mealtime routine.—In approximately half of households, all adults and children living in the household regularly ate dinner together. Another common scenario was that children ate dinner with one adult, usually the mother, and the other adult living in the household ate dinner later or in a different location. This scenario usually occurred because children were hungry for dinner before dad got home from work. Regular weekday dinnertimes rarely included individuals who did not live in the household, except for two families that prepared dinner and ate with nearby relatives most evenings.

According to the information that parents reported during the interviews, the most commonly reported location for the dinner meal was at the kitchen or dining room table. Other eating locations included the couch or coffee table in the living room so that families could watch television while eating. A few families reported that parents and children did not eat dinner in the same room because of space constraints (e.g., not enough space at the table for all family members). In all these cases, children sat at the kitchen table and parents sat in the living room.

Regarding family interaction at mealtime, parents reported that during dinner their families “can talk more at peace,” “talk about what we did during the day,” “have conversations together without fighting,” and “enjoy each other.” However, some parents reported that family dinner conversation with preschoolers was difficult. Barriers to interaction included family members eating in different rooms, children constantly getting out of their seat, parents prioritizing getting children to eat or stay at the table, and having a parent at work when children were hungry for dinner. While parents felt that the television and tablets should be off during dinner, a few participants described using screens with meals to manage children’s behavior or for entertainment. Two mothers commented “we’ll start the meal with her conversing, but when Jenny’s done kind of talking about her day, then she’ll put on Netflix” and “we are mostly in the living room. It is sad to say ‘Yes, in front of the TV’ but that is us.”

The timing of the dinner meal varied widely across families and was influenced by parent perceptions of when children were hungry, the timing of afternoon activities, children’s bedtimes, and what time parents got home from work. One mother said,

Growing up we always sat together at the dinner table and we always ate together. That is something that has been really hard for me as a mom to do since there are a lot of different people ... They are being picked up by the babysitter and then my husband gets home late. I am hungry, I have to eat. I can’t wait for him until eight

o'clock. But, I think that is one of the things that is very important to me. But, we haven't been able to follow through with it just because of the crazy schedules.

To reduce the chaos associated with getting dinner on the table, some parents planned meals or cooked several days in advance or served pre-packaged, convenience foods for dinner. Parents reported that they "do something like cereal for dinner because there just isn't time for anything else," "make something really simple or I'll pick something up," "use the crock pot a lot" "more or less plan it [dinner] during the week, when I go shopping for groceries," and "[prepare] an easy casserole that we can make the night before and pop it the oven when we get home."

Ensuring intake of an adequate volume of food.—Most parents reported that they regularly used different strategies at dinnertime to encourage children to eat a greater *volume* of food. This included (a) verbal coaxing and pressuring with phrases such as "you need to eat" and "sit down and finish your food," (b) rewards and bribes (primarily dessert), (c) rules, such as not allowing children to leave the table until they are finished eating, and (d) catering to the child's likes and dislikes. For example, parents reported routinely "bribing" their children: "you have to eat everything and then you can have a cookie" or "take three more bites or we can't play after dinner."

Short-order cooking, in which parents prepared separate or modified meals for their children based on the child's preferences, was a commonly reported strategy to encourage intake. The primary driver of short-order cooking was parents' fear that children would not consume an adequate amount of food in the evening. Short-order cooking routines ranged from habitual daily preparation of separate "back-up" meals for children to short-order cooking only under specific circumstances. These circumstances included short-order cooking only if children didn't like or rejected the primary meal, children ate at least some of the primary meal first, the primary meal was not perceived to be appropriate for children (e.g., too spicy), or the child preferred to eat something that the parents perceived to be healthier than the primary meal. In response to a question about whether she prepares separate meals for her daughter, one mother responded,

Sometimes I will, if she doesn't like anything we eat. I will fix her something she likes just so I know she eats. Which I don't see the harm in that. I'm not gonna sit there and force her to eat something.

In contrast, a few parents reported that they do not short-order cook as part of their daily routine, especially if parents were serving meals that children had consumed on previous occasions.

You don't just tell your mom one day that you don't like chicken when she knows she has given you chicken before. Yes. You are going to eat this or if you don't, you are going to be hungry.

Some parents planned family meals around their child's preferences and only prepared meals for the family that they knew their children would eat. Yet parents did not perceive this as short-order cooking because everyone in the family was consuming the same meal.

Ensuring intake of a variety of foods.—To encourage children to eat a greater *variety* of food, parents reported that their routines included (a) verbal encouragement and pressuring with phrases such as “just try it” and “don’t you want to be healthy,” (b) rewards (primarily dessert), or (c) modifying or “hiding” the food (e.g., serving vegetables in a smoothie). However, most parents were satisfied if their children took one bite of a new or less preferred food, and parents subsequently suspended their efforts.

Sometimes when I offer him new food, he will look at it and be like, “No, I don’t like it.” I try to encourage him like, “You haven’t tried it. You don’t know if you don’t like it.” I try to remind him that he needs to try it first to see if he likes it or not. Sometimes it takes coaxing if it is something really green or really abnormal for him, but he will generally try it. If he doesn’t like it, I am like, “That is fine.

