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Eat, play, view, sleep: Exploring Mexican American mothers' perceptions of decision making for four behaviors associated with childhood obesity risk

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INTRODUCTION

The high rates of overweight and obesity among Mexican American children aged 2–5 are indicative of an ethnic disparity between Mexican Americans and non-Latino Whites that persists through adulthood.^{1,2} Parents substantially influence the eating,^{3–6} physical activity,^{7–9} sleep,^{9–13} and screen time^{9,14,15} behaviors of children in this age range. These behaviors may interact to enhance or mitigate childhood obesity risk.^{6,9,12,16} Despite acknowledgment of the influential role of parents, empirically based understanding is limited about who makes decisions about whether or not Mexican American children engage in behaviors associated with obesity risk, the home environments in which decisions are

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made, the values influencing these decisions, and the extent to which children are involved in decision making.

Limited research exists on parental decision making about preschool-aged children's health behaviors, particularly among Latino populations.^{17,18} Within the body of existing relevant research, most studies have focused on decision making about children's eating behaviors. For instance, in an exploration of parental decisions about portion sizes for snacks among both Latino and non-Latino preschool-aged children, Blake et al.¹⁹ found that many parents were unsure how they made such decisions, suggesting that routine behaviors that demand little attention may be more susceptible to social and environmental influences. Of those parents who described making conscious, reasoned decisions about the portion sizes of their child's snacks, the primary influences were the healthfulness of the food, snacking location, perceived level of child hunger, and amount of time that had passed since the child last ate.¹⁹ Only a few studies appear to have investigated decision making related to young children's physical activity and screen time behaviors. Murphy and colleagues¹⁸ observed that non-Latino parents of kindergartners involved children less in decisions about nutrition and more in decisions about physical activity. This finding suggests that decision making roles may vary for parents and children across different behaviors.¹⁸ In a study of Australian mothers of children ages 4–5, Hamilton et al.²⁰ found that mothers' attitudes and subjective norms, mediated by behavior intention, were significant predictors of children's physical activity and screen time behaviors. Perceived control was a significant influence on intention, but only for physical activity.²⁰ Barkin and colleagues¹⁵ found that Latino parents tended to be less restrictive of their children's media exposure than non-Latino whites. It is not apparent that any research has been conducted on decision making related to preschool-aged children's sleep behaviors.

It is important to develop a better understanding of how preschool-aged children come to engage in behaviors associated with childhood obesity risk within particular racial and ethnic groups. Evidence suggests that there may not only be differences in parents' attitudes, beliefs, and practices related to children's behaviors between Latino and non-Latino populations,^{10,21–24} but also among Latino ethnic subgroups.²⁵ Little is known about which family members in Mexican American households have the most influence on decisions about young children's eating, physical activity, sleep, or screen time behaviors or the extent to which, if at all, children and other family members are involved in such decisions. Some aspects of traditional Mexican culture, such as expectations for children to obey their parents (i.e., *respeto*)²⁶ and traditional gender roles that assign more child care responsibility to mothers,²⁷ may influence Mexican American mothers to make unilateral decisions about children's behaviors with little input from children or other family members. However, families who have immigrated to the U.S. may be affected by competing influences on gender roles, such as an economic necessity for mothers to work outside the home²⁷ and immersion in a society perceived to be more child-centric and valuing of children's independence.²⁶ Such influences may yield greater participation of Mexican American fathers in child care,²⁷ resulting in greater involvement of children, fathers, or other family members in decision making. The amount of control the decision maker has over the execution of the behavior, the presence of other people when decisions are made, and rules enforced while the behavior occurs, which guide the execution of decisions that have been

made, may also influence decision making in the home environment. Developing a deeper, evidence-based understanding of who makes decisions about children's behavior and how such decisions are made is critical for appropriately targeting childhood obesity prevention interventions for Mexican American children.

The goal of this mixed methods study was to obtain a deeper understanding of how decisions are made regarding preschool-aged, Mexican American children's engagement in eating, outdoor play, sleep, and screen time behaviors. This paper explores three potential influences on decision making from the perspectives of Mexican American mothers: (1) who the primary decision makers are for the targeted behaviors; (2) who engages in the behaviors with the child; and (3) for eating, the rules that mothers impose and the factors that mothers value when making food choice decisions at breakfast and dinner.

MATERIALS AND METHODS

Participants

Forty Mexican American mothers were recruited in person from the waiting room of a Special Supplemental Nutrition Program for Women, Infants, and Children (WIC) clinic at a community health center in a U.S. Midwestern city. As WIC participants, all mothers were classified as low-income (i.e., a pre-tax income \leq 185% of the U.S. Poverty Income Guidelines). Potential participants were approached by bilingual study staff and led to a private room where an eligibility screener and informed consent were administered. All interactions with study participants were completed in English or Spanish, with language choice guided by each participant's language use. Eligible participants were aged 18 or older, had a father or two paternal grandparents and a mother or two maternal grandparents born in Mexico, had a child aged 3–4, spoke English or Spanish, and reported that their child had a daily intake of either: (1) one or more servings of soda, flavored drinks, or *atole* (a Mexican beverage made with masa); or (2) two or more servings of 100% fruit juice. The latter criterion was a requirement for the parent study from which these data were drawn, which involved mothers of children whose intake of selected beverages exceeded recommendations for pediatric weight management at that time.^{28–30}

