



Published in final edited form as:

*Appetite*. 2015 April ; 87: 160–167. doi:10.1016/j.appet.2014.12.215.

## A Cultural Understanding of Chinese Immigrant Mothers' Feeding Practices: A Qualitative Study

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### Abstract

Differences in parental feeding practices revealed across and within different ethnic/ cultural groups indicate that cultural examinations of feeding practices in understudied non-European-American populations require urgent attention. China ranks as the second largest source country for children in foreign-born U.S. households. Contrary to the stereotype of slender Asians, Chinese-American young children are at high risk for obesity but have not received sufficient attention from researchers and practitioners dealing with parental feeding practices and childhood obesity. The present study aimed to understand food-related parenting practices among Chinese immigrants in the U.S. using qualitative focus groups. Twenty-two mothers with preschool aged children participated in a discussion regarding parent-child food-related interactions and feeding practices. A thematic approach was adopted to analyze the focus group data following five stages of framework analysis. Thirteen key themes of feeding practices were identified, including 9 that are in existing feeding measures (pre-existing practices) and 4 practices that have not been documented or emphasized in previous feeding measures (culturally-emphasized practices), including regulating healthy routines and food energy, spoon-feeding, using social comparison to pressure the child to eat, and making an effort to prepare/cook specific foods. Through the use of an emic approach and meaning-centered evidence, the complexities of parent-child interactions and unique nuances of parental feeding in this understudied population were revealed. Our findings can guide future development of culturally-appropriate measurement and inform intervention programs to promote the healthy development of Chinese-American children.

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## Keywords

U.S. Chinese immigrants; childhood obesity; parental feeding; focus groups

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## Introduction

Childhood obesity is a critical public health threat in the U.S. (Ogden et al., 2006) and worldwide (Wang & Lobstein, 2006). Parental feeding practices are important because they are linked to childhood obesity. Parents are the primary socialization agents for young children, and feeding is an inevitable parenting task that involves frequent parent-child interactions (Ventura & Birch, 2008). As the gatekeepers of food, parents choose what foods are available at home, prepare the food, determine the frequency and portion sizes of the meals, as well as when and what kinds of foods their children can eat (Birch & Davison, 2001). Parents also set behavioral eating patterns early in children's development that can carry on throughout their lives (Frankel et al., 2012).

Current research investigating the role of parental feeding on young children has based its findings primarily on studies of European-origin families. Such work supports the influence of parental feeding on eating behaviors, dietary preferences, food intake and subsequent weight status in children (Ventura & Birch, 2008). For example, highly controlling feeding practices (e.g., restriction for health, pressuring the child to eat) have been reported to be associated with worse diets and heavier weight among children (Faith et al., 2004). Young children learn to control the amount of food they eat based on internal cues and satiety effects (Carper, Fisher, & Birch, 2000). Parents' constant controlling of food-intake may disrupt this process thus impacting children's abilities to regulate their own food-intake. Children who are not given control in feeding interactions may not learn to regulate their own appetite and may be at greater risk for being overweight or obese later in life (Hughes et al., 2008). Parents can also influence the development of their children's food and taste preferences by providing different food-related home environments. For instance, restricting access to particular foods increases rather than decreases children's preferences, and forcing children to eat certain foods will likely decrease their preference of these foods (Benton, 2004).

However, much less is known about the existence and impact on childhood obesity of such practices in non-European ethnic groups, especially the Chinese, despite higher rates of obesity in other groups in the U.S. (Birch et al., 2001). This is unfortunate because children of immigrants in the U.S. appear to be particularly vulnerable to obesity (Van Hook & Baker, 2010). Among Chinese-American children aged 6 to 11, nearly one-third were found to be overweight (above the 85<sup>th</sup> percentile in BMI), compared to only 17.4% of same-age children in China (Tarantino, 2002). Additionally, the Chinese carry higher health risks compared to people of European descents at the same BMI, including higher percentage body fat, and higher risk of developing cardiovascular disease and Type 2 diabetes mellitus, possibly because of genetic differences in body composition, metabolic responses, and epigenetic factors (e.g., Razak et al., 2007). Despite the large numbers of Chinese children of immigrants in the U.S., their overall increasing prevalence of obesity, and its associated

severe health consequences, these children have been neglected in the literature on childhood obesity.