You don’t have to eat anymore, but thank you for trying it. That was really brave.”

Many parents reported that children would eat a small amount of the dinner meal, and then request “second dinner” later in the evening because they were still hungry. Some parents set rules that children were not allowed to eat between dinner and bedtime unless they consumed the primary meal, but then subsequently provided food later in the evening, even if children did not consume the primary meal.

When asked about variation in the daily routine between weekdays and weekends, participants reported significant variation in eating habits. Weekends were characterized by more frequent intake of convenience foods and restaurant meals; two meals a day (brunch and dinner) or all-day snacking instead of three meals; and less frequent intake of meals at the table. Even though many parents worked for paid employment on the weekends, some participants reported that weekends were “the only time we all eat together.” This variation reflected the pervasive view that weekends are an opportunity to recover from the stressful week and take a break from usual eating routines. Specifically, participants described weekends as “lazy,” “cheat days,” “free-for-all,” “less pressure,” and “fend for yourself.”

Goals and Values

The goals and values feature provides context for the daily activities by describing the participants’ sense of purpose and what they are trying to achieve with the routine. Results suggest that participants had three main goals and values related to children’s eating.

Fostering good nutrition.—Parents valued good nutrition. For parents, good nutrition was characterized by diets high in fruits and vegetables and low in sugars and fats, and consumption of locally produced foods and fresh versus “processed foods.” Attitudes about sugar and fat were shaped, in part, by parents’ own experiences with chronic illness or a family history of obesity, diabetes, or cardiovascular disease. Many families reported consuming vegetables from gardens and eggs from chicken coops located in their backyard.

Fostering a good relationship with food.—Parents described wanting their children to have a good relationship with food. This included wanting their children to eat without being bribed (despite reporting heavy use of bribes), make healthy choices, develop good habits

early in life, respond to hunger and satiety cues, and avoid constant snacking or requesting food in response to boredom.

Value of family togetherness at mealtime.—Parents had goals and values related to the social aspects of mealtime. Parents placed a high value on eating together as a family in the evening and saw dinnertime as an opportunity for family togetherness.

A Script for Normative Conduct

This feature includes the rules that regulate participants' behaviors, including participant perspectives on the appropriate way to engage in activities. This included mealtime norms, participants' expectations related to preschoolers' eating, and appropriate parenting related to preschoolers' eating.

Mealtime norms.—All parents had some ideal image of what family mealtimes should be like and how preschoolers should eat. For most families, this included enjoyable conversation (even though this was reported to be challenging) and having everyone eating the same food, in the same place, at the same time. Several parents introduced the topic of television or other technology devices at mealtime into the interview. A few families had rules about not engaging with screens during meals, or only using screens under special circumstances. Of the parents who mentioned television or device use at dinnertime, all but one perceived it as a negative practice because it interfered with family interaction.

Expectations of preschool-aged children.—In terms of how children should eat, most parents felt that preschoolers were either “good eaters” or “picky eaters.” Parents distinguished good eaters from picky eaters based on the volume and variety of food consumed and whether children were “easy to feed.” Participants provided examples of good eating among children: eating without being pressured, consuming foods they do not like, eating whatever is served, willingness to eat multiple cuisines, eating less preferred foods before more preferred foods, and trying new foods. In contrast, children were considered picky eaters if they only ate “basic” foods or a narrow range of foods, ate small quantities, needed to be bribed to eat, readily ate snacks but not meals, or regularly refused new foods.

Parenting norms related to children's eating.—One area where participants did not have consensus was related to “who's in charge” at dinnertime. Some parents felt that adults should set the rules regarding eating location and the foods that are served and manage the amount and type of food that children eat. Parents who ascribed to an adults-in-charge point of view reported that, “I make the rules,” “I don't give options,” “You need to do what I say,” “I wouldn't let him protest,” “They are not your choices,” and “My house is not a restaurant.”

For those who felt that children's wishes should dictate decisions about dinner, their perspective was based on the idea that the types of food served at dinner should be primarily driven by children's food preferences, and the timing of children's food intake throughout the day should be dictated by their hunger cues. Parents reported that, “I'll offer him something and if he says no I won't even bother,” “If she wants something different she will

tell us, and we will give it to her,” “We stay around what he likes,” and “I just wait for him to tell me when he’s hungry.” One mother said,

So, I don’t make him eat what I made. It’s him telling me what he wants to eat. Probably that’s not a good thing to do, but because he’s such a picky eater, that’s the reason why I let him, because I can’t force him to eat.

Motives and Emotions

This feature describes how participants feel about the routine and why they conduct the daily activities in particular ways. Results suggest that participants were motivated to enact routines that support children’s acceptance and enjoyment of food, and family togetherness. Participants struggled when they felt routines were not achieved.