Data Collection

Each participant completed two face-to-face interviews with trained bilingual staff approximately one week apart. During the first interview, a 30-minute survey was administered to collect descriptive data about each participant and her child. During the second interview, in-depth interviewing techniques were used to collect qualitative data using a semi-structured interview guide developed by the research team with feedback from WIC clinic staff. The second interview lasted approximately 90 minutes and was audio recorded. Thirty-nine participants completed both interviews in Spanish. One participant completed the interviews in English. Mothers who completed both interviews received a \$25 gift certificate to a neighborhood grocery store. Informed consent was obtained from all participants. The research protocols were approved by WIC clinic staff and a university Institutional Review Board.

Measures

The survey administered during the first interview collected descriptive data about maternal age, education, marital status, and work status, the number of children living in the home, child age, and child sex. Language use and acculturation were measured using the 12-item Brief Acculturation Rating Scale for Mexican Americans-II (ARSMA-II),³¹ which has been shown to have strong concurrent validity with the full ARSMA-II scale.³² The Brief ARSMA-II queried the frequency of participants' use of Spanish vs. English in thinking, reading, speaking, and media use, as well as their interactions with non-Latino whites (1="not at all/5="almost always").^{31,32} Anglo ($\alpha=0.81$) and Mexican ($\alpha=0.59$) subscales were used to classify respondents into four categories: strong identification with Mexican culture; strong identification with Anglo culture; weak identification with Mexican and Anglo culture; and strong identification with Mexican and Anglo culture. Six orthogonal items were used to assess decision making preferences related to child feeding. These items began with the same stem ("When it comes to making decisions about how to feed (child), I prefer ...") and used different wording to query input from different sources: "... for a doctor to tell me what to do;" "... to do what my husband wishes me to do" (administered to married women only); "... to get advice from my mother"; "... to come up with a plan with my husband about what to do;" "... to get advice from my friends;" and "to make my own decisions." Response options ranged from one ("strongly disagree") to five ("strongly agree"). Since decision making may be influenced by the amount of control that a person feels they have over that behavior, participants' perceived control over their child's behaviors was also assessed. Six orthogonal items to assess perceived control were created by the study team. Each of these items began with "When at home, how much control do you have over ..." and ended with one of the following: "... what drinks are given to (child)"; "... what food is given to (child)"; "... how much exercise (child) gets"; "... how much time (child) spends watching TV"; "... how much time (child) spends playing computer or video games"; and "... how much time (child) spends sleeping." Response options included: "no control", "a little control", "a medium amount of control", "a lot of control", or "complete control." Food security for the prior 12 months was assessed using a six-item food security scale developed by the National Center for Health Statistics (e.g., "The food that we bought just didn't last, and we didn't have money to get more. Was that often, sometimes, or never true for your household in the last 12 months?").³³ The full scale and scoring instructions are provided elsewhere.³⁴ Scores categorize participants into three categories: high or marginal food security; low food security; and very low food security.³⁴ This scale has been found to have high specificity and sensitivity in comparison with longer measures.^{33,34}

Second interview data were collected using a semi-scripted interview guide. Examples of questions are included in Table 1. Initial questions inquired about child care arrangements and identified the day of the week when the child spent the most time in the mother's care. If the mother cared for the child on weekdays and weekends, a weekday was selected. The name of this target day (e.g., "Wednesday") was inserted into subsequent questions to focus participants on this day. Questions were designed to elicit mothers' perceptions of who made decisions regarding their child's engagement in eating, outdoor play, sleep, and screen time behaviors on a typical morning and evening, respectively, as our study team wondered if

mothers would perceive variability in influences on decision making at different times of day when different combinations of family members might be at home. Mothers were asked a similar series of questions to elicit information about their child's eating, outdoor play, and screen time behaviors between waking up in the morning and eating lunch and eating dinner and going to bed on a typical day. Participants were also asked who usually told their child to prepare for bed and if anyone helped the child. Throughout these discussions, probes were used to clarify and explore participants' comments. At the end of the second interview, several survey questions were administered to assess additional sociodemographic characteristics, such as country of origin.

Data Analysis

Survey data were imported into SAS version 9.3,³⁵ which was used to compute all descriptive statistics.

All second interview recordings were translated into English and transcribed by a bilingual member of the study team, who made contextual comments in parentheses when it was felt that the meaning needed additional clarification to be appropriately interpreted in English. This method is similar to the process proposed by Lopez and colleagues for conducting translations for bilingual qualitative analysis with Spanish speakers.³⁶ The transcripts were de-identified and imported into NVivo version 10,³⁷ which was used to view, organize, and affix codes to the data. Consistent with standard qualitative data analysis procedures (i.e., identifying potential themes, establishing coding rules, defining codes),³⁸ the first author began the analysis by reading the interview transcripts line-by-line. Next, participants' open-ended comments were coded for responses to specific questions as well as relevant emergent themes within participants. Similar themes across participants were then compared, and this information was used to refine and re-apply the coding scheme. All coding was conducted in NVivo by the first author. Coded text was independently reviewed by one of the co-authors (initials blinded). These authors regularly discussed the data, emergent codes, code definitions, coding rules, and data interpretations. Pursuant to these discussions, adjustments were made, as needed, to the coding scheme and interpretations of the data.