Researchers have argued that differences in parental feeding practices revealed across and within different cultural groups (e.g., low-income Hispanic and African American groups) indicate a strong need for measures originally developed and validated using European-American samples to be modified to be culturally appropriate for other groups (Hughes et al., 2005; Lindsay et al., 2012). There are some reasons to suspect that parental feeding practices among Chinese-Americans may overlap with those identified in prior work. But they may also include practices that have not yet been identified or that have been less emphasized in earlier studies. Additionally, parental feeding practices may not have the same effects on Chinese-American children as they have on European-American children. For example, Chinese parenting in general has been characterized as highly controlling (Chao & Tseng, 2002). However, in contrast to the findings among European-American population, the detrimental effects of highly controlling feeding practices on children's weight status were not found among Chinese-Americans in at least one study (Huang et al., 2012). The general dearth of research and inconsistent findings on feeding practices in Chinese-Americans call for the need to first examine the feeding practices of this group from an emic perspective, in order to assess the cultural appropriateness of existing parental feeding practice domains in the literature for this cultural group.

This study explored the parent-child interactions around food and eating among children of Chinese immigrants in the U.S. Specifically, our goal was to identify the parental feeding practices among Chinese mothers that are similar to feeding practices that have already been identified in studies of European-origin families, as well as feeding practices that appear to be culturally emphasized or unique. We focused on children of Chinese immigrants because this group has received comparatively little attention in the literature on parental feeding, although China ranks as the second largest source country of origin for children in foreign-born U.S. households (U.S. Census, 2012). The study here uses focus groups to accomplish this goal. Focus groups are in-depth group interviews using relatively homogenous groups to provide information around topics specified by researchers (Hughes & DuMont, 2002). Focus groups give researchers direct access to the language and concepts participants use to structure their experiences on a designated topic. Also, group homogeneity allows participants to elaborate their experiences through social interactions and prompting among group members, which helps researchers identify shared cultural knowledge and experiences within a range of different individual experiences. The qualitative information can thus facilitate the development of measurement (e.g., item development), which is appropriate to a specific population (Hughes & DuMont, 2002; Lindsay et al., 2012). The present study utilized focus groups to obtain a more in-depth understanding of Chinese immigrants' parental practices during feeding interactions with their preschoolers.

## Method

### Procedures

Families were recruited from three Chinese language schools in Maryland. Announcements about the study were made at these schools to recruit interested parents. Focus groups were

conducted between March and May of 2013. Participants were compensated \$40. Prior to participation, mothers provided written ethical consent and completed a demographic questionnaire in their language of preference (Chinese or English).

Four focus groups were conducted in Mandarin in a private area within the Chinese language schools. Each focus group included 5 to 6 participants. Seating was arranged in a circular formation to encourage a dynamic, harmonious and open discussion. The same moderator and a research assistant moderated all the focus groups. Both the moderator and the research assistant were fluent in the mothers' preferred language, Mandarin. The moderator built good rapport with all the participants, and moderated the group discussion in a comfortable manner where mothers were encouraged to freely share their thoughts with the group (Stewart, Shamdasani, & Rook, 2007). A range of healthy snacks and drinks were placed in the center of the table and participants were encouraged to partake of them before and during the session to assist with the mingling. The focus groups lasted approximately 45 minutes on average.

All the focus groups sessions were audio-recorded and later transcribed by bilingual research assistants. The group moderator reviewed each transcription, and compared the transcripts to the notes taken during the focus groups for accuracy. All the verbatim transcriptions were translated into English and then back-translated by bilingual research assistants in order to ensure equivalence. Discrepancies between the original Chinese version and the back-translated Chinese version were discussed among the bilingual translators until a consensus regarding the linguistic and cultural equivalence was reached. This practice ensured the accuracy of the translations (Pena, 2007).

### Data Collection Instruments

**Demographics**—Mothers completed a modified version of the Family Description Measure (Bornstein, 1991). They provided detailed demographic and descriptive information about the mother, father, and child, as well as the mothers' place of origin, length of time in the U.S., and reasons for migrating to the U.S.

**Focus groups on parental feeding**—Focus group questions were developed based on a review of feeding questionnaires in the literature by a panel (two developmental psychologists, one sociologist/demographer, and one pediatrician) with joint expertise in parenting and obesity across various ethnic groups. Open-ended questions with prompts generated discussions on parental feeding practices regarding: (a) the important issues in their feeding, (b) how mothers made sure their child ate the types of foods they wanted them to eat, and (c) how mothers got their child to eat the right amount of food. The interview guide and questions were pretested with a group of six Chinese-speaking immigrants from mainland China to ensure appropriate wording and flow (Stewart et al., 2007).