Family dinners.—Participants reported feeling positive when the actual family routine was consistent with participants’ goals. This included a sense of accomplishment when children accepted new foods or enjoyed foods that were served for dinner or when the family could sit down to dinner together. In fact, in response to questions about the best part of mealtime or the part of the day that makes them most happy, many parents reported that they most enjoy family togetherness at dinner. This may be because, for parents who worked outside the home, dinner was one of the few opportunities they had on weekdays to eat meals as a family. Parents’ motivation to eat dinner as a family was also shaped by nostalgia parents had for how they were raised themselves and, among a few parents, the feeling that eating as a family at dinner was in the best interest of their children.

Social isolation.—Mothers reported feeling socially isolated, especially in the context of parenting young children. In reference to living in Eastern Colorado mothers said, “it is very lonely,” “I was really depressed when we first moved here,” “I don’t have a lot of friends,” and “I don’t know anybody around here.” In reference to parenting or being a stay-at-home parent, mothers said, “nobody really understands,” “finding my place within the school is difficult,” and “staying at home is very challenging, you don’t get your friend time.”

Parental response when goals were not achieved.—In contrast, when the actual family routine did not match participants’ goals, participants reported feelings of sadness or failure. One example is when children rejected food or when parents felt children weren’t consuming an adequate or healthy diet.

[My son says] “I don’t want anything, so I’m not going to eat,” and I tell them it’s okay, if you don’t want to eat, that’s okay. And that as a mother, for your child not to eat makes you worried. Even though I tell them that it doesn’t bother me or I don’t care, but it makes me feel bad.

Several parents felt conflicted about pressuring their child to eat. Some parents reported that rewards were effective in managing children’s eating behavior, but parents hoped that children would eat without being “bribed” or pressured to eat. When asked about her hopes for her preschool daughter’s eating, one mother said,

To continue to eat because she is one that I have to be, like, push her to eat because if it was up to her she would take a bite and run and be done. And then come back two hours later and ‘I’m hungry, I’m hungry’. Like even now, if I tell her she can have a piece of candy when she’s done eating, she will clean her plate. But if I don’t offer that candy she’ll take one bite and be like, ‘I’m done.’ So I want her to continue to eat and not have to be bribed to eat.

In addition to the feelings associated with feeding their children, mothers described feelings of guilt, inadequacy, and anxiety associated with their overall parenting. Mothers reported feeling guilty about being separated from their children when they were at work, and most mothers would have preferred to work fewer hours to spend more time with their children. Though several mothers reported that paid employment provided a sense of self-worth and purpose, most women with paid professional responsibilities felt overwhelmed by the dual responsibility of earning the income they needed and fulfilling their role as mother. Mothers said, “I tend to get anxiety when I need to work but the kids need me too,” “you have so much on your shoulders that you have to worry about,” and “sometimes I feel like they [children] don’t get the attention or what they need from me because I’m not present.”

Despite their dedication to their children, women gave examples of how their deep investment in supporting their families’ needs over their own needs led to a diminished sense of self, including sacrificing their own interests or professional ambitions. One stay-at-home mom said,

Two sons is a lot of work, especially when they are small, they are a lot of work. There is hardly any time for ourselves, almost as if being a woman, you forget about yourself and you dedicate yourself more to the food, to your husband, to your kids, and that’s how a lot of women are. I mean it doesn’t have to be, but it does happen that we forget about ourselves.

Many women also described feelings of inadequacy, guilt, and anxiety about not fulfilling their role as a mother. During the interviews, mothers posed questions such as, “What am I doing wrong?” and “Why can’t it just be smooth sailing for once?” To describe their parenting, mothers used words and phrases such as “nagging,” “easily frustrated,” “impatient,” “anxious,” “super nervous about everything,” “worry too much,” and “helicopter mom.” These self-assessments related to both eating-related routines and overall parenting.

Discussion and Conclusions

Families with preschool-aged children organized or attempted to organize daily routines according to cultural values and available economic and social resources, consistent with the assumptions of Ecocultural Theory. Combining the inductively generated codes with the five features of Ecocultural Theory contributes to our understanding of the lived experiences of U.S. low-income families with preschoolers in three ways. First, it reveals that parents’ goals and values related to preschoolers’ eating and family mealtimes were generally aligned with clinical and public health recommendations (Martin-Biggers et al., 2014; Satter, 1986; U.S. Department of Agriculture, 2018; Vaughn, Martin, & Ward, 2018). Parents’ goals and values

included dinner meals during which adults and children eat the same food, in the same place, at the same time; family interaction and minimal screen use at mealtime; and parental offering of a range of foods to encourage dietary diversity. There was variability in parents' script for normative conduct regarding "who's in charge" at dinnertime; some parents preferred to dictate the amount of food their preschool-aged child consumed, which is inconsistent with best practices, while other parents wanted or allowed their child to dictate the volume of food consumed. The finding that parents were generally knowledgeable about recommended practices is consistent with published studies which show effective transmission of nutritional messaging from professionals to the lay public (Clark, Johnson, O'Connor, & Lassetter, 2013; Zachary, Palmer, Beckham, & Surkan, 2013).