RESULTS

Participants

Survey data indicated that most participants were homemakers (75%; Table 2), married or living with a partner (83%), foreign-born (98%), and oriented toward Mexican culture (83%). Thirty-five participants said they provided the majority of care child during the week. Five children were mostly in day care or watched by the child's father; comments from these participants were drawn primarily from descriptions of weekend days. Half of the participants had low or very low food security.

Quantitative Ratings of Perceived Control and Preferences for Involvement in Decision Making

In the survey administered during the first interview, participants rated themselves as having varying amounts of control over their child's behaviors at home (Table 2). Participants

reported the highest perceived control over how much time their child spent playing computer or video games (mean=3.9 on a 5-point scale) and what foods (mean=3.7) and drinks (mean=3.7) were provided to their child. Participants reported the lowest perceived control over their child's physical activity (mean=2.6) and sleep (mean=2.8).

When asked to rate their preferences regarding seeking child feeding advice from different interpersonal sources, participants reported the highest ratings for making decisions on their own (mean=4.4 on a 5-point scale), followed by making decisions with input from their husband (mean=4.4; married participants only) or obtaining guidance from a doctor (mean=3.8). Participants were least interested in obtaining child feeding advice from friends (mean=1.9).

Decision Making, Food Choice, and Social Context: Breakfast

Almost all participants said they were usually involved in decision making about what their child ate for breakfast. Over half of the mothers said they made this decision. As one participant explained, "I am the one who decides ... I'm the mother. I tell (my daughter), 'I'm your mom, and you will do what I tell you to do. You won't do whatever you want.'" In contrast, ten mothers described a process in which they verbally offered several food options to their child before making breakfast and the child chose from among these options. As one mother said, "I tell (my son), 'There's cereal, or would you like a sandwich?' So he chooses either the sandwich or cereal." Approximately five participants indicated that their child made the decision. One mother explained that she and her husband fed their son "whatever he asks for, because he says, 'I want to eat this' or 'make me this to eat,' and that's what we feed him ... if he tells me, 'Give me cereal,' then I give him cereal ..." Only one participant reported that another person in the household – the child's father – participated in breakfast food decision making. A few participants said their child's preschool or babysitter made breakfast food decisions, but, even in these instances, mothers viewed themselves as influencing these decisions.

Interestingly, most mothers who engaged in decision making with their child (hereafter referred to as "collaborative decision making") did not describe a collaborative process when initially responding to the question about who decided. Instead, participants tended to either respond that they decided or that their child decided. The collaborative nature of this decision making between mother and child was often only revealed in subsequent comments. In some cases, the child's input occurred at an earlier point in time. For example, one participant reported that she decided what her child ate for breakfast. However, when asked later how she learned what to feed her son, she replied, "I used to ask him, and he would tell me what he wanted." These comments suggest that her current decisions were based on an earlier period of collaborative decision making. Other comments indicate that other mothers had also engaged in collaborative decision making at an earlier point in time.

Almost all participants said they prepared their child's breakfast. When asked what factors were most important to them when selecting breakfast foods, participants most frequently said they chose foods because they were healthy and/or because their child liked them, wanted them, and would eat them (Table 3). These concepts were strongly inter-related (i.e., children were perceived as wanting and eating foods they liked). A number of mothers said

they chose foods that were easy or quick to prepare. Three other food choice values were mentioned, but by fewer than three participants each: that the food was not too heavy or fattening; that the food was home-cooked; and that the food would sustain the child through the morning. No participants mentioned cost as a breakfast food choice value, although several mothers volunteered that cost was not a concern if the food choice fulfilled other values.

When asked how they learned to provide certain foods to their child for breakfast, most participants said personal experience and “trial and error” as they tried different things and learned how their child would respond. Several mentioned that they “listened” or “paid attention” to what their child would eat, which suggests that they were observant of and responsive to their children’s reactions to foods. One participant succinctly described this bidirectional interaction between the foods she provided and what her daughter ate: “She’s the one who tells me what she wants ... She eats what I cook, what I cook is what she eats.”

Most mothers reported that their child ate with siblings. Participants rarely reported that they or the child’s father ate breakfast with the child.

Most mothers mentioned two or three rules that children had to follow while eating breakfast. These rules most frequently consisted of not playing, getting up from the table, or watching television. Only two mothers commented that their child had to eat most of their food, and one of these mothers noted that this rule was relaxed if the child did not “have an appetite.” The rules mothers listed conveyed that mothers viewed breakfast as a time for their child to concentrate on being quiet, sitting still, and eating without getting distracted. As one mother said, “When we sit there to eat, we eat.” Participants’ comments indicated that their primary goal was for their child to sit and pay attention to their food until they finished eating.

Decision Making, Food Choice, and Social Context: Dinner

Some participants expressed confusion when asked about their child’s “dinner” (*cena*), as this word appeared to have two meanings: a more substantial meal served around 4:00–5:00 pm or a meal served after 5:00 pm, which appeared to be a bedtime snack. Thus, participants’ comments reflect thoughts about both evening meals and snacks.