### Data Analysis

The data analytic plan followed the framework analysis recommended for focus group data (Ritchie & Spencer, 1994). Although the present study adopted the thematic approach, the nature of qualitative coding on focus groups also allows themes to develop both from the

research questions and from the narratives of research participants. The analysis of focus groups is a continuous process, with the analysis beginning with the first focus group. Possible themes were discussed after each group, and prompts were added to clarify any themes that emerged from later group discussions (Krueger & Casey, 2000). Thus, the process of data analysis began during the data collection by skillfully facilitating the discussion and generating rich data from the interviews (Rabiee, 2004). Moreover, the point of saturation was determined by comparing the ideas and themes that emerged from the first two focus groups with those that emerged in additional focus groups (Glaser & Strauss, 1967). The iterative process continued by recruiting and conducting additional focus group discussions until it was determined that no novel themes were derived among these mothers. A total of four focus groups were conducted.

Five stages of analysis followed the data collection: familiarization, identifying a thematic framework, indexing, charting, and interpretation (Krueger & Casey, 2000; Rabiee, 2004). During the familiarization stage, the moderator listened to the audiotaped files and read the transcriptions several times. A research team, consisting of the moderator, a second graduate student, and an associate professor, read the translated transcriptions multiple times to immerse in the details and get a sense of the interview as a whole. Second, the research team identified a thematic framework by forming ideas and concepts of feeding practices arising from the data. Third, the research team indexed the data through commenting in the translated transcripts, sorting out the quotes and making comparison both within and across the groups.

The fourth stage, charting, involved taking the quotes out of the original context and re-arranging them under the appropriate thematic content. During the third and fourth stages of data reduction, the research team read the quotes to make sure that each one represented a feeding practice and was raised with specific details and/ or examples (i.e., saying “yes” or “I agree” did not receive a frequency count). Finally, the data were mapped and interpreted based on the frequency and specificity of the themes (Krueger & Casey, 2000). The themes were grouped into ones that were consistent with pre-existing literature and feeding questionnaires suggested by systematic reviews (e.g., Musher-Eizenman & Kiefner, 2013; Vaughn, Tabak, Bryant, & Ward, 2013) and the rest that were identified as culturally unique practices. To ensure the accuracy of the coding and monitor the researchers’ biases, the research team modified and refined the coding and themes until any disagreements were resolved by consensus (Barbour, 2001). The panel of interdisciplinary researchers who developed the focus group questions also served as evaluators and consultants to review the coding during the analytic process (Hill et al., 2005).

## Results

### Participants

The sample consisted of 22 Chinese mothers with at least one child between the age of 3 and 5 years old. All mothers were first-generation immigrants who migrated to the U.S. as adults (at 20 years of age or older) from Mainland China. All the spouses of the mothers were also Chinese immigrants. On average, the mothers had been in the U.S. for about 11 years. Most

mothers had at least a college degree and more than one child. Specific details on the sample characteristics are presented in Table 1.

### Pre-existing Feeding Practices

Nine pre-existing feeding practices were discussed by mothers, including child control, restriction for health, reward and punishment system, children's involvement, encouraging balance and variety of food, monitoring, maintaining a healthy environment, teaching about nutrition, and pressuring the child to eat (see Table 2).

**Child control**—The majority of the mothers indicated that they allowed the child control over his/ her eating behaviors during parent-child feeding interactions. Several mothers discussed buying the foods their child liked, such as “I will buy both Chinese and Western foods, and buy whatever he might like. I will let him try them and I buy those he likes.”

Two mothers in the first group discussed letting their child control the amount and types of food,

Participant 2: As long as my child eats three meals each day, we don't limit his snacks. But in reality, he won't eat as much snacks because he is full after the meal.

Participant 5: I don't restrict the snacks and [the child] can have as much snack as he wants, so the snacks become less desirable to him. For example, [my child] loves potato chips; I allow him to eat as much as he likes. So one time, I bought six bags of chips and left them on the cocktail table. He finished one whole bag on the first day. The second bag took him three days to finish. And the third bag lasted a week and still had leftovers. Since that incident, he rarely eats chips anymore. I think he [learned] to control [himself] even though he is still young.

