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The evolution of mothers' beliefs about overweight and obesity in their early school age children

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Abstract

OBJECTIVE—To identify changes in maternal beliefs, concerns and perspectives about overweight and obesity in their children over a two year period.

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METHODS—A total of 37 low-income English speaking mothers of overweight or obese children participated in two semi-structured interviews, separated by about two years, (mean child age was 5.9 years at baseline and 8.2 years at follow-up). Mother and child anthropometrics were obtained and mothers completed demographic questionnaires at both time points. Mothers' interviews were analyzed using the constant comparative method for longitudinal patterns of change in their perspectives on childhood obesity across the two time points.

RESULTS—Six longitudinal patterns of change in mothers' perspectives and beliefs were identified: 1) mothers' identification of a weight problem in their child emerges gradually, 2) mothers' level of concern about their child overeating increases, 3) mothers' concerns about consequences of obesity intensify and change over time, 4) mothers feel less control over their child's eating and weight, 5) mothers' efforts to manage eating and weight become more intentional and 6) mothers are more likely to initiate conversations about weight as their child gets older.

CONCLUSIONS—In this study, mothers' concerns about children's weight and eating habits increased and reported weight management strategies became more intentional over a two year period. Further research should consider attending to maternal perspectives on child weight and eating and their evolution in the development of family based interventions for childhood obesity.

Keywords

pediatric obesity; mother child relations; weight gain; longitudinal studies

INTRODUCTION

Mothers have been cited as important mediators of childhood obesity intervention efforts, as they play a central role in shaping children's eating and physical activity habits.¹ While maternal support of healthy behaviors can reduce children's risk of overweight and obesity,² mothers often do not recognize the problem and consequences of overweight in their children.³ Furthermore, pediatric providers often find it challenging to engage mothers in childhood obesity intervention and prevention efforts.⁴ An important first step to engaging mothers is to better understand their concerns, perspectives and beliefs about the problem of obesity in their children.^{1,5}

Prior work has not examined how mothers' beliefs and perspectives about child overweight and obesity change over time. Weight status is likely to track through childhood,⁶ but mothers' perspectives and beliefs about their child's weight status may evolve over time as the child develops more advanced reasoning, self-control, and autonomy, particularly in eating behaviors. Prior questionnaire-based studies have found that mothers report more concerns about their child's weight status as the child grows older.^{7,8} We have been unable to identify any studies that have examined this evolution in maternal concerns about child obesity in more depth. Understanding if and how mothers' concerns and beliefs about overweight and obesity in their child evolve could inform the timing and parenting-related content of childhood obesity intervention programs.

Therefore, the objective of this study was to examine longitudinal patterns of change in maternal beliefs, concerns and perspectives about child overweight and obesity, in a sample of low-income United States (US) mothers of overweight and obese children.

METHODS

Participants

Participants were recruited from an original longitudinal study which invited children attending Head Start programs (a free, federally subsidized preschool program for low-income children) in South Central Michigan to participate in a study about children's eating behaviors. Exclusion criteria included that mothers were not fluent in English or had a four-year college degree or more, child gestational age < 35 weeks, significant perinatal or neonatal complications, serious medical problems or food allergies, disordered eating or foster care. Participants took part in two follow up data collections, described as seeking to understand "how mothers feed their children".

The longitudinal cohort was made up of 285 dyads at baseline, 116 (40.7%) of which had children who were overweight or obese. This analysis focused on dyads in which the child was overweight or obese at both baseline and follow-up. Theme saturation (described below) was reached with a sample of 37 dyads.

