GRANDMA KNOWS BEST: MATERNAL PERCEPTONS OF GRANDPARENTS' INFLUENCE ON CHILD SNACKING AND PARENTAL FEEDING AUTHORITY

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ABSTRACT

BACKGROUND: While parents have central influence on children's eating behaviors, an increasing number of grandparents participate in child feeding. The manner in which grandparents approach feeding young children as well as how that role is negotiated with parents is unclear. The purpose of the study was to explore maternal perceptions of grandparents' influence on preschool aged children's snacking and parental authority in child feeding.

METHODS: Participants were 55 ethnically-diverse, low-income mothers of preschool children, aged 3 to 5 years. A qualitative design was employed where semi-structured interviews were used to examine mothers' schemas around child snacks and the context of snacking. Interviews were recorded and transcribed verbatim. Analyses used NVivo 10 to identify major themes using a grounded-theory approach. Participant demographics and household food security were assessed by self-report.

RESULTS: Three major themes emerged regarding mothers' perceptions of grandparents. First, many mothers described supportive or positive aspects of grandparents' involvement in child feeding: 1) building bonds with grandchildren, 2) providing healthy foods, and 3) setting limits. Second, at the same time mother believed grandparents often to be unsupportive partners in child feeding by: 1) offering "junk foods" and 2) being permissive regarding the types, frequency, and portion sizes of snacks offered to children. Third, mothers' authority in feeding was challenged by grandparents' approach to feeding children snacks when at odds with the mothers' the mothers approach.

CONCLUSION: Findings suggest that grandparents may have important roles in family dynamics around feeding among low-income families with young children.

I dedicate this thesis to my sons, Jayden and Chase for their continuous support, love and sacrifices while accomplishing my education and career goals.

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CHAPTER 1

INTRODUCTION

Increases in childhood obesity are thought to be influenced by many environmental factors. The family is a first and fundamental environment for development of young children's eating behaviors because parents provide the foods to which children are exposed, model eating behavior, and interact with children through parenting styles and feeding practices.[1] Of all mothers with children under 6 years old, 64% are actively working or seeking work,[2] which results in a greater involvement of grandparents , influencing the family structure (number and type of cohabitating adults and children) which could influence child feeding and development. [3]

An increasing number of grandparents are caregivers of young children. In 2013, the United States Census Bureau estimated that a total of 2,925,912 grandparent households were responsible for grandchildren under the age of 18 years old, half of which are younger than 6, more likely to be in poverty, and one third of which had one parent, two parents, or no parents present in the home. [4] Data are limited regarding the roles of grandparents and their influence on child development. In general, interactions between grandchildren and grandparents can directly and indirectly influence children and their behaviors. For non-custodial grandparents, involvement has been shown to be generally beneficial to child development while providing emotional support, and advice, although some research suggests that grandparent involvement is not always consistent with parents' own childrearing practices. [5]

Research on grandparents' role in child feeding is extremely limited and has focused on negative roles including the use of food to regulate emotions and behaviors of grandchildren. One cross-sectional study conducted in the US analyzing the association between family structure and childhood obesity found that children ages 7-9, living with grandparents had a significantly higher BMI Z-score than those living with both parents, which could be a result of permissive feeding or sedentary lifestyles. [6] Studies of three-generational families have mostly been conducted outside the US. A qualitative study of three generation households located in Japan, found that grandparents have been associated with unfixed meal and snack times which increases the risk of a child being overweight or obese. [7] Another qualitative study conducted in China found that within three generational families' grandparents were the primary person to prepare for family meals and their attitudes influenced young children eating habits and nutrition. Grandparents were also found using foods as an educational or emotional tool. [8] Similarly, a recent study in UK found that grandparents were using more maladaptive feeding practices to regulate emotions and restrict foods, however positive practices regarding feeding healthy foods during meals and snacks. [9] While child survival and health is assumed as universal wants of parents, the specific practices they use and their influence on children's development reflects the culturally-specific values and context in which they are used. [10] Whether grandparents' have a similar role in child feeding among US children is unclear.

This research used a qualitative design to explore low-income mothers' perceptions of grandparents' role in feeding snacks to their preschool aged grandchildren. In particular, this research considered white, Hispanic, and Black mothers' perceptions of

the types of practices grandparents used in feeding snacks, their influence on children's eating, and maternal perceptions of grandparents' influence on parental feeding authority.