Three-quarters of the participants said they decided what their child ate for dinner. Seven mothers described collaborative decision making similar to that observed for breakfast, wherein the mother verbally provided several options and the child voiced his or her preference from among those options. As one mother explained, “I ask him if he wants chicken or spaghetti, and he tells me which one he wants to eat.” Most mothers who engaged in collaborative decision making initially stated that they decided what the child ate, while one participant said her child decided. Two participants said the child’s father was involved in the decision making. No other family members, whether adults or siblings, appeared to participate in these decisions.

All participants reported that they prepared their child’s dinner, although two mothers appeared to do so with the child’s father. Participants most frequently commented that they

chose foods that their child liked, wanted, and would eat (Table 3). Participants also frequently commented that dinner foods should be healthy and not “too heavy” or fattening, as these foods were believed to cause discomfort and difficulty during nighttime sleep. These latter comments likely referred to bedtime snacks. A number of mothers said they chose foods because they were healthy, other family members liked them, or they were easy and/or quick to prepare. Only one mother mentioned cost as a value. Several mothers mentioned that cost was less important than other values. As one mother commented, “It doesn’t matter as long as it’s somewhat healthy. It doesn’t matter if it’s cheap or more expensive.”

When asked how they learned to provide certain foods to their child for dinner, most participants said they learned from their own mothers. In addition to learning from their mothers, a number of participants said they learned through trial and error, other family members, friends, television shows, the Internet, and WIC.

Most mothers reported that their child ate dinner with his or her siblings and parents. Some mothers noted that they preferred family dinners, but their husband was not always home in time, typically due to work. Thus, although it was not always possible for families to eat together, mothers generally valued family dinners.

Most participants described rules for dinner time that were the same as for breakfast: no playing; no getting up from the table; and “no watching TV.” Some mothers added additional rules, such as not talking and taking one’s plate to the kitchen. A handful of mothers said their child had to finish all or most of their food. As with breakfast, participants seemed most concerned about avoiding distractions from the task of eating, and the rules that participants listed were primarily oriented toward getting the child to sit and attend to the business of eating dinner instead of walking around, playing, or talking. Participants appeared to particularly struggle with children wanting to walk around and play. As one mother explained, “... (W)hat I try to teach them is that when we’re eating, they can’t be playing. They have to eat, and not playing, fighting, or talking ...” As with breakfast, there was an overall sense that eating was important. As one mother explained, “They’re there for dinner, and that’s what they are going to do.”

Decision Making and Social Context: Outdoor Play

Just over one-fourth of participants said their child played outdoors between waking up and eating lunch, and, of these, almost all participants said they were the ones who decided whether or not their child played outside during this time. One mother explained that her decision was prompted by requests from her child: “They already have their routine for playing outside, so he tells me when he wants to play outdoors.” Only one participant mentioned that someone else – the child’s father – decided whether or not the child played outdoors in the morning. Roughly half of the mothers accompanied their child outdoors. One mother said her child’s grandfather watched her son while he played outside. The remaining participants said that an older sibling supervised their child’s morning outdoor play.

Approximately one-third of the participants reported that their child played outdoors between eating dinner and going to bed. All but three of these mothers said they decided

whether or not their child played outdoors during this time. When asked how it came to be that she was the person who made this decision, one mother said, “Well, we’ve always instilled in them that they have to follow what their mom tells them. If you let them do what they want since they’re young, it will always be the same way. And that’s not ok, that’s how we got to that conclusion.” One mother responded to requests from her child, while two mothers said the child’s father made these decisions on his own or alternately with the mother, depending on which parent was home. Most participants supervised their child’s evening outdoor play. One mother said her child’s father fulfilled this role, and one mother reported that the family went outside together.

Decision Making and Social Context: Screen Time

About half of the participants reported that their child watched television between waking up and eating lunch. Of these, all but one participant said they were the ones who decided whether or not their child watched television during this time. The one mother who did not make this decision said her children guided this activity: “...sometimes they watch it and sometimes they don’t, so there isn’t really a telling them, ‘You’re not going to watch TV.’ I think no one (decides) because we don’t tell them ...” Approximately one-third of these mothers watched television sometimes or often with their child, while two-thirds reported that their child watched television alone or with siblings.

Almost three-quarters of the participants said their child watched television between the time they ate dinner and went to bed. Two-thirds of these mothers said they decided whether or not their child watched television during this time. As one mother said, “I do, because I’m the main person who takes care of him.” Four other mothers said they made this decision with or alternately with the child’s father, while three mothers said the child’s father made this decision without the mother’s involvement. Evening television viewing appeared to be more of a family activity than morning television viewing. Just over half of the mothers who reported evening television viewing said their child watched television with one or both parents and siblings. In some instances, it appeared that the child played nearby without paying much attention to the television.

Other types of screen time were limited. The three participants who reported that their child used a computer said they were the ones who decided whether or not their child engaged in this activity. One mother commented that the child’s father played video games with him in the evening. Three mothers said their child played games on a phone or tablet-style computer and reported that they decided whether or not their children engaged in these activities.

Decision Making and Social Context: Sleep

Almost three-quarters of participants said their child woke up “on (his/her) own” without being woken up by another person in the house. Most other participants reported that they woken their child, while a handful said the child’s father or a sibling performed this task.