Mother-child dyads participated in data collection at baseline, and again at follow-up about 2 years (mean 2.30 years, SD 0.22, range 1.84-2.91) later. The Institutional Review Board approved the study and mothers provided written informed consent and were compensated \$80 at baseline and at follow up. Data collection methods were identical at baseline and follow up. Mothers provided demographic information, and completed the Household Food Security Scale.⁹ Maternal and child anthropometrics were obtained by standardized procedure.¹⁰ Children's weight status was categorized as overweight (body mass index (BMI) 85th - <95th percentile for age and sex) or obese (BMI ≥ 95th percentile for age and sex) based on the US Centers for Disease Control growth charts.¹¹

Mothers participated in semi-structured interview at baseline and follow-up. The questions from the semi-structured interview have been previously published,¹² as have the methods of developing, administering and analyzing the interview.¹³⁻¹⁵ In brief, mothers participated in a semi-structured interview, administered by trained research staff, which was conducted in a quiet location without the child present. Interviews were audio-recorded and transcribed verbatim. The interview was developed by two clinician-researchers and consisted of a series of open-ended questions about mothers' beliefs related to feeding their children and childhood obesity. Sample questions included "Do you ever worry that [your child] does or might eat too much?" and "In your opinion, what causes a child to be overweight?".

The unit of analysis was the mother's interview at baseline as compared to her interview at follow-up. Longitudinal patterns were defined as the ways in which mothers' beliefs and perspectives about childhood obesity changed or evolved from the baseline to follow-up interview.

For this study, the researchers first sought to identify if there were different patterns of beliefs among mothers of normal weight children versus mothers of overweight/obese children. Two readers, read an initial sample of 15 interview pairs from mothers of normal weight children, and 15 interview pairs from mothers of overweight and obese children, using the constant comparative method¹⁶ to identify longitudinal patterns of change in both groups.

Both readers identified different longitudinal patterns of beliefs in the mothers of normal weight children as compared to mothers of overweight or obese children, specifically noting that concerns for overweight, obesity and obesity-related behaviors did not emerge in the group of mothers of normal weight children at either time point. Therefore the decision was made to continue with analysis of longitudinal patterns using only interviews with mothers of children who were overweight or obese at both baseline and follow-up.

From the reading of the 15 paired interviews with mothers of overweight and obese children, four initial longitudinal patterns were consistently identified by both investigators. To further refine these targeted longitudinal patterns, readers reviewed an additional 22 interviews at which point saturation was achieved, meaning that no new longitudinal patterns were identified through reading further paired interviews. Readers met and discussed the longitudinal patterns and further refined these to reflect the most coherent, salient, and saturated final longitudinal patterns. Of the original four longitudinal patterns, two were divided into sub-patterns; six total longitudinal patterns resulted. Longitudinal patterns identified were ultimately reviewed with one research psychologist, one clinical psychologist, and a pediatrician, who provided feedback on plausibility of these patterns and their interpretation.

RESULTS

Characteristics of the sample at baseline and follow up are presented in Table 1.

Six longitudinal patterns in mothers' beliefs were identified. Illustrative quotes from each are shown in Table 2.

1: Mothers' identification of and concern for a weight problem in their child emerges gradually over time

At baseline, some mothers did not identify their child as having a weight problem, with some stating that they did not consider their child to be overweight or obese, but used these terms at follow-up. At baseline, mothers provided explanations for their child's weight, for example the child was about to go through a growth spurt, or that the child's body proportions were normal (e.g., "he's just husky"). Most of these explanations for excess weight were less prominent or absent at follow up. While most mothers of children with overweight or obesity demonstrated a level of concern about their child's weight, some mothers did not describe any concerns at either time points. Some mothers who did not discuss concerns about their child's weight at baseline demonstrated newly emerging concerns at follow up. For mothers who had already begun to worry about their child's weight at baseline, most discussed it more directly and with greater urgency at follow up.

2: Mothers' level of concern about their child's overeating increases over time

Although subtle, the salience of overeating increased as the child grew older; at follow up, mothers expressed more certainty and confidence that overeating was problematic for their child in general. At baseline, mothers wavered between believing their child's eating habits were "normal" or worrisome. Mothers initially demonstrated an uncertainty about whether to be concerned or not, providing a range of explanations for their child's eating (e.g., growth spurts, normal child preference for junk food, normal fluctuations in appetite or the child being active). Still others expressed doubts about whether their child was actually hungry or eating out of boredom. As compared to baseline, at follow-up mothers described overeating more assertively and used more concrete explanations for the behavior such as emotional or stress eating. At follow up, some mothers even described their child overeating to the point of vomiting. As compared to baseline, at follow up mothers more commonly described conflicts with their children around the amount of food the child was eating. A generalized fear of obesity as the consequence of overeating was described consistently by most mothers at both time points, but for some mothers this worry gained strength at follow up.