This study is the first to evaluate US mothers' perceptions of grandparents' roles in feeding young preschool aged children snacks. Snacks contribute significant energy to young children's diets. In 2015, data from 1999-2010 found that US preschool aged children aged 2-5 y consumed approximately 30% of daily their daily energy from snacks. [11] Further, snacks consumed by US children contain high levels of sugar and fat, of which low income preschoolers consume two times more than recommended amounts .

CHAPTER 2

METHODS

Participants

Participants were low-income African American, white, and Hispanic caregivers of preschool aged children (3-5 years) who reported primary responsibility for feeding the child at home. This research focused specifically on interviews conducted with mothers. Caregivers were excluded from the larger study if their child had severe food allergies, chronic medical condition (e.g. diabetes, cystic fibrosis) or a developmental disorder (e.g. cerebral palsy) that affected growth or eating. Caregivers were recruited from the Special Supplemental Nutrition Program for Woman, Infants and Children (WIC) offices and online community listings (e.g. craigslist) in Philadelphia, Pennsylvania and the Greater Boston Area, Massachusetts. Hispanic participants were also recruited from a community health center offering healthcare to the Latino population. Participants were compensated for their participation with a $45 Visa gift card. All study procedures were reviewed by and conducted in accordance with the standards set forth by Temple University and Harvard University Institution Review Boards.

Design

A multi-method qualitative design was used to understand maternal perceptions of grandparents' role in feeding preschoolers snacks. This secondary analysis was part of a larger study[13,14] using in-depth interviews and card sorts to characterize low-income caregivers' schemas around child snacking. Semi-structured interviews were used to better understand how caregivers fed their child snacks, the purpose of giving snacks,

situations and places snacks were given, as well as frequency of specific snacks given. Open ended questions were used to explore parent perceptions of snacking, follow-up and probing questions were used to elicit additional information and clarification.

Interview Guide

The interview guide was developed to explore four key questions: (1) foods that parents identify as snacks, those that are not considered snacks, and foods given outside of meals but not considered snacks, (2) snacks that are given for specific purposes, (3) snacks that are given in specific situation and places, (4) frequency of snacks that are given. Open ended questions followed each sort to provide more of a contextual understanding around feeding. Although not explicitly asked about grandparents, caregivers spontaneously discussed grandparents' role in feeding children in response to the following questions from which the data for this investigation were taken:

1. "Tell me more about [name place/setting using participant phrasing]." Once the participant responded, the interviewer followed up by asking, "Who is typically there when the child has snacks?"
2. "Tell me about other people who offer [child's name] snacks and if they do things the same or different than you." Follow up questions included "what about the child's father? Grandmother? Friends or other relatives?' How do you feel about how this person feeds your child snacks?"

Procedures

Data were collected between April and December 2013 at Temple University and Harvard University. Participants provided written informed consent for their own participation, which involved a 60-90 minute in-depth one on one interview which

included card sort activities and interspersed open ended questions. Throughout the interview, participants were reminded that "There is no right or wrong answer; you are the expert on your child. We are interested in learning more about how you think about snack habits and what kinds of things are important when you choose snacks for your preschooler." Interviews were conducted in English or Spanish by five trained research assistants, including one who was bilingual. Following the interview, participants were asked to complete the demographic questionnaire and the food security survey module.

Measures

Demographic

Demographic data were obtained by self-report, including parent education level, employment, race/ethnicity, marital status, participation in federal low-income programs, and household composition as well as family income.

Food Security Survey Module

Household food security was also assessed using the 6 item short form of the US Household Food Security Survey Module. The short form provides specific questions pertaining to hunger to accurately identify levels of food-secure and food-insecure households with or without hunger. In comparison to the full scale the short accurately classifies 97.7% .[15]

Data Analysis

Interviews were digitally recorded, transcribed verbatim by Verbal Ink and verified by research staff. The Spanish transcripts were translated into English and reviewed by the bilingual interviewer who conducted the interview. For the larger study, transcripts were individually read and evaluated by the research team for common

themes. Through literature reviews and emergent coding, a coding scheme was developed to capture parent feeding practices. Three research assistants (REB, NY, AO) were the primary coders of all 60 transcripts using NVivo 10 qualitative data analysis package (QSR International, Melbourne, Australia). Coders were not responsible for coding interviews that they conducted.