Second, parents' employment, time constraints, and challenges in managing children's eating behavior were factors that prevented parents from achieving the above goals. The results show that nontraditional employment schedules, parents feeling "worn out" at the end of the workday and the timing of other household tasks limited the frequency of shared family meals. The finding related to parents' employment is consistent with the inverse, albeit moderate, association between parent employment and child diet quality (Datar et al., 2014) or time allocated to grocery shopping, cooking, or eating with children (Cawley & Liu, 2012). Furthermore, challenges in managing children's eating behavior, including food neophobia and consumption of small portions at mealtime, explained in large part why parents were mostly dissatisfied with their children's dietary intake at dinnertime. These two key findings, that parents' goals were consistent with best practices, but the preferred eating-related routines were not always achieved, suggest that health education alone is not sufficient to foster best practices and support children's growth.

Third, parents felt a sense of accomplishment when daily routines were consistent with their goals and values, and inadequate and anxious when they perceive that their efforts were not "good enough." The latter seemed to occur frequently among study participants, who championed their children's well-being, but were unclear about how to achieve ideal eating-related routines. In our study population, this uncertainty resulted in trade-offs, in which parents aimed for a goal (e.g., children eating what is served to the rest of the family), but then retreated when achieving the goal led to conflict or perceived discomfort among children. These trade-offs also occurred when two goals or values were in conflict (e.g., parental efforts to support healthy eating among children got in the way of family togetherness at the dinner table). The findings in this study that parents customize meals to preschoolers' food preferences to ensure adequate intake and minimize conflict, in combination with previous findings that parents purchase foods their children like to minimize food waste (Daniel, 2016), suggests that parents cater to their children's food preferences for nutritional, social, and economic purposes.

Studies among caregivers of infants, school-age children, and adolescents have also shown that eating-related routines are embedded in the social and cultural context (Bauer, Hearst, Escoto, Berge, & Neumark-Sztainer, 2012; Berge et al., 2013; Datar et al., 2014; Fulkerson et al., 2011; Moore, Goodwin, Brocklehurst, Armitage, & Glenny, 2017; Trofholz et al., 2018). The present study is novel because it is one of the first to assess eating-related routines among families with preschoolers (Agrawal et al., 2018). This study is also novel

because the research questions, data collection and analysis, and interpretation of findings were aligned with Ecocultural Theory. One unique finding among parents in Eastern Colorado is that mothers feel socially and geographically isolated, especially in the context of parenting young children and supporting their growth. Whether this is specific to the local context or characteristic of a broader parent population merits further investigation. Social connections may alleviate a mother's sense of isolation, as well as her feelings of guilt and anxiety, and may expose mothers to alternate approaches to achieving the desired eating-related routines.

The challenges parents face in creating and sustaining healthy eating-related routines for young children are not unique to American culture (Walsh, Meagher-Stewart, & Macdonald, 2015). European and Australian families similarly report placing a high value on family interaction at dinnertime, but struggle to establish routines. These families also report mealtime conflict and parental feelings of guilt and anxiety in response to children's habitual food rejection. Akin to families in Eastern Colorado, parents outside the United States respond to picky eating with verbal encouragement or pressure, food modification, or rewards, and incorporate short-order cooking into the daily routine to ensure adequate intake volume or dietary variety among children (Litterbach, Campbell, & Spence, 2017; Oliveira et al., 2015; Rubio & Rigal, 2017). These cross-cultural similarities suggest that parents in different contexts may use similar strategies to adapt to the everyday challenges associated with enacting healthy routines.

One strength of this study is the theory-driven approach and, specifically, the application of Ecocultural Theory to understanding eating-related routines. The specific focus on low-income families provides novel insights into eating-related routines among a population at increased risk for obesity and robust findings for a high-risk population. Furthermore, the focus on preschool-aged children provides insights into when and how eating-related routines in later childhood or adulthood may be established in early life. Nevertheless, this study has several limitations. First, several participants reported feeling judged by their peers and described routines in ways that revealed emic views of right versus wrong. This may have led to socially desirable responses, especially regarding participant reports of what happens on a typical day. Second, our findings are based on the local context of low-income families in Eastern Colorado and may not be congruent with the experience of families in different settings. Furthermore, by interviewing primarily mothers, a gendered point-of-view that highlights women's experiences is provided. Even so, this participant selection decision was a calculated one, given that mothers in the US are both historically and contemporaneously considered to be primarily responsible for selecting and preparing family meals and organizing mealtime routines. Future studies should consider fathers' perspectives.

Eating-related routines among families with young children are important determinants of growth outcomes, including obesity, and are embedded in a social and cultural context. Identifying the sociocultural factors that inhibit families from enacting healthy routines provides context to the myriad of intervention trials that have had limited success in helping families create and sustain eating-related routines to support children's growth (Bekelman et al., 2017). Behavioral interventions that target eating-related routines may have the greatest

impact if they extend beyond nutrition education and provide families with strategies to sustain routines that support optimal eating and growth in the context of cultural values and social and economic resources. This will require social, biological, and health-related scientists to come to consensus on the types of eating-related routines that support healthy child growth and tailor their recommendations to the local context of the group to be intervened upon.