All participants said they were involved in deciding when it was time for their child to go to bed at night. Approximately three-quarters of the mothers said they told their child to get ready for bed, while a quarter of the mothers described themselves as initiating this process

collaboratively or alternately with the child's father. At least one mother indicated that who made this decision varied depending on whether it was a weeknight or a weekend night: "... only on the weekends they go to bed around 9, the time that my husband tells them. On the weekends, he's the one who decides at what time they go to bed." Mothers were also involved in getting the child ready for bed; however, other family members were often mentioned as assisting with these preparations after they were initiated by the mother. Roughly one-third of participants reported that the child's father assisted with bedtime preparations, while a handful noted that siblings helped with these activities.

DISCUSSION

Developing an evidence-based understanding of how behavioral decisions are made may be critical to appropriately targeting interventions to eliminate childhood obesity risk among Mexican American children. Based on their qualitative comments, mothers in this study generally perceived themselves to be the primary decision makers regarding their preschool-aged child's engagement in eating, outdoor play, sleep, and screen time, with children being most likely to participate in food and sleep decisions. These findings are consistent with prior nutrition research in which parents,¹⁸ and mothers in particular,⁵ tend to assume primary responsibility for what children eat. However, findings from this study contrast with a prior study of physical activity decision making among parents of white kindergartners, which found that parents reported engaging in collaborative physical activity decision making with their children.¹⁸ The latter study observed that decision-making relationships may be moderated by the weight statuses of the parent and the child, with obese parents and children yielding the greatest child involvement in decision making.¹⁸ Weight status was not assessed in this study, but it may be an important factor to include in future decision making research. Mothers in this study reported that fathers were most likely to participate in evening television decisions, which is similar to findings from research with other populations in which mothers played a lesser role in screen time decisions.^{15,39} Other family members were rarely mentioned in this study, even among participants living in multigenerational households. These findings imply that Mexican American mothers should be the primary target audience for early childhood obesity prevention messages. Confirmatory research is needed to test this hypothesis.

Despite high perceptions of maternal control over food decisions, food decision making may be based upon a more collaborative process than participants perceived it to be. Participants' qualitative comments suggest that some mothers had previously engaged in collaborative decision making, but, over time, ceased offering as many choices to their child as they learned what their child liked to eat. In other words, the child's preferences, which the mother identified through earlier collaborative decision making, drove mothers' food decisions at future points in time. Other studies have found children's food preferences to be a primary determinant of mothers' child feeding decisions.¹⁷ For instance, in a qualitative study of Latino parents of preschoolers, Foster et al.⁴⁰ observed that parents of healthy weight children appeared to offer only healthy foods when they provided options to their children and to have a greater sense of control over food decisions, whereas parents of obese children seemed to feel less control over their children's food choices and a greater tendency to respond to their children's food preferences. Consistent with other research,⁴¹

participants' qualitative comments suggest that children's prior intake may have also influenced the foods that mothers provided. These observations have two potential implications for childhood obesity prevention. First, measuring current food-related decision making without assessing prior influences may yield distorted perceptions of actual decision making processes. Just as parents influence what children eat, children influence the foods that parents provide, and these processes evolve over the course of a child's development. Second, parents may perceive themselves to be following child feeding guidelines^{28,42} but not executing these guidelines as intended. Many participants in this study described a food decision making process in which they narrowed their child's food choices down to a few options, verbally presented these options to their child, and let their child verbally select what the mother should prepare from among these options. This process is significantly distinct from one in which the parent decides what foods to provide, puts those foods on a plate, and allows the child to decide which foods on his or her plate to eat. It is through this latter process that children are exposed to a range of foods that includes new foods and foods that the child has seen before but not yet tried. Repeated exposure has been associated with children's willingness to try new foods^{3,43,44} and may be particularly important as children develop preferences for foods that may be less likely to be immediately pleasing (e.g., vegetables).³ In contrast, limiting children's exposure to foods that they already prefer may restrict their development of varied and healthy food preferences.

Mothers' qualitative descriptions of mealtime rules that focus on behaviors such as "no talking" at the table imply that participants viewed eating as a serious and important activity that children should not be distracted from completing. However, this maternal attitude may convey to children that eating is a task rather than teaching children to value eating for other benefits such as nutrition, sensory enjoyment, or family interaction. The implications of parental rules to reduce distractions at mealtimes on promoting healthy child eating behaviors are not understood and should be examined in future studies.

Mothers frequently expressed concern in their qualitative comments about their child not eating but rarely voiced concerns that their child ate too much. These concerns may be related to experience with food insecurity. Yet, given that the study population was low-income and that half of the participants had experienced recent food insecurity, it was surprising that almost no participants mentioned cost as a food choice value. In fact, several mothers volunteered that cost was not a consideration if the food fulfilled other values. While this finding contrasts with research identifying cost as a frequent food choice priority among low-income families, it is consistent with other research in which cost appears to be trumped by other values.⁴⁵

Similar to other research with Latino mothers,^{22,40} participants in this study seemed to value family dinners, and most mothers reported eating dinner with their children. However, most participants reported that their child ate breakfast with siblings but without a parent. These findings are consistent with national research, which finds that 76% of children under age 6 eat dinner with a parent, while only 53% of children eat breakfast with a parent.⁴⁶ Children living in households with married parents are more likely to eat meals with a parent.⁴⁶ It is possible that the mothers did not eat breakfast themselves.²² By not eating breakfast with their child, parents may limit their opportunities to model healthy breakfast eating behaviors.