A word search using terms to identify grandparents (e.g. grandmother, grand mom, gramps, grandfather, and grandparent) rendered sufficient results to suggest a secondary analysis specifically looking at mother's perception of the roles of grandmothers in feeding children snacks. Fifty-five of the original 60 caregiver interviews were with mothers. YB and NJ individually read a sub-sample of these 55 interviews to develop an initial coding scheme specific to grandmothers' role in child snacking.

The constant comparative method (CCM) was used to facilitate coding and allow themes to emerge throughout the data analysis process. [16] A coding tree was developed to guide the preliminary identification of themes based on previous research regarding grandparents feeding practices and their roles as caregivers. [1,14,17,18] Weekly meetings were used to compare and clarify passages and theme definitions. To ensure accuracy, transcripts were double coded such that discrepancies between themes and codes were reviewed and resolved by both coders (YPB, NJ). The coding tree was revised accordingly through this process, eliminating themes that lack evidence, or merging similar theme and final themes were coded (**Table 1)**. Passages were selected if they specifically described grandmothers' feeding practices, and excluded if they described other relatives feeding practices or grandmothers involvement unrelated to child feeding

practices. Descriptive data were analyzed using SAS 9.3 (SAS Institute, Cary, NC) to present data on demographic characteristics collected through the administered questionnaires.

Table 1: Coding Tree

Themes	Subcodes	Operational Definition	n
Positive/ Supportive Role			
	Family Relationship	Grandmother using feeding practices to build a bond with grandchild. May incoporate love as reasoning.	10
	Offering Healthy Foods	Mother reports that grandmother provides healthy foods during meals and snacks.	13
	Setting Limits	Mother reports that grandmother sets healthy limits on child's snacking	1
Negative/ Unsupportive Role			
	Indulgent	Permissivness around food. Grandmother reported as being very lenient and playing a large role with decision making for child's meals and/or snacks. No structure or limits set around feeding. Giving the child what he/she wants regardless of nutritious value.	16
	High SoFAS	Grandparent provides child with foods considered "junk foods" by parents, such as candy and sodas. Offering foods high in sugar and fats.	15
Challenges to Mother's Authority			
	Conflict with maternal grandmother	The grandparents feeding practices have caused a conflict between maternal grandmother and mother.	22
	Grandparent practices= Accodance with mother	Grandparent feeding practices are in accordance with mother. Mother states that the feeding practices are similar to her own.	8

CHAPTER 3

RESULTS

Participant Characterists

Mothers' mean age was 30.3 years, and 38.2% were African American, 25.4% were white, and 36.4% were Hispanic (**Table 2**). A majority of the sample spoke English as their primary language (75%), and more than half (53.3%) reported being single with an average of 2 children per household. Less than half (40.8%) of mothers were employed and most caregivers (85%) obtained more than a high school education. A majority reported participating in some form of a federal low income program (e.g. WIC, SNAP, Head Start, etc.) (80%), and experiencing food insecurity in the past 12 months (45.5%). More than half (65.5%) of caregivers were considered overweight or obese based on self-reported height and weights.

Table 2 - Demographic characteristics of mothers (n=55) of preschool aged children

	All Mothers	
Demographic Characteristics	**n**	**%**
Relationship to child		
Mother	55	100
Age in years (mean, SD)	30.3	6.3
Race		
White	14	25.5
African American	21	38.2
Hispanic/Latino(a)	20	36.4
Primary language(s) spoken		
Only/mostly English	40	72.7
Both English and Spanish equally	3	5.5
Only/mostly Spanish	12	21.8

Table 2, continued

Education		
Less than high school	8	14.6
High school graduate/GED	18	32.7
Technical school/some college	21	38.2
College graduate or greater	8	14.5
Employment		
Employed	17	34.7
Self employed	3	6.1
Out of work less than 1 year	14	28.6
Out of work 1 year or more	13	26.5
Other	2	4.1
Full-time student		
Yes	18	32.7
No	37	67.3
Marital Status		
Married or living with partner	23	41.8
Divorced/separated	3	5.5
Single	29	52.7
Weight status*		
Underweight	2	3.6
Normal weight	17	30.9
Overweight	9	16.4
Obese	27	49.1
Experienced food insecurity in past 12 months		
Yes	25	45.5
No	30	54.5
Participated in assistance programs		
WIC	38	69.1
Food Stamps/SNAP/EBT	44	80.0
Free/reduced school meals	27	49.1
Head Start	19	34.6
Number of children in household (mean, SD)	2.5	1.3

GED, General Education Development; WIC, Special Supplemental Nutrition Program for Women, Infants, and Children; SNAP, Supplemental Nutrition Assistance Program; EBT, Electronic Benefit Transfer.