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References

- Agrawal T, Farrell TJ, Wethington E, & Devine CM (2018). “Doing our best to keep a routine”: How low-income mothers manage child feeding with unpredictable work and family schedules. *Appetite*, 120, 57–66. doi:10.1016/j.appet.2017.08.010 [PubMed: 28802574]
- Ambrosini GL, Emmett PM, Northstone K, & Jebb SA (2014). Tracking a dietary pattern associated with increased adiposity in childhood and adolescence. *Obesity*, 22, 458–465. doi:10.1002/oby.20542 [PubMed: 23804590]
- Anderson EL, Johnson W, & Cameron N (2011). Catch-up growth and rapid growth during infancy differ in their risk outcomes by late childhood. *American Journal of Human Biology*, 23, 251–252.
- Banfield EC, Liu Y, Davis JS, Chang S, & Frazier-Wood AC (2016). Poor adherence to US dietary guidelines for children and adolescents in the National Health and Nutrition Examination Survey population. *Journal of the Academy of Nutrition and Dietetics*, 116, 21–27. doi:10.1016/j.jand.2015.08.010 [PubMed: 26391469]
- Bauer KW, Hearst MO, Escoto K, Berge JM, & Neumark-Sztainer D (2012). Parental employment and work-family stress: Associations with family food environments. *Social Science & Medicine*, 75, 496–504. doi:10.1016/j.socscimed.2012.03.026 [PubMed: 22591825]
- Bekelman TA, Bellows LL, & Johnson SL (2017). Are family routines modifiable determinants of preschool children’s eating, dietary intake, and growth? A review of intervention studies. *Current Nutrition Reports*, 6, 171–189. doi:10.1007/s13668-017-0207-9
- Bellows LL, McCloskey M, Clark L, Thompson DA, Bekelman TA, Chamberlin B, & Johnson SL (2018). HEROs: Design of a mixed-methods formative research phase for an ecocultural intervention to promote healthy eating and activity behaviors in rural families with preschoolers. *Journal of Nutrition Education and Behavior*, 50, 736–745. doi:10.1016/j.jneb.2018.02.012 [PubMed: 29653807]
- Berge JM, Hoppmann C, Hanson C, & Neumark-Sztainer D (2013). Perspectives about family meals from singleheaded and dual-headed households: A qualitative analysis. *Journal of the Academy of Nutrition and Dietetics*, 113, 1632–1639. doi:10.1016/j.jand.2013.08.023 [PubMed: 24238144]
- Berge JM, Truesdale KP, Sherwood NE, Mitchell N, Heerman WJ, Barkin S, ... French SA (2017). Beyond the dinner table: Who’s having breakfast, lunch and dinner family meals and which meals are associated with better diet quality and BMI in pre-school children? *Public Health Nutrition*, 20, 3275–3284. doi:10.1017/S1368980017002348 [PubMed: 28903804]
- Bermudez LG, Parks L, Meyer SR, Muhorakeye L, & Stark L (2018). Safety, trust, and disclosure: A qualitative examination of violence against refugee adolescents in Kiziba Camp, Rwanda. *Social Science & Medicine*, 200, 83–91. doi:10.1016/j.socscimed.2018.01.018 [PubMed: 29421475]
- Boles RE, Scharf C, Filigno SS, Saelens BE, & Stark LJ (2013). Differences in home food and activity environments between obese and healthy weight families of preschool children. *Journal of Nutrition Education and Behavior*, 45, 222–231. doi:10.1016/j.jneb.2012.09.012 [PubMed: 23380192]
- Carroll-Scott A, Gilstad-Hayden K, Rosenthal L, Peters SM, McCaslin C, Joyce R, & Ickovics JR (2013). Disentangling neighborhood contextual associations with child body mass index, diet, and physical activity: The role of built, socioeconomic, and social environments. *Social Science & Medicine*, 95, 106–114. doi:10.1016/j.socscimed.2013.04.003 [PubMed: 23642646]
- Cawley J, & Liu F (2012). Maternal employment and childhood obesity: A search for mechanisms in time use data. *Economics and Human Biology*, 10, 352–364. doi:10.1016/j.ehb.2012.04.009 [PubMed: 22790446]
- Child Trends. (2015). Databank indicator: Trends. Retrieved from <https://www.childtrends.org/indicators/head-start/>
- Chung ST, Onuzuruike AU, & Magge SN (2018). Cardiometabolic risk in obese children. *Annals of the New York Academy of Sciences*, 1411, 166–183. doi: 10.1111/nyas.13602 [PubMed: 29377201]
- Clark L, Birkhead AS, Fernandez C, & Egger MJ (2017). A transcription and translation protocol for sensitive cross-cultural team research. *Qualitative Health Research*, 27, 1751–1764. doi: 10.1177/1049732317726761 [PubMed: 28936930]