Participants' qualitative comments suggest that it was more common for children to be exposed to television viewing at night, and, as consistent with at least one other qualitative study with Mexican American mothers,⁴⁷ this was a family activity that preschool-aged children and parents did together. Watching television as a family partially conflicts with findings from another qualitative study, however, in which Latino parents of slightly older children of ages 5–8 identified television viewing as a negative influence on family communication and relationships.⁴⁸ The family involvement found in this study likely explains why fathers were most involved in these decisions. Social support has been positively associated with parental restriction of preschool-aged children's screen time exposure.¹⁴ However, social support for limiting this behavior may be reduced if the other parent or other family members desire to engage in this behavior together. National survey data suggest that preschool-aged children are less likely to live in households with rules limiting television exposure if they are Latino, low-income, and living with parents who have a high school-level education or less.⁴⁶ These data suggest that mothers in this study may have been less likely to be actively involved in decision making and monitoring of their children's television viewing than other populations. Participants reported little child exposure to other forms of screen time, but their qualitative comments suggest that tablet- and smartphone-based activities should be included when assessing children's screen time.

The finding that participants perceived themselves as making decisions about children's outdoor play in their qualitative comments diverges from research on school-aged children, which suggests that Mexican American fathers play a large role in determining whether or not children engage in physical activity.⁴⁹ Only a minority of participants reported that their child engaged in outdoor play. Although this low reporting may be a true representation of children's physical activity, physical activity may have been underestimated by not assessing indoor or afternoon play. It was anticipated that many children would nap in the afternoon, but data suggest that many children in this study did not nap. Thus, afternoons may have presented a better opportunity for assessing outdoor play.

Across all five behaviors, mothers' quantitative ratings of their perceived control over their child's behaviors were lower than one might expect from their qualitative comments, which indicated that mothers largely determined when their child engaged in the queried behaviors. For instance, substantial quantitative-qualitative discrepancies emerged between mothers' perceptions of their control over their child's food and television exposure. The lower quantitative ratings may reflect activities between lunch and dinner that were not captured in the qualitative data or the involvement of other adults or siblings at certain times of day, such as family-oriented television viewing in the evening. Or, it may be that mothers' quantitative ratings were influenced by their acknowledgement of the role of child autonomy in engaging in certain behaviors. For example, several mothers reported in their qualitative comments that even when the television was on, their child did not pay attention to it. Likewise, not all foods that were served to children were eaten. Participants' quantitative ratings suggested that mothers perceived themselves as having the most control over their child's computer and video game exposure, which, based on their qualitative comments, may be attributable to the fact that most mothers reported that they did not own a computer or their child did not know how to use it. Participants' quantitative ratings suggest the least amount of control over their child's sleep and physical activity. The relatively low ratings for sleep may result

from most participants' qualitative comments that their child wakes up on his or her own. Reasons for the apparent qualitative-quantitative discrepancy between participants' perceptions of control over their child's physical activity are unclear. Across all five behaviors, qualitative-quantitative inconsistencies may indicate that even though the mothers appeared to be the primary adults regulating the queried behaviors in their qualitative comments, they may not have perceived themselves as having a high level of control. Discrepancies in perceived and actual parental control may result in quantitative analyses reflecting little or no relationship between parents' perceived control and child behaviors, as has been found for both physical activity and screen time.^{20,50} These possibilities suggest at least two hypotheses to test in future research with Mexican American families. First, perceived control may determine the effectiveness of childhood obesity messaging, as parents may need to first perceive themselves as having a threshold level of control over their child's behaviors as a prerequisite for attending to childhood obesity prevention messages. Messaging may therefore need to begin by increasing mothers' awareness of their powerful role in creating healthy home environments for their children. Second, mothers may view their child as having a level of autonomy in the queried behaviors. As a result, mothers may believe that children have a right to participate in making decisions and choices regarding their behaviors.⁴¹

Findings from this study must be tempered by several limitations. Most notably, data from this study were self-reported and obtained from a limited, purposive sample of mothers from a specific site. Mother's perceptions may not be accurate reflections of actual decision making processes, and observational data may have yielded different findings. Further, the perceptions of fathers, children, grandparents, and other potentially influential persons are not represented in these data and may result in different perceptions of how decisions are made. The fact that participants were recruited during the day and from a WIC clinic may also have influenced the findings, as the study sample may have been both more likely to be the primary child care providers and more knowledgeable about behaviors associated with increased risk of pediatric obesity as a result of receiving nutrition counseling. Most participants in this study were homemakers, whereas mothers who work outside the home may have reduced roles in decision making. Participants who provided most of the care for their child may also have been likely to take their child with them when food shopping. Such children may have influenced food selection more at the time of purchase than at mealtimes. The data obtained from this study are also limited in that no information was obtained about food decisions for children's lunches and snacks, behaviors between lunch and dinner, napping, indoor or organized physical activity, access to indoor and outdoor play spaces, or the values that may have influenced mothers' decisions about children's engagement in outdoor play, sleep, or screen time. Lastly, findings from this study may not be generalizable to Latino populations who are higher income, live in other locations, do not participate in WIC, or identify with other Latino ethnic subgroups.