* Weight status based on body mass index.

Of the 55 interviews, 36 mothers discussed, either spontaneously or in response to a question, the role of grandparents in their child's feeding. Three major themes were identified around the maternal perceptions of grandparents' roles in feeding snacks to their preschool aged children: 1) positive or supportive roles (n=19 participants mentioning), 2) negative or unsupportive roles (n=22), and 3) challenges of mother's authority in decisions on child snacking (n=22).

Positive/Supportive Roles in Feeding Children

When discussing grandmother's role in child snacking, moms described supportive or positive aspects of grandmothers involvement (n=19). This was described in three ways: (1) providing healthy foods (n=13), (2) building bonds with grandchild (n=10) and, (3) setting limits (n=1).

Feeding Healthy Foods

Some (n=13) mothers described grandmothers feeding practices as being healthy. Most descriptions of healthy feeding referred to mothers' perceptions of types of foods offered during snacks.

> *Grandmom more so on the healthier side…and not giving too many [laughter] like the fatty foods, snacks and all that…Um, I'm gonna say, um, my mom pretty much because she's more so on like the healthier side… She worries like about your health and overweight and stuff like that, so. [African American woman of 4 yr. old girl]*
>
> *Yeah, so, uh, they're pretty good with their snacks, too, like a lot of fruits over there and stuff. They're pretty healthy. [White mother of a 4 yr. old girl]*

Relationship Building

Some mothers (n=10) shared stories of the use of snacks in grandmother-grandchild relationship building. Mothers expressed that by providing a snack the grandparent is aiming to build a bond, or to attain love and affection from the grandchild:

> *So, I think that's a lot of, "Give him what he wants so he loves you" type of thing. [White mother of a 4 yr. old boy]*
>
> *I – I don't know, I guess it's like a way to, like, show, like, love. I don't know. I guess – that's the only way I can think of it. It's like the way that the grandparents just show, just like, "Oh, come on, babies, let's come get some goodies. [African American mother of a 5 yr. old girl]*

Although relationship building was viewed as a positive outcome, some behaviors were not viewed as being supportive. Mothers acknowledged that benefits of bonding often came at a cost of indulging the child which typically involved giving the child snack foods that mom deemed unhealthy.

> *They say that they're listening, 'cause I'll say, like, "Well, no, why don't you try giving something healthy. They don't need all that candy." But they don't. It's like they have, like, this bond with the – their grandkids. African American mother of a 5 yr. old girl]*
>
> *I think she does it out of love but she keeps giving him juice boxes, junk constantly so he – he won't even eat a meal…. I mean they can do it out of love but it – it's ridiculous. [White mother of 4 yr. old boy]*
>
> *And I'm trying to make my mom more aware that, you know, kids are happy if you give them the healthy stuff too, like it doesn't have to be that*

kind of snack. Uh, and the other mother in law she, she's kind of there too like she kind of already understands but at the same time she wants to spoil them. [White mother of 4 yr. old girl]

Setting Limits

Another mother described the manner in which grandparents provided limit setting and structure for the child, where the grandmother was in control of the child snacks. One mother suggested that she wanted to adopt the grandmother's feeding styles. In particular, the mother expressed that although she herself might give into crying, the grandmother did not.

My grandmom has control of what she eats. I don't. I guess because she's always nagging me and crying. And, she always get her way with me, but not with my grandmom. [Hispanic mother, of a 3 yr. old girl]

Negative/Unsupportive Roles in Feeding Children

Of those who described grandmothers' roles in child snacking, most participants (n=22) described two unsupportive aspects of grandparents' involvement: (1) offering junk foods (n=15) and, (2) being permissive or indulgent to child wants (n=16).