- Clark L, Johnson SL, O'Connor ME, & Lassetter J (2013). Cultural aspects of Latino early childhood obesity In Beck CT (Ed.), *Routledge international handbook of qualitative nursing research* (pp. 103–118). New York: Routledge.
- Colorado Children's Campaign. (2018). Kids count in Colorado. Retrieved from <https://www.coloradokids.org/data/kids-count-archive/>
- Colorado Department of Local Affairs. (2010). Census data for Colorado. Retrieved from <https://demography.dola.colorado.gov/census-acs/2010-census-data/>
- Couch SC, Glanz K, Zhou C, Sallis JF, & Saelens BE (2014). Home food environment in relation to children's diet quality and weight status. *Journal of the Academy of Nutrition and Dietetics*, 114, 1569–1579.e1. doi:10.1016/j.jand.2014.05.015 [PubMed: 25066057]
- Daley TC, Weisner T, & Singhal N (2014). Adults with autism in India: A mixed-method approach to make meaning of daily routines. *Social Science & Medicine*, 116, 142–149. doi:10.1016/j.socscimed.2014.06.052 [PubMed: 24998867]
- Daniel C (2016). Economic constraints on taste formation and the true cost of healthy eating. *Social Science & Medicine*, 148, 34–41. doi:10.1016/j.socscimed.2015.11.025 [PubMed: 26650928]
- Datar A, Nicosia N, & Shier V (2014). Maternal work and children's diet, activity, and obesity. *Social Science & Medicine*, 107, 196–204. doi:10.1016/j.socscimed.2013.12.022 [PubMed: 24491828]
- Fulkerson JA, Kubik MY, Rydell S, Boutelle KN, Garwick A, Story M, ... Dudovitz B (2011). Focus groups with working parents of school-aged children: What's needed to improve family meals? *Journal of Nutrition Education and Behavior*, 43, 189–193. doi:10.1016/j.jneb.2010.03.006 [PubMed: 21367663]
- Gallimore R, Weisner TS, Kaufman SZ, & Bemheimer LP (1989). The social construction of ecocultural niches: Family accommodation of developmentally delayed children. *American Journal of Mental Retardation*, 94, 216–230. [PubMed: 2478170]
- Griffiths LJ, Parsons TJ, & Hill AJ (2010). Self-esteem and quality of life in obese children and adolescents: A systematic review. *International Journal of Pediatric Obesity*, 5, 282–304. doi:10.3109/17477160903473697 [PubMed: 20210677]
- Haines J, McDonald J, O'Brien A, Sherry B, Bottino CJ, Schmidt ME, & Taveras EM (2013). Healthy habits, happy homes: Randomized trial to improve household routines for obesity prevention among preschool-aged children. *JAMA Pediatrics*, 167, 1072–1079. doi:10.1001/jamapediatrics.2013.2356 [PubMed: 24019074]
- Hammons AJ, & Fiese BH (2011). Is frequency of shared family meals related to the nutritional health of children and adolescents? *Pediatrics*, 127(6), e1565–e1574. doi:10.1542/peds.2010-1440 [PubMed: 21536618]
- Hayter AK, Draper AK, Ohly HR, Rees GA, Pettinger C, McGlone P, & Watt RG (2015). A qualitative study exploring parental accounts of feeding pre-school children in two low-income populations in the UK. *Maternal & Child Nutrition*, 11, 371–384. doi:10.1111/mcn.12017 [PubMed: 23316717]
- Hsieh HF, & Shannon SE (2005). Three approaches to qualitative content analysis. *Qualitative Health Research*, 15, 1277–1288. doi:10.1177/1049732305276687 [PubMed: 16204405]
- Jansen EC, Kasper N, Lumeng JC, Brophy Herb HE, Horodyski MA, Miller AL, ... Peterson KE (2017). Changes in household food insecurity are related to changes in BMI and diet quality among Michigan Head Start preschoolers in a sex-specific manner. *Social Science & Medicine*, 181, 168–176. doi:10.1016/j.socscimed.2017.04.003 [PubMed: 28407601]
- Kamp Dush CM, Schmeer KK, & Taylor M (2013). Chaos as a social determinant of child health: Reciprocal associations? *Social Science & Medicine*, 95, 69–76. doi:10.1016/j.socscimed.2013.01.038 [PubMed: 23541250]
- Law KH, Jackson B, Guelfi K, Nguyen T, & Dimmock JA (2018). Understanding and alleviating maternal postpartum distress: Perspectives from first-time mothers in Australia. *Social Science & Medicine*, 204, 59–66. doi:10.1016/j.socscimed.2018.03.022 [PubMed: 29579481]
- Litterbach EV, Campbell KJ, & Spence AC (2017). Family meals with young children: An online study of family mealtime characteristics, among Australian families with children aged six months to six years. *BMC Public Health*, 17(1), Article 111. doi:10.1186/s12889-016-3960-6
- Loth KA, Friend S, Horning ML, Neumark-Sztainer D, & Fulkerson JA (2016). Directive and non-directive food-related parenting practices: Associations between an expanded conceptualization of