Conclusion

This study contributes to the existing literature by advancing understanding about how decisions are made regarding preschool-aged Mexican American children's engagement in behaviors associated with childhood obesity risk. Four behaviors were investigated, which

permits comparison of similarities and differences in decision making across behaviors. This study's use of qualitative data is a further strength, as it yielded deeper, richer data than could be obtained through quantitative methods, as evidenced in the comparisons between participants' qualitative and quantitative responses. Understanding how children's behaviors are regulated is an important aspect of obesity prevention. Parents play influential roles in these processes, and developing a better understanding of how children come to engage in different behaviors is a critical aspect of redressing ethnic disparities in obesity risk that affect low-income, Mexican American children.

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Table 1

Sample Interview Guide Questions

Child Care Arrangements and Identifying a Target Day for Subsequent Questions
<p>We'd like to develop a good understanding of a typical day for (child). Let's think first about a typical weekday. Is (child) in your care most weekdays?</p> <ul style="list-style-type: none"> ■ Do any other people watch (him/her) for portions of the day during the week? ■ What about weekend days? Is (child) in your care most weekend days?
Waking Up in the Morning
<p>Okay. I'd like you now to think about a typical (target day). On a typical (target day), does (child) wake up on (his/her) own, or does someone wake (him/her) up?</p>
Breakfast¹
<p>Who usually decides what (child) will eat for breakfast?</p> <ul style="list-style-type: none"> ■ What are the most important things that (you/the person who decides) think about when deciding what (child) will have for breakfast on a typical (target day)? ■ Who usually prepares (child)'s breakfast? ■ Is anyone else usually eating with (child) when (he/she) eats breakfast? (Anyone else?) ■ Are there any rules that (child) or other kids have to follow while they are sitting at the table at breakfast? ■ How did (you/that person) learn to prepare the foods that are fed to (child) for breakfast?
Screen Time¹
<p>Think now about the time between when (child) gets up in the morning and (he/she) has lunch on a typical (target day). Does (child) watch TV or videos at all during this time?</p> <ul style="list-style-type: none"> ■ [IF "YES"] Is anyone with (him/her) when (he/she) is watching (TV/videos)? (Who?) ■ [IF "YES"] Who usually decides whether or not (child) watches TV or videos in the morning? ■ What about the computer? Does (child) spend any time looking at a computer screen, such as while playing games or looking at something on the Internet, between when (he/she) gets up in the morning until (he/she) has lunch on a typical (target day)? ■ [IF "YES"] Where is (child) when (he/she) is at the computer? Is anyone with (him/her) when (he/she) is at the computer? (Who?) ■ [IF "YES"] Who usually decides whether or not (child) is on the computer in the morning?
Outdoor Play¹
<p>Still thinking about a typical (target day), does (child) spend any time playing outdoors between when (he/she) gets up in the morning and when (he/she) has lunch?</p> <ul style="list-style-type: none"> ■ [IF "YES"] Who, if anyone, is with (him/her) when (he/she) is playing outdoors? (Anyone else?) ■ [IF "YES"] Who usually decides whether or not (child) plays outdoors in the morning?
Going to Bed
<p>I'd like to know a little about (child)'s bedtime routine. Who usually tells (child) to get ready for bed?</p> <ul style="list-style-type: none"> ■ Does anyone else help (child) get ready for bed?

¹ Adapted versions of these questions were used to inquire about dinner and evening activities

Table 2Participant characteristics (n=40)¹

Age of participating mothers and their children:	
Mean mother age in years (SD) ²	32.1 (5.5)
Mean child age in years (SD)	3.6 (.5)
Married or living with a partner (%)	82.5
Educational status (%):	
Less than high school	40.0
High school diploma or GED ³	50.0
Some college or college graduate	10.0
Work status (%):	
Homemaker	75.0
Worked part-time or full-time for pay	20.0
Unable to work or disabled	5.0
Nativity:	
Born outside the U.S. (%)	97.5
Mean number of years lived in the U.S. among foreign-born mothers (SD)	11.8 (5.0)
Acculturation (%):	
Strong Mexican orientation	82.5
Strong Anglo orientation	5.0
Weak Mexican and Anglo orientation	2.5
Strong Mexican and Anglo orientation	10.0
Language use (%):	
“Almost always” speaks Spanish	92.5
“Almost always” speaks English	7.5
Child sex (male, %)	60.0
Mean number of children under the age of 18 living in the home (SD)	2.8 (1.6)
Usual care arrangements for child (weekdays, %):	
Mostly in mother’s care	87.5
Mostly with a babysitter or in day care	10.0
Mostly with child’s father	2.5
Food security over prior 12 months (%):	
High or marginal food security	50.0
Low food security	32.5
Very low food security	17.5
Mean perceived control over child’s behavior at home (SD):⁴	
What drinks are given to child	3.7 (1.0)
What food is given to child	3.7 (1.1)
How much physical activity child gets	2.6 (1.2)

How much time child spends watching television	3.2 (1.2)
How much time child spends playing computer or video games	3.9 (1.2)
How much time child spends sleeping	2.8 (1.3)
Mean decision-making preferences for child feeding (SD): ⁵	
Prefers for a doctor to tell her what to do	3.8 (1.3)
Prefers to do what husband wishes her to do	3.1 (1.5)
Prefers to get advice from maternal grandmother	2.8 (1.5)
Prefers to come up with a plan with husband about what to do	4.4 (9.0)
Prefers to get advice from friends	1.9 (1.3)
Prefers to make her own decisions	4.4 (1.0)

¹Data are complete for most of the variables described below, but, for some statistics the n is slightly less than 40.