**Restriction for health**—Most of the mothers in all four groups expressed their concerns about the intake of unhealthy snacks and the need to restrict certain foods in their feeding practices for health reasons (e.g., “I limit how much candy they can eat, because of the potential dental problems.”). At the beginning of the first group session, three mothers discussed restricting their children's intake of snacks for health reasons,

Participant 1: There are two different types of snacks: Healthy and unhealthy. The most important issue is eating less unhealthy snacks.

Participant 2: I agree. Snacks should be something that the child cares less about once he is full. However, he should eat three meals on the dot and all the way through [finish the meals].

Participant 3: I tend to limit [how much] snacks [he can have]. He can have some snacks in the morning or some in the afternoon. But I think too much snacks will interfere with his meals [because] his stomach capacity is limited. Therefore, I tend to restrict my child's snacks.

**Reward and punishment system**—Many mothers described their use of the food-related reward and punishment system in regulating their child's behaviors. Mothers talked

about using snacks that they considered unhealthy to reward or punish their children in order to reinforce desirable or decrease undesirable behaviors. For example, one mother indicated that, “I normally won't [give my child snacks], unless he behaves and listens well. I will reward him with pudding or by taking them out to eat.”

Some mothers also talked about rewarding or taking away privileges from the child in order to discourage or encourage eating certain foods. For example, one mother stated that, “If there are things I want him to eat and he refuses, then I might say something like, ‘I am not taking you to this giraffe playground or taco cheese during the weekend...’ It's making deals with [him].”

One mother in the second group discussed at length about establishing a reinforcement system, “We have a reward system implemented at our house. My child gets a star when she behaved well, including eating, and she may receive a huge prize when she gets all the stars within a week. The criteria [for getting stars] include brushing teeth, eating, and dressing. I will give her a star if she eats well and see if she can collect all three stars in a day. This is effective.”

**Child's involvement**—Three quarters of the mothers indicated they encouraged their child's involvement in meal planning and preparation in order to support their autonomy. The first group discussed involving their children in grocery shopping to evoke their interest in eating healthy foods,

Participant 3: My child goes with me whenever we go shopping, and requests the food he wants for dinner.

Participant 1: My child likes to help pick out groceries. For example, if he picks out beans I will tell him “[you should] eat more of this (beans) because you helped pick it out.” He will eat it happily.

Participant 4: I think one common trait about [children at] their age is that they love to participate. When they see you are making dumplings or buns, they love to help.

Interestingly, some mothers also talked about encouraging their child's participation in choosing between a limited number of options that the mothers provided. For example, one mother described, “I make the decisions during grocery shopping, but I will give him options at the table. For example, I will ask him, “Do you want chicken or beef?” “Do you want an orange or something else?” I will let him pick between two options. I don't let him have whatever he sees.”

**Encouraging balance and variety of food**—Almost three quarters of the mothers discussed their promotion of a well-balanced food intake, including the consumption of varied foods and healthy food choices. One mother described, “Having a balanced diet and variety is important to feeding. I let him eat according to different colors [of food], and I will mix and match them because children prefer colorful foods.”

Moreover, many Chinese immigrant mothers discussed how they wanted to encourage their children to consume Chinese food over American food due to convenience for the mother.

One mother in the second group specifically highlighted, “Being a Chinese child living in the U.S., I think it is important for the child to accept Chinese food. I don't want him to eat a lot of hamburgers or pizza at school and ask for them when he gets home. I don't know how to cook or prepare American food. Food like spaghetti, I had difficulties making it even looking at recipes. In addition, I had to make his food separately as I had to make Chinese food for all other family members. I think it's stressful, so I believe he should accept Chinese food.”

On the other hand, the fourth group discussed their own personal preference for Chinese food, the health repercussions of American food, and the need to include both types of food for variety,

Participant 1: I make Chinese roast pork all the time because I personally like it. So my [child] will follow me. And because I don't like hamburger or pizza, I tend to buy it less frequently.

Participant 2: I think hamburger and pizza are unhealthy. I like to make soup.

Participant 3: If you don't accept [American food] at all, it might not be good for the children. If they eat Chinese food every day, they might get bored and not like to eat it anymore. So I might bring pizza home sometimes, or take them outside for pizza, hotdogs or hamburgers.

**Monitoring**—More than half of the mothers kept track of the child's intake of healthy and unhealthy food. One mother discussed that, “If he doesn't want to eat certain foods, I might wait and see if he really won't eat that food. If so, I would give him something else to substitute.” Another mother even described that she went to the day care to keep track of the snacks offered to her child, “I intentionally checked on the snacks that the day care offered. I stayed there for an entire day, and know everything [they offer to the children].”