- food-related parenting practices and child dietary intake and weight outcomes. *Appetite*, 107, 188–195. doi:10.1016/j.appet.2016.07.036 [PubMed: 27486926]
- Martin-Biggers J, Spaccarotella K, Berhaupt-Glickstein A, Hongu N, Worobey J, & Byrd-Bredbenner C (2014). Come and get it! A discussion of family mealtime literature and factors affecting obesity risk. *Advances in Nutrition*, 5, 235–247. doi:10.3945/an.113.005116 [PubMed: 24829470]
- Miller DP, Waldfogel J, & Han WJ (2012). Family meals and child academic and behavioral outcomes. *Child Development*, 83, 2104–2120. doi:10.1111/j.1467-8624.2012.01825.x [PubMed: 22880815]
- Moore DA, Goodwin TL, Brocklehurst PR, Armitage CJ, & Glenny AM (2017). When are caregivers more likely to offer sugary drinks and snacks to infants? A qualitative thematic synthesis. *Qualitative Health Research*, 27, 74–88. doi:10.1177/1049732316673341 [PubMed: 27956658]
- Neumark-Sztainer D, Larson NI, Fulkerson JA, Eisenberg ME, & Story M (2010). Family meals and adolescents: What have we learned from Project EAT (Eating Among Teens)? *Public Health Nutrition*, 13, 1113–1121. doi:10.1017/S1368980010000169 [PubMed: 20144257]
- Neumark-Sztainer D, Wall M, Fulkerson JA, & Larson N (2013). Changes in the frequency of family meals from 1999–2010 in the homes of adolescents: Trends by sociodemographic characteristics. *Journal of Adolescent Health*, 52, 201–206. doi:10.1016/j.jadohealth.2012.06.004 [PubMed: 23332485]
- Office of Head Start. (2016). Program information report. Denver, CO
- Ogden CL, Carroll MD, Lawman HG, Fryar CD, Kruszon-Moran D, Kit BK, & Flegal KM (2016). Trends in obesity prevalence among children and adolescents in the United States, 1988–1994 through 2013–2014. *Journal of the American Medical Association*, 315, 2292–2299. doi:10.1001/jama.2016.6361 [PubMed: 27272581]
- Ogden CL, Lamb MM, Carroll MD, & Flegal KM (2010). Obesity and socioeconomic status in children and adolescents: United States, 2005–2008. *NCHS Data Brief*, 51, 1–8.
- Oliveira A, Jones L, de Lauzon-Guillain B, Emmett P, Moreira P, Charles MA, & Lopes C (2015). Early problematic eating behaviours are associated with lower fruit and vegetable intake and less dietary variety at 4–5 years of age: A prospective analysis of three European birth cohorts. *British Journal of Nutrition*, 114, 763–771. doi:10.1017/S0007114515002287 [PubMed: 26195187]
- Panter-Brick C, & Eggerman M (2018). The field of medical anthropology in Social Science & Medicine. *Social Science & Medicine*, 196, 233–239. doi:10.1016/j.socscimed.2017.10.033 [PubMed: 29137936]
- Pelto GH, Armar-Klemesu M, Siekmann J, & Schofield D (2013). The focused ethnographic study “assessing the behavioral and local market environment for improving the diets of infants and young children 6 to 23 months old” and its use in three countries. *Maternal & Child Nutrition*, 9 (Suppl. 1), 35–46. doi:10.1111/j.1740-8709.2012.00451.x [PubMed: 23167583]
- Quek YH, Tam WWS, Zhang MWB, & Ho RCM (2017). Exploring the association between childhood and adolescent obesity and depression: A meta-analysis. *Obesity Reviews*, 18, 742–754. doi: 10.1111/obr.12535 [PubMed: 28401646]
- Rubio B, & Rigal N (2017). Parental concerns and attributions of food pickiness and its consequences for the parent-child relationship: A qualitative analysis. *Journal of Child Health Care*, 21, 404–414. doi:10.1177/1367493517725832 [PubMed: 29110520]
- Satter EM (1986). The feeding relationship. *Journal of the American Dietetic Association*, 86, 352–356. [PubMed: 3950279]
- Shier V, Nicosia N, & Datar A (2016). Neighborhood and home food environment and children’s diet and obesity: Evidence from military personnel’s installation assignment. *Social Science & Medicine*, 158, 122–131. doi:10.1016/j.socscimed.2016.03.043 [PubMed: 27135542]
- Skinner AC, Ravanbakht SN, Skelton JA, Perrin EM, & Armstrong SC (2018). Prevalence of obesity and severe obesity in US children, 1999–2016. *Pediatrics*, 141, e20173459. doi:10.1542/peds.2017-3459 [PubMed: 29483202]
- Trofholz AC, Thao MS, Donley M, Smith M, Isaac H, & Berge JM (2018). Family meals then and now: A qualitative investigation of intergenerational transmission of family meal practices in a racially/ethnically diverse and immigrant population. *Appetite*, 121, 163–172. doi:10.1016/j.appet.2017.11.084 [PubMed: 29128396]