²SD = standard deviation

³GED = The General Educational Development Tests, which assess knowledge and skills comparable to a high school-level education in the U.S.

⁴Response options included: "no control", "a little control", "a medium amount of control", "a lot of control", or "complete control."

⁵Response options ranged from one ("strongly disagree") to five ("strongly agree").

Table 3

Examples of mothers' comments about what was most important to them when choosing foods to provide to their children at breakfast and dinner

Breakfast Food Choice Values
Healthy
<i>I try for it to be nutritious ... It's what's most important.</i>
<i>That he eats something healthy.</i>
<i>To me, breakfast is most important because there are times when he wants to eat something that isn't too, too important, so I look for... I think that in the morning he should have something healthy... that's the most important thing in the morning, to eat well.</i>
Child likes it/wants it/will eat it
<i>... I pay attention to what he likes the most, like something that I won't struggle getting him to eat for breakfast.</i>
<i>That it's healthy, more or less healthy, and he eats it.</i>
<i>Mmm, that she likes it...</i>
Easy and/or quick to prepare
<i>For me, sometimes I have very little time, so it's something quick but it doesn't have to taste bad or be cheap. There are times when breakfast is the least expensive meal during the day.</i>
<i>That the food is quick to prepare.</i>
<i>Well, I would like it to be easy to prepare but also nutritious for him.</i>
Not too heavy or fattening
<i>That it's not too fattening, especially so early.</i>
<i>If I see that what he's asking me for isn't too heavy for the morning, then I give it to him. Otherwise, I make something else, something lighter.</i>
Home-cooked
<i>To me, it's better to cook something because sometimes you're out and about and it's so easy to just say, "Oh, a sandwich or a hot dog," something quick that you can make at home. I think it's better to eat something from home than to eat out... even if you just eat an egg or whatever, but you eat at peace.</i>
Filling
<i>... that it sustains him for a period of 4 to 5 hours.</i>
Dinner Food Choice Values
Child likes it/wants it/will eat it
<i>No, I try for it to be healthy, and for her to eat it, she needs to like it. For example, she doesn't like beef, so I can make beef tacos or grilled beef, but if she won't eat it, then there's no point.</i>
<i>Something that she'll eat.</i>
<i>I try to give him what I cook, and if he doesn't like it, you know what kids are like. I give him spaghetti because I buy the spaghetti cans for him and he really likes them. If I can see that he's not going to eat the food that I served him, then I give him spaghetti or chicken, or another food like cookies with cheese or ham.</i>
Not too heavy or fattening
<i>That one, not that's it's easy but that it's not too heavy because he's getting ready for bed. A dinner that's not too heavy that may make him ill overnight.</i>
<i>That it's not too heavy or too fattening because it's already dinner. That's why I mainly give her boiled foods.</i>
<i>That he can't eat too much because he's going to bed soon.</i>
Healthy
<i>That the food doesn't have too much sugar or salt...</i>
<i>That it includes some vegetables.</i>

<i>The most important thing is that it has all the appropriate things for her when it's time to eat, that it has her vegetables, her grains, rice, beans, and her meat portion, which she doesn't really like (laughs).</i>
Family likes it
<i>On that, I always try to think about what I'm going to cook for all of us to eat, something that they can also eat. When thinking about dinner I always think about it being something that they can eat, it needs to be something that they like... That everyone likes to eat.</i>
<i>Mainly that it tastes good so that they eat it. All my children like salad, but they always like it with a piece of grilled chicken, otherwise they won't eat it. And like the chicken gives it flavor; they eat it without a problem.</i>
Easy and/or quick to prepare
<i>That it's easy to prepare and delicious. The cost isn't, I always say that it's in the ingredients that you use, the flavor and the easiness to prepare. There are some that are more elaborate and take more time but that's when you have the time to make them.</i>
<i>That it's easy to prepare and that it's light, like cereal or fruit.</i>
<i>That it's somewhat easy, that it tastes good, and that it's not too heavy for the night.</i>
Filling
<i>Something that she's not going to be hungry, you know, ten minutes later or three hours later, or something that will fill her and be nutritious for her.</i>
<i>For him to be satiated.</i>
<i>Well, no. I like something good so he sleeps well... else he'll wake me up in the morning telling me that he's hungry, I like for him to have a good dinner.</i>
Variety
<i>I try to put different types of foods on her plate, that's all.</i>
<i>In the afternoon, I always make a meal that isn't so easy but rather that it has more things.</i>
Home-cooked
<i>It tastes better at home.</i>
Cost
<i>That it's healthy and also economical, economical, too.</i>