**Maintaining a healthy environment**—Almost half of the mothers stated that they made healthy foods available and accessible at home, and/ or limited unhealthy food. One mother discussed limiting unhealthy food at home as well as sacrificing her own food choices, “Usually we don't buy chips, Coke, etc. As parents, if we don't eat them, the kids can't see them. So they do not care if they can have those foods or not.” One mother in the third group described her practices of making healthy snacks available and limiting unhealthy foods, “I stock healthy snacks for him at home, such as seaweed, and he likes it. For the unhealthy snacks, I will let him have as little contact with those snacks as possible. Just like soda, we adults never drink or buy them, so the children do not drink them either. When they first tried soda, they were not used to it because they felt that it was ‘spicy’ [due to the carbonation]. But sometimes that does not work either, because he may see other children eating those things when he goes to school. Then he will ask [me for them].”

**Teaching about nutrition**—Many mothers used explicit didactic techniques to encourage the consumption of healthy foods. For example, one mother stated, “I will say to her, ‘You yourself said that vegetables are very nutritious. There is vitamin C in the vegetables, and whatever you eat might contain vitamins ABCD. But if you don't eat it today, you won't be



able to get nutrients from this vegetable.' She understands, and she will have one or two bites.”

One mother in the first group discussed her specific explicit didactic techniques, “If he doesn't want to eat, then [I will] talk to him. [For example], I might tell him that unhealthy foods such as sugar will cause diabetes if he eats too much of it. Teachers at school teach them about that.”

**Pressuring the child to eat**—Almost half of the mothers indicated pressuring their child to eat when he or she refused to eat certain foods (e.g., vegetables). For example, one mother stated that, “My daughter doesn't like to eat vegetables. She is very picky so I have to force her. I would tell her, ‘You have to at least have one or two bites. If you don't, you cannot leave the table.’”

Some mothers also described pressuring their child to eat when the child cannot finish a specified amount of the meal. For example, one mother described that, “I know how much he can eat. If he doesn't eat the proper amount of food, I will tell him that he cannot stop until he reaches the amount or he cannot go play until he finishes his food.”

### **Culturally-emphasized Feeding Practices**

Four culturally-emphasized feeding practices were discussed by mothers, including regulating healthy routines and food energy, spoon-feeding, using social comparison to pressure the child to eat, and making an effort to prepare/ cook specific foods (see Table 2).

**Regulating healthy routines and food energy**—Three quarters of the mothers discussed the importance of regulating children's healthy routines and food energy through fostering healthy eating habits, schedules and/ or structure, and encouraging exercise. One mother believed in the importance of regulating healthy eating schedules and routines in her young children, “I think we shouldn't let them eat after they miss the normal dining period, because having an inconsistent dining time is harmful to their stomachs. Not eating on time is a bad habit to have when he is living by himself later in life and bad habits will be passed on to his children.”

Another mother specifically described her emphasis on eating habits and manner to maintain healthy routines, “I think the most important thing is developing good eating habits. First, Chinese people advocate no snacking, including both healthy and unhealthy snacks. Specifically, I don't give him too much snacks in between meals; this will impact [what and how much he eats] his next meal. Therefore, there have been basically no snacks. Another good eating habit is not leaving the table until you are totally done with eating. [The child] shouldn't be allowed to leave the table in the middle of the meal to play, unless he/she is full; then, he/she may leave. In addition, don't play with the food even if you are not interested in it.”

One mother discussed trying to maintain an energy balance by encouraging her son to exercise in order to correct his indulgent eating, “When my child sees dishes he likes, he would eat it non-stop even when I tell him not to eat any more. Sometimes we feel that he

eats too much [laugh]. So, I would take him to the playground or do exercise. I encourage him to run more [after he eats].”

Interestingly, some mothers also emphasized the nature or essence of the foods (i.e., *hot* and *cold* food) according to traditional Chinese medicine beliefs. These mothers attempted to control the intake of different foods according to their internal heat nature in order to regulate children's energy balance. For example one mothers said, “I will give him different types of foods according to his health status. [For example], if he catches a cold, or it's autumn season and people tend to build up excessive internal heat, I would give him more fruits to cool down the body. I tend to get him to eat more fruits [to prevent illness].”