Offering Junk Foods

When discussing feeding practices of other caregivers, participants described how grandmothers offered snack foods high in fat and sugar "junk foods" when the child is in their care (n=15). One mother expressed that providing healthy foods did not seem important to the grandmother:

The nutrition doesn't seem to be important. I don't think it was with my husband growing up, either. They ate junk, junk upon junk upon junk and

that's what she does… I mean if you really care, stop giving him this junk. It's not helping him. [White mother of 4 yr. old boy]

Permissive Feeding

A little under half of participants (n=16) believed grandparents' practices around child snacking to be permissive, providing few to no limits. They described an approach where grandmothers provided little reasoning and support for healthy snacking, snack routines or, portion sizes.

Some mothers felt that grandmothers provided snacks outside of the mothers' typical routines or snack schedules for the child, letting the grandchild determine the frequency of snacking:

'Cause that's something that is easy access at grandmom house. It's like she can go in there and get whatever she want to get at grandmom house. But compared to home, she can't. She have to ask me. But grandmom kitchen is just open….If it wasn't there, then I don't think CHILD would worry about it. So if she go inside my mother house and look and see and be like, "Oh, I'm a get that." You'll just see her walking out the kitchen with something inside her hand. I'll be like, well, "Did you ask for it?" "No."... My mom is just like, "If you see it, get it." [African American mother of 3 yr. old girl]

My mom does it different because, like I said, if they want something they usually can get it. And with me it's not when they want to get it, it's when I think it's appropriate or a timeframe usually. [African American mother of 4 yr. old]

Any time he asks for a snack he'll get a snack from them, any time.[African American Mother of a 3 yr. old boy]

Mothers also expressed that grandmothers often served larger snack portions than preferred or typically offered to the child.

Like I can make two scoops with peanuts on ice cream. They give three scoops with chocolate and strawberry. They do it overboard. [African American mother of 3 yr. old girl]

If she would eat this at house, she would get one. But no, my mom will give her, like, two of them…so she gets, like, more than one donut. So it's maybe things she would get at home, but not so many. [Hispanic mother of 4 yr. old girl]

Mothers believed that grandparent' permissive approaches to child snacking often elicited child nagging and/or a power reversal where the child was in control and the grandmother essentially gave in to whatever the child wanted:

Maybe at his grandma's they give it him because she – she everything he wants – everything he wants she gives him. [Hispanic mother of a 4 yr. old boy]

Parental Feeding Authority: Mom vs. Grandma

Mothers expressed frustration over conflict with grandparents around child feeding decisions. Few of the mothers (n=8) thought the grandmothers' feeding practices around child snacking were in accordance with their own. Rather, most mothers believed grandmothers challenged their authority in decisions on child snacking.

The most frequent (n=22) issues of contention were mothers perceptions of grandmothers' permissive approach to feeding their children snacks and the tendency to offer snack foods high in sugar and fat to a greater extent than preferred by the mother.

I just be like, "Well, why, why you don't say nothing?" Or, "Why you don't tell them to ask you is it ok with the parent?" Like she be like, "Well, they're my babies." So you would just be like, "Okay". [African American mother of 3 yr. old girl]

I get mad because she over-exaggerates with the candy, with the ice cream. [Hispanic mother of 4 yr. old girl]

So it's hard, but she gives me –an attitude. I tell my mom, but "They're my grandkids and that's what Grandmas do," she says, so – and my grandma did it to us. So when she didn't want us to do it I guess it's payback. I don't know. [African American mother of 4 yr. old]

That's fine. But when it's all said and done, I'm his parent. And if I say he can't have it, he can't have it. [White mother of 3 yr. old boy]

A few mothers expressed that the grandmother's behaviors were not particularly an issue to them because the particular types of occasions or visits at issue were perceived to occur infrequently.

If it was happening all the time, then I guess I'd, um, I'd – I'd have a problem with it. If it's not something that's routine, so… [White mother of 3 yr. old boy]

Um, they don't really it too often, so I don't get, I don't complain as much. Um, or if I ain't there, I complain about if they don't ask me 'cause I let

them know constantly that I don't really like him eating candy or gum. [African American mother of a 4 yr. old boy]

Mother's also talked about the fact that children pressed mothers to allow the same indulgences as provided by the grandmother, resulting in struggle between mother and child:

Yeah. Because when I say no it's no and he just looks at me like, 'But Grandma lets me have it.' And I'm like, 'Yea, whatever' [Hispanic mother of a 5 yr. old boy]

A little angry especially with my mom, because that gets her to the point where you ask her about – does she have a tantrum or does she constantly keep asking for it. When she goes to Grandma's and then she comes back home it takes about two to three days to get her to be like, 'No, we're not gonna get that every time you want it,' versus Grandma's house and what happens at Grandma's house stays at Grandma's house, like Vegas. [African American mother of a 4 yr. old girl]

A few mothers described strategies they used to avoid conflict with grandmothers and other caregivers around child snacking decisions. One mother indicated that she either tried to be the primary feeder or pack the child food when outside her care to ensure that the child had healthy foods.