- U.S. Census Bureau. (2017). Quickfacts: Colorado. Retrieved from <https://www.census.gov/quickfacts/CO>
- U.S. Department of Agriculture. (2018). ChooseMyPlate. Retrieved from <https://www.choosemyplate.gov/>
- Vaughn AE, Martin CL, & Ward DS (2018). What matters most—What parents model or what parents eat? *Appetite*, 126, 102–107. doi:10.1016/j.appet.2018.03.025 [PubMed: 29604319]
- Ventura AK, & Birch LL (2008). Does parenting affect children’s eating and weight status? *International Journal of Behavioral Nutrition and Physical Activity*, 5, Article 15. doi: 10.1186/1479-5868-5-15
- Walsh A, Meagher-Stewart D, & Macdonald M (2015). Persistent optimizing: How mothers make food choices for their preschool children. *Qualitative Health Research*, 25, 527–539. doi: 10.1177/1049732314552456 [PubMed: 25258336]
- Weisner TS (2002). Ecocultural understanding of children’s developmental pathways. *Human Development*, 45, 275–281. doi:10.1159/000064989
- Weisner TS (2011). The Ecocultural Family Interview: New conceptualizations and uses for the study of illness In Bonichini S & Baroni MR (Eds.), *Sviluppo e salute del bambino: Fattori individuali, sociali e culturali (in ricordo di Vanna Axia)* (pp. 166–173). Padova, Italy: Padova University Press.
- Weisner TS, Matheson C, Coots J, & Bernheimer LP (2005). Sustainability of daily routines as a family outcome *In Learning in cultural context*. Boston: Springer Maynard Ashley E., Martini Mary I. (Eds.) (pp. 41–73)
- Zachary DA, Palmer AM, Beckham SW, & Surkan PJ (2013). A framework for understanding grocery purchasing in a low-income urban environment. *Qualitative Health Research*, 23, 665–678. doi: 10.1177/1049732313479451 [PubMed: 23443333]

Box 1.**Sample Questions and Probes From the Ecocultural Family Interview for Low-Income Families With Preschool-Aged Children.****QUESTIONS**

- Thinking about yesterday, tell me about what was going on in your home in the morning before [child's name] went to school.
- In some families the weekday routine is different from what happens on Saturday and Sunday. What's a typical Saturday/Sunday like?
- Tell me about the best parts of your day—the parts that make you happy, the parts that you most look forward to.
- If you could change some things about a usual day for your family, what would you change? How would that be different from how it is now?

PROBES

- Tell me what happened related to food and eating before school yesterday.
- What happens when you and [child's name] have different ideas about what he/she should eat?
- Tell me about a meal that went well.

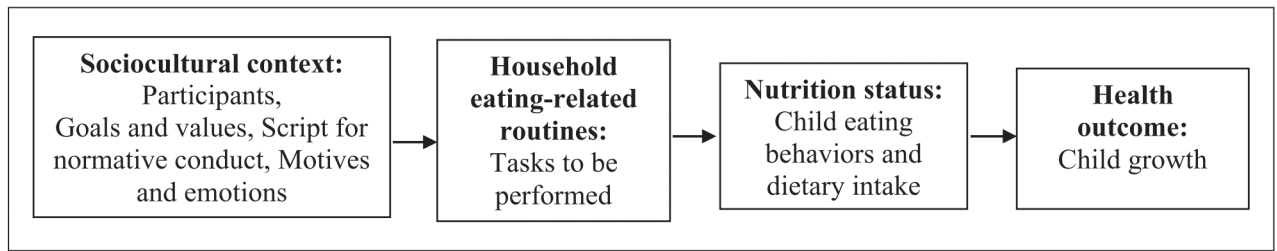


Figure 1.

The five features of family routines (participants, goals and values, script for normative conduct, motives and emotions, and tasks to be performed) derived from ecocultural theory that impact child eating behaviors, dietary intake, and growth.

Table 1. Key Findings From Each of the Five Features of Family Routines Derived From Ecocultural Theory.

5 Features of Family Routines Derived From Ecocultural Theory	Key Findings
Participants	<ul style="list-style-type: none"> • 63% of families had two parents who were employed full- or part-time. • Parents reported that time constraints were particularly prominent around dinnertime
Tasks to be performed	<ul style="list-style-type: none"> • In approximately half of households, all adults and children living in the household regularly ate dinner together. • Parental strategies for encouraging children to consume an adequate volume of food included verbal coaxing and pressuring, rewards and bribes, rules, and catering to the child's likes and dislikes. • Parents reported that preschoolers would eat a small amount of the dinner meal, and then request "second dinner" later in the evening because they were still hungry.
Goals and values	<ul style="list-style-type: none"> • Parents valued good nutrition and eating dinner as a family. • Parents reported wanting their preschoolers to have a good relationship with food, including eating without being bribed.
Script for normative conduct	<ul style="list-style-type: none"> • Parents labeled preschoolers as "good eaters" when they ate without being pressured, ate whatever was served, ate multiple cuisines, or regularly tried new foods. • Parents' ideals for family dinnertime included enjoyable conversation and everyone eating the same food, in the same place, at the same time. • Some parents felt that adults should set the rules at dinnertime regarding the amount and type of food that children consume, while other parents felt that children's wishes should dictate decisions about dinner.
Motives and emotions	<ul style="list-style-type: none"> • Parents felt a sense of accomplishment when children accepted new foods or enjoyed foods that were served for dinner. • When the actual family routine did not match parents' goals, parents reported feelings of sadness or failure.