**Spoon-feeding**—Almost half of the mothers indicated using spoon-feeding to pressure their child to eat when he or she refused to eat certain foods (e.g., vegetables). For example, one mother described her use of spoon-feeding, “He will eat those food that he likes [by himself], but for those foods he does not like to eat like vegetables, I will feed him when he gets distracted by any activities he likes. I will spoon-feed him as long as he is willing to eat.”

Some mothers spoon-fed their children when they did not eat as much of their meal as mothers liked. For example, “I fill the bowl to the amount that he can usually eat. He will say he is full after two bites, if he doesn't like the food. In that scenario, I will chase him and try to spoon-feed him.” One mother mentioned that she required her child to finish his plate and spoon-fed him because he ate too slowly, “I require that my child finishes the rice and the veggies he put in his own plate. It can take him an hour or longer to finish his food. But when I [spoon]feed him one bite after another, he can finish the food within 10 minutes.”

**Using social comparison to pressure the child to eat**—Interestingly, some Chinese immigrant mothers also mentioned using social comparison to pressure their child to eat. For example, one mother mentioned that, “I will try to guide him [to eat healthy foods]. For example, I would tell him, ‘Do you see your classmate? He's very strong and swims very well because he drinks a lot of milk’. I also say, ‘So and so eats beef so he's stronger than you, could you eat some beef too?’” Sibling competition seemed to be prevalent as well. One mother stated that, “I have two children. When the younger child doesn't want to eat something I will fake giving it to his sister. I will signal to his sister, and she will grab the food and say that she will eat it. When he sees that his sister is about to have it, or eat it, he will at least try it. We call this the ‘introducing competition’ mechanism.”

**Making an effort to prepare/cook specific foods**—Many mothers emphasized the importance of cooking at home to make sure their child ate healthy foods, “I make healthy foods for them just to encourage them to eat. [Sometimes], those foods can be very complicated to cook, like dumplings, but [I still cook them] to make sure that they eat the foods we want them to eat.” Moreover, one mother described how she made an effort to prepare and cook specific foods for her child, “If he said he didn't like to eat, then I would try different types of cooking style or different food until he finds one he likes.”

## Discussion

In this study, we attempted to explore and identify parental feeding practices among Chinese immigrant mothers in order to unpack the complexities of parent-child food-related interactions within this understudied group. The cultural examination of Chinese immigrants' feeding practices is a strength of the current study. Nine feeding practices found in existing measures were discussed among Chinese immigrant mothers, including both feeding practices identified as negative or positive for child weight outcomes in previous research (e.g., Birch et al., 2001; Liu, Mallan, Mhrshahi, & Daniels, 2014; Musher-Eizenman & Holub, 2007).

Previous literature and measurement have focused extensively on negative parenting practices (e.g., controlling and instrumental feeding practices) in food-related interactions. Although the influence of a healthy home environment and positive feeding practices on young children's dietary intake has recently gained greater attention, these constructs have not been widely incorporated into feeding questionnaires and research (Musher-Eizenman & Holub, 2007). Importantly, five positive practices were identified in the focus groups, including children's involvement, encouraging balance and variety of food, monitoring, maintaining a healthy environment, and teaching about nutrition. Consistent with previous literature, Chinese immigrant mothers believed that increased exposure to a variety of vegetables and fruits available at home can increase the intake of these healthy foods in preschoolers (Hendrie et al., 2013; Roe, Meengs, Birch, & Rolls, 2013). Also, involving children in family meal planning and grocery shopping, modeling healthy eating, educating children about their food choices, and monitoring children's dietary intake were all cited by mothers as ways to facilitate healthy dietary intake among young children (Chu, Storey, & Veugelers, 2013; Farrow, 2012). The lack of knowledge on how to and confidence in their ability to prepare healthy American dishes for their child was also indicated by Chinese immigrant mothers (Lindsay et al., 2012). Alternatively, these mothers tended to encourage the consumption of healthy Chinese food by their children in order to foster children's healthy eating. Thus, identifying the strengths that parents have can empower them to feel more confident in creating a healthy home environment and improve their practices.