I hate it. I try to, you know, pack his snacks in like a little Ziploc bag. 'This is what CHILD is gonna eat after dinner,' or I'll tell her, um, tell my mom or his dad, 'Give him a scoop of ice cream after dinner,' but they always overdo it. [African American mother of a 3 yr. old boy]

Ain't nobody gonna really do exactly the same thing. That's why if you gotta, um, rule, and you got something that you want to keep to, that's the good thing 'cause doing you outgoing, packing your own stuff... And I prefer you go by what's in his backpack for the day or for over – the weekend. And they got a problem with that then I take my baby with me. So that's how you shut that part down. [African American mother of a 5 yr. old boy]

CHAPTER 4

DISCUSSION

Grandparents play an increasingly active role in their grandchildren's lives, including feeding. This qualitative research was the first to describe mothers' perception of grandparents' role in child feeding particularly with snacking. Mothers expressed some level of involvement of grandparents around child snacking decision making. Mothers' perception of grandparents' involvement in snacking focused on positive and negative aspects and the introduction of mother-grandmother conflict related to decision making with child feeding.

This study revealed mother-grandmother struggles over feeding children snacks that challenged both mother's autonomy (the mother's free choice in making decisions) and agency (the mother's ability to act on her decisions). An antagonistic role of grandparents as partners in child feeding has been described in a qualitative study of child feeding among 32 low-income mothers of 3-5 year-old children. [10] In discussing aspirations for and barriers to feeding their preschool-aged children, mothers discussed being undermined by other adults, specifically grandparents. One mother used the term "grandparent syndrome" to describe the undermining of mothers' authority my grandparents. [19] Similarly, our mothers expressed points of contention with grandmothers specifically around making decisions on snacking. In another exploratory study of child feeding, interviews from mothers and children described the 'rebel grandparent' where grandparents intentionally decided against parents' wishes and chose not to respect or comply with parent's authority. Interviews from grandchildren expressed how grandmothers allowed foods that mothers typically deemed as being off

limits. It spoke further to the idea that some grandmothers did not want to conform to the healthy feeding suggestions from their own daughters, because they were still seen as the authority figure, [20] which supports the assumed perspective of 'Grandma knows best'.

The aforementioned findings are consistent with the present findings in regards to behaviors presented by grandmothers. In our study mothers expressed in many ways that their authority was being violated or threatened when grandparents made decisions for the grandchild. Mothers described scenarios where they provided child snacking expectations or rules only to be undermined by grandmothers. This introduced another challenge for mothers, where grandchildren expect mother's behaviors to be in accordance with the grandmothers. As a result, children expectations of mothers were heightened because of the shared responsibility and undermining of mother's authority by grandmothers.

Much of the conflict around feeding snacks appeared to originate from grandparents' permissive approach to feeding. Research on parenting styles and feeding, characterizes permissive or indulgent feeders as being low in demandingness referring to the amount of control a parent shows, and high in responsiveness referring to the level of involvement and affection shown to the child. [18] Permissiveness has been described as having a lack of involvement with decision making in child feeding as well as the use of emotional-based feeding practices that defer to children's preferences. [18] In our study a subset (n=16) of mothers described grandmothers giving children "whatever they want" and placing the child in control of snacking decisions to appease the child regardless of the context of snacking. Grandchild controlled snacking often came up with mothers followed by discussion of the child deciding when, how much, and what snacks were

provided while in the grandmother's care. It is known that snack foods consumed by preschool aged children are typically high in sugar and fats and snacking also is one of the most common ways that children consume unnecessary calories. [21] In addition, preschool aged children consume up to 70% of their energy intake at home. [22,23] A study with parents of preschool aged children identified that permissive feeding practices are significantly associated with higher child body mass index. [24] Permissive feeding was accompanied by providing an abundance of "junk foods" as labeled by mothers. Nutritional value of snack foods did not affect grandmother's decision making concerning the structure of the feeding environment.

Some mothers acknowledged and described positive aspects to grandmothers' involvement in decisions around child snacking, where grandmothers offered healthy foods, set limits and, used feeding as a basis to build grandchild-grandparent relationships. Mothers' perception of offering healthy snack foods often referred to types of foods such as fruit, and some mothers described grandmothers that were intentionally providing foods that supported a "healthy" lifestyle. One case elicited that the grandmother had more control than the mother over the child's feeding environment by setting limits. Feeding literature describes supportive feeding behaviors as providing a healthy feeding environment structure and setting limits within decision making. [18] Another study suggested the 'trust model', a similar style of feeding where there was shared feeding responsibility between the child and caregiver, and a de-emphasis on dietary restrictions. [25] However there has been no scientific data showing that the trust model is effective. [26] Although, in a qualitative study, mothers reported that responsive

parenting around meals was beneficial and also enforced relationship building, however it was clear that limits should be set around sweets and snacks. [19]

Previous research on grandparent-grandchild relationships described five distinctive relationships: 1) detached (no/low involvement), authority-oriented (primary role to discipline), passive (moderately involved, and no authority role), influential (fully involved, and role as authority), and supportive (close interaction, no parent-like authority role). In the present study, mothers' description of grandmother-grandchild relationships around feeding was very similar to the supportive grandmother who actively had a relationship with the child and helped the child; however had very low levels of authority. Supportive grandmothers are more likely to report high quality relationships with their grandchild than influential and two and a half times more than detached. [27] Although emotional based feeding is typically viewed as a negative aspect, mothers perception of grandmothers providing snacks as a route of bonding was how mothers rationalized and sympathized with grandmothers' decision making, and dealt with the challenges to their authority reflected in the conflict. Data from a previous focus group, found that mothers felt frustration when other adults undermined their authority especially around sweets and snacking, but did not intervene out of interest in supporting the other adult's relationship with the child. [19]

There are a number of limitations that qualify the findings of this research. Participants reflections about grandparents' role in child snacking were emergent and were only used as a probe on the interview guide. Although not the specific focus of questions, mothers mentioned grandparents in over half of the interviews. Further study in which mothers are asked directly about grandmothers' involvement in child snacking

may yield data suggesting child feeding programs offered to both mothers and grandmothers as primary feeders. Additionally, data were collected from mothers only. As a result, the findings do not represent the perspective of grandmothers. Future studies with grandparents could explore their perspectives concerning their involvement with making decisions around snacking for grandchildren and provided greater context to the opinions, observations, and perspectives of the mothers.

Conclusion

In conclusion, the results of this qualitative study describe complicated roles of grandparents' in feeding their young grandchildren snacks that vary in support of mothers' approach to feeding children. Increased involvement of grandparents in family support structures may be directly related to increased employment among mothers. [28] Mothers' reliance on grandparents and other adults to care for children elicits the need to negotiate authority over child feeding decisions and practices. Although there seems to be a situational interdependence (collectively sharing responsibilities of the child), the 'Western' culture exercises autonomy and makes more individualistic, self-assertive decisions. [29] Though culture plays an important role in mother's decision making, mothers are receiving information from outside sources as well. Findings from a previous study with low income mothers showed that when mothers followed advice from medical authority, over advice given by family members that normally causes conflict between the mother and family members. [30] The present findings suggest further formative research on grandparent's role in family dynamics around feeding among low income families with children. Future prevention programs should consider the role of

grandparents in feeding and shared responsibility of child feeding between mother and grandmother to reduce conflict and for a more cohesive co-feeding relationship.

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APPENDIX A: TEMPLE UNIVERSITY IRB RE-APPROVAL

TEMPLE UNIVERSITY

Office for Human Subjects Protections
Institutional Review Board
Medical Intervention Committees A1 & A2
Social and Behavioral Committee B
Unanticipated Problems Committee

Student Faculty Conference Center
3340 N Broad Street - Suite 304
Philadelphia, Pennsylvania 19140
Phone: (215) 707-3390
Fax (215) 707-9100
e-mail: irb@temple.edu

Certification of Re-Approval for a Project Involving Human Subjects

Protocol Number:	12629
PI:	FISHER, JENNIFER O.
Review Type:	EXPEDITED
Approved On:	12-Sep-2014
Approved From:	06-Oct-2014
Approved To:	05-Oct-2015
Committee:	A2 - MEDICAL INTERVENTION
School/College:	HEALTH PROFESSIONS (0900)
Department:	CHP:PUBLIC HEALTH (09100)
Sponsor:	National Institutes of Health/DHHS
Project Title:	Individual Differences in Eating Patterns and Behaviors of Young Children

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The IRB re-approved the protocol 12629.