Importantly, we also identified four feeding practices that were not previously captured or has not received as much attention in the literature. The Chinese culture has been characterized as a food-centered one, and emphasizes diet therapy and food modification to maintain one's health, such as fostering healthy habits and maintaining a balance of *hot* and *cold* food consumption to prevent illness (Koo, 1984). Also, Chinese mothers are traditionally devoted to cooking an impressive range of dishes for family dinners in order to please the husband and express love to their children (Cheah & Li, 2009; Simmons, 1991). It is not surprising to find that children's dietary preferences dominate these Chinese families' food patterns including the maintenance of Chinese dishes and the adoption of American foods (Lv & Brown, 2010). These interesting phenomena revealed from our study provided further evidence to support the importance of food and eating in Chinese immigrant families (Kwok, Mann, Wong, & Blum, 2009), and the need to investigate whether these culturally-emphasized practices are protective or risk factors for young children's health in future research.

Mothers also reported two culturally-emphasized ways to pressure their children to eat. Chasing after and spoon-feeding the child seemed to be a common scenario in these first-generation Chinese immigrant families with preschoolers. This practice is often documented among infants and toddlers in previous research on other ethnic samples (Brown & Lee, 2011). However, items regarding spoon-feeding in existing questionnaire measures targeted towards older children are placed under the pressure to eat category (Birch et al., 2001). Moreover, this type of physical means of pressuring the child to eat as a specific practice has received little attention among preschool and kindergarten-aged Western children, which may indicate that spoon-feeding is considered to be not developmentally appropriate for older children in Western cultures. Thus, the rather common use of this practice in Chinese immigrant mothers requires further attention.

Some Chinese immigrant mothers also mentioned using social comparison to pressure the child to eat. The use of social comparison to motivate children to perform better in other areas of development is a practice documented to be quite commonly used by Chinese parents (Cheah, Leung, & Zhou, 2013). In the Western literature, social comparison is characterized as a subtype of psychological control, because parents make unfavorable comparisons of their child to the child's peers or siblings to induce shame or guilt in order to motivate their child (Fung & Lau, 2012).

Overall, an interesting pattern was revealed in how Chinese immigrant mothers engaged in both granting their children autonomy in their eating (i.e., child control over the amount or type of food), as well as used physical or psychological force to control their children's food intake (i.e., the appropriate types, amounts and ways to feed). Mothers' adherence to some traditional cultural beliefs might help shed light on such parenting practices. For example, the Chinese have historically regarded plumpness in children as desirable, and being overweight can be an indicator of the family's greater wealth and status (Lee, Ho, & Hsu, 1993). Also, Chinese parents tend to exaggerate their concerns regarding their children's nutrition, and overfeed their children because of concerns about insufficient nutrition and energy (Guo et al., 2012). However, these mothers also tend to acculturate toward the U.S. culture, generally acquiring greater understanding of the host culture's valuing of fostering children's independence. Thus, mothers may decrease their use of coercive control, especially with regard to their children's daily routines (Cheah et al., 2013). This balancing of autonomy and control revealed in the discussions deserves additional attention. Research to examine whether these feeding practices and their various combinations are beneficial for, or detrimental to, children's dietary behaviors and weight status in this population is needed.

In synthesizing the different parental feeding themes revealed by these interviews, we also found that different types of parental control in children's eating have varying levels of significance for different types of food. For instance, parents' use of coercive control in feeding (e.g., restriction for health, establishment of rewards and punishment systems) tended to focus on snacking (especially unhealthy snacks) versus full meals. Most mothers in all focus groups expressed their concerns about and restriction of the intake of unhealthy snacks. They also specifically emphasized the importance of consuming healthy foods during mealtimes in order to foster healthy eating habits from an early age.

Moreover, the meaning or definition of “snacks” can be ambiguous because snacks include both typically unhealthy (e.g., candy, chips) and healthy (e.g., vegetables and fruits) foods, and consuming a variety of vegetables and fruits as snacks are recommended for children (Musher-Eizenman & Holub, 2007; Roe et al., 2013). Given that the complications related to snacking in the parental feeding domain, future research and development of measurement should include the specific practices used with regard to specific foods in order to provide a clearer picture of parent-child food-related interactions, and the consequences of each practice.