If applicable to your study, you can access your IRB-approved, stamped consent document or consent script through eRA. Enter the relevant approved submission (for example, Modifications Required to Secure Approval) and open the stamped documents by clicking the View icon next to each document. The stamped documents are labeled as such.

Before an approval period ends, you must submit the Continuing Review form via the eRA module. Please note that though an item is submitted in eRA, it is not received in the IRB office until the principal investigator approves it. Consequently, please submit the Continuing Review form via the eRA module at least 60 days, and preferably 90 days, before the study's expiration date.

As a reminder, you are obligated to submit modification requests for all changes to any study; reportable new information using the Reportable New Information form; and renewal and closure forms. For the complete list of investigator responsibilities, please see the Policies and Procedures, the Investigator Manual, and other requirements found on the Temple University IRB website: http://www.temple.edu/research/regaffairs/irb/index.html

Please contact the IRB at (215) 707-3390 if you have any questions

APPENDIX B: HUMAN SUBJECTS CERTIFICATION – SOCIAL/BEHAVIORAL RESEARCH

COLLABORATIVE INSTITUTIONAL TRAINING INITIATIVE (CITI PROGRAM)
COURSEWORK REQUIREMENTS REPORT*

* NOTE: Scores on this Requirements Report reflect quiz completions at the time all requirements for the course were met. See list below for details. See separate Transcript Report for more recent quiz scores, including those on optional (supplemental) course elements.

- Name: Yasmeen Britton (ID: 1115444)
- Institution Affiliation: Temple University (ID: 926)
- Institution Unit: CORE
- Phone: 215-707-8383

- Curriculum Group: Human Research
- Course Learner Group: Social/Behavioral Research Course
- Stage: Stage 1 - Basic Course
- Description: Choose this group to satisfy CITI training requirements for investigators and staff involved primarily in Social/Behavioral Research with human subjects.

- Report ID: 8954892
- Completion Date: 10/08/2013
- Expiration Date: 10/08/2015
- Minimum Passing: 75
- Reported Score*: 95

REQUIRED AND ELECTIVE MODULES ONLY	DATE COMPLETED	SCORE
Belmont Report and CITI Course Introduction (ID: 1127)	10/08/13	3/3 (100%)
Students in Research (ID: 1321)	10/08/13	9/10 (90%)
History and Ethical Principles - SBE (ID: 490)	10/08/13	5/5 (100%)
Defining Research with Human Subjects - SBE (ID: 491)	10/08/13	5/5 (100%)
The Federal Regulations - SBE (ID: 502)	10/08/13	5/5 (100%)
Assessing Risk - SBE (ID: 503)	10/08/13	5/5 (100%)
Informed Consent - SBE (ID: 504)	10/08/13	5/5 (100%)
Privacy and Confidentiality - SBE (ID: 505)	10/08/13	5/5 (100%)
Research with Prisoners - SBE (ID: 506)	10/08/13	4/4 (100%)
Research with Children - SBE (ID: 507)	10/08/13	4/4 (100%)
Research in Public Elementary and Secondary Schools - SBE (ID: 508)	10/08/13	4/4 (100%)
International Research - SBE (ID: 509)	10/08/13	3/3 (100%)
Internet-Based Research - SBE (ID: 510)	10/08/13	4/5 (80%)
Research and HIPAA Privacy Protections (ID: 14)	10/08/13	4/5 (80%)
Vulnerable Subjects - Research Involving Workers/Employees (ID: 483)	10/08/13	4/4 (100%)
Conflicts of Interest in Research Involving Human Subjects (ID: 488)	10/08/13	4/5 (80%)
Unanticipated Problems and Reporting Requirements in Social and Behavioral Research (ID: 14928)	10/08/13	3/3 (100%)
Temple University (ID: 1758)	10/08/13	No Quiz

For this Report to be valid, the learner identified above must have had a valid affiliation with the CITI Program subscribing institution identified above or have been a paid independent Learner.

CITI Program
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