Several limitations of the present study need to be noted. First, our sample focused on mothers’ feeding practices only. As Chinese immigrant parents in the U.S. tend to be dual earners, fathers may also share some feeding responsibilities. Moreover, Chinese culture values the involvement of grandparents in caregiving (Mjelde-Mossey, 2007). Although grandparents may not be present in the homes of immigrant families to the extent that they are in Mainland China, they still play a role in the child-feeding practices of Chinese immigrant families (Xie & Xia, 2011). Thus, future research may consider examining fathers’ and grandparents’ feeding practices to understand the complexity of food-related familial interactions in this understudied group. Furthermore, our sample size was small, and the immigrant mothers in our study were generally of middle socioeconomic status in a specific geographical region. Future studies may recruit immigrants with varying socioeconomic status in order to assess whether these practices are true for other Chinese immigrant communities in the U.S. Also, the present study did not attempt to examine variations among Chinese immigrant families. Future research may consider examining the role of demographic variables in feeding practices, such as mothers’ acculturation level and child gender. Finally, mothers’ self-reported feeding practices during the focus groups may not accurately reflect their actual practices. As such, observational studies should be considered in the future to more objectively assess parent-child interactions.

Previous studies have viewed obesity in immigrants from a health acculturation perspective, which argues that greater exposure to the U.S. context leads to less healthy diets and obesity (Blumenthal, 2002). However, how and to what extent immigrants maintain traditional practices and adapt to mainstream practices, and how these practices impact the dietary behaviors and weight status of children of immigrants are largely unknown. The present study provided some unique insights by identifying the nuances of parental feeding among Chinese immigrant mothers through the use of an emic approach and meaning-centered evidence. Overall, our findings can guide future development of culturally-appropriate measurement and inform intervention programs to promote the healthy development of Chinese-American children (Musher-Eizenman & Kiefner, 2013).

## Acknowledgements

The authors would like to thank the participants for their valuable time during the course of the research study. Also, this project will not be made possible without the funding provided by the Foundation for Child Development, NICHD (1R03HD052827-01), and the UMBC Department of Psychology Faculty Research Support to the second author.

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### Highlights

- Focus groups on Chinese immigrant mothers' feeding were analyzed qualitatively.
- Regulating healthy routines and food energy were uniquely emphasized.
- Spoon-feeding and social comparison were used to pressure the child to eat.
- Child control and restriction for health were the most frequently discussed themes.
- Encouraging children's involvement and well-balanced food intake were highlighted.

**Table 1**

## Demographic information of the sample

<u>Chinese immigrant mothers (N = 22)</u>	
Average maternal age ( <i>SD</i> )	39.79 (3.64)
Range of maternal age	34-49
Average child's age ( <i>SD</i> )	4.71 (.74)
Range of child's age	3.46-5.99
Child gender	
Male	14
Female	8
Number of the children in the family	
One	5
Two	15
Three or more	2
Maternal education	
High school graduate or lower	2
University graduate or higher	20
Marital status	
Married	22
Years in the U.S. ( <i>SD</i> )	11.41 (3.84)

**Table 2**

Coding themes, definition, the number of mothers, and the number of groups mentioning the corresponding themes

Theme	Definition	Number of mothers	Number of groups
<i>Pre-existing feeding practices</i>			
Child control	Parents allow the child control of his/her eating behaviors and parent-child feeding interactions.	19	4
Restriction for health	Parents control the child's food intake with the purpose of limiting less unhealthy foods and sweets.	18	4
Reward and punishment system	Parents use food as a reward/ punishment for child behavior, and use food and/ or non-food reward for child eating behavior.	16	4
Children's involvement	Parents encourage child's involvement in meal planning and preparation.	15	4
Encouraging balance and variety of food	Parents promote well-balanced food intake, including the consumption of varied foods and healthy food choices.	14	4
Monitoring	Parents keep track of the amount and/ or intake of healthy and/ or unhealthy food.	13	4
Maintaining a healthy environment	Parents make healthy foods available and accessible in the home, and/ or limit the unhealthy food.	12	4
Teaching about nutrition	Parents use explicit didactic techniques to encourage the consumption of healthy foods.	12	3
Pressuring the child to eat	Parents pressure their children to eat more food when children do not want to continue eating.	10	3
<i>Culturally-emphasized feeding practices</i>			
Regulating healthy routines and food energy	Parents foster children's healthy eating habits, eating schedules and/ or structure, encourage exercise to correct indulgent intake, and regulate the intake of foods with different nature to achieve to the right balance of internal heat.	15	4
Making an effort to prepare/cook specific food	Parents make an effort to prepare and cook the food for their children.	12	4
Spoon-feeding	Parents spoon-feed the child when the child refuses to eat any more.	10	4
Social comparison	Parents use social comparison (e.g., sibling competition) to pressure or motivate the child to eat.	8	2