3: Mothers' concerns about consequences of obesity intensify and change over time

The types of fears mothers disclosed regarding health consequences of their child's eating and weight tended to shift over time. While mothers of younger children worried about consequences of eating excessive sugar or junk food (e.g., tooth decay), this concern was rarely mentioned at follow up. Instead, at follow up mothers began to worry more about chronic co-morbidities of obesity (e.g., diabetes, "heart problems", and high blood pressure). While some mothers did mention these chronic co-morbidities at baseline, the frequency and intensity with which they arose at follow up was significantly greater. Concerns for psychosocial effects of overweight (e.g., bullying, low self-esteem, and even suicide) surfaced with greater frequency at follow up. Many mothers revealed dueling desires for their child to be happy and confident despite their size, but also to develop healthier eating habits and lose weight. Mothers began to foresee challenges ahead for their child regarding navigating social terrain, maintaining self-esteem, and changing unhealthy eating habits.

4: Mothers feel less control over their child's eating and weight over time

Mothers conveyed low confidence and feelings of poor self-efficacy in their role managing their child's eating and weight at both baseline and follow up, but these sentiments were more often present and stronger at follow up. At baseline, many mothers expressed feelings of powerlessness and described situations in which their child was in control, demanding specific types of foods and quantities of foods that mothers deemed inappropriate. Mothers often implied or directly stated that they were frustrated with their child or desperate for solutions to help gain control of their child's eating and weight. At follow up, some mothers even described giving up, feeling their child would always struggle with weight, or reaching a point at which they became resigned to their lack of control over their child's overeating and weight.

At both baseline and follow up, mothers discussed a range of factors that posed challenges to their efforts in managing eating and weight of their child, but at follow up mothers discussed

these factors with greater conviction. At follow up, many mothers expressed that it was tough to maintain consistency with healthier eating habits over time or shared regrets such as wishing they would have set up certain eating habits from a younger age. Many mothers reported that they struggled to manage their child's weight because of factors such as lack of support from family members or needing to make economical food purchases (e.g., shopping in bulk or choosing cheaper, less healthy options).

5: Mothers' efforts to manage eating and weight become more intentional over time

Mothers who recognized a problem with overeating or weight in their child at baseline described increasingly taking a wide variety of actions to manage their child's weight at follow-up. Some mothers who vacillated about their child's weight status or overeating at baseline were beginning to implement strategies for improving their child's eating habits at follow up. Others described a pattern of trying out multiple strategies and frequently adjusting based on what seemed to work or not. The promotion of fruits and vegetables and physical activity maintained a constant presence at both baseline and follow up. However, at baseline, promotion of healthy eating or exercise was more commonly mentioned as a strategy to offset concerns about overeating or weight status. At baseline, mothers often stated that they did not feel it was appropriate to restrict foods or intake, preferring to redirect their child's eating to healthier alternatives.

At follow up, mothers frequently discussed restriction and many used a more direct, intentional approach to limit their child's intake. Strategies related to portion control and limiting junk food increased in salience for many mothers. Mothers also described covert restriction strategies including hiding food, altering their food purchase choices at the grocery store, and selecting their child's meals and snacks. Some mothers who described at baseline the practice of hiding junk food to prevent their child from consuming it, expressed at follow up exasperation at their child's behavior sneaking food, hiding it, or not admitting they had eaten something. Other mothers, many of whom had described efforts at covert restriction at baseline, began to refer to more overt methods at follow up including directly limiting times of day for snacking, and attempting to become stricter by limiting junk food.

6: Mothers are more likely to initiate conversations about weight as their child gets older

Mothers increasingly reported engaging in direct conversations about weight and overeating at follow up as compared to baseline. Few mothers reported having these discussions with their child at baseline. Most mothers who talked about these issues with their child believed the topic should be approached with caution and sensitivity. Mothers sought to minimize the emotional impact of these conversations and avoid negative words (e.g., fat, obese), while still trying to convey the urgency and importance of controlling overeating to achieve a healthier weight. Some mothers expressed fears that these conversations would impact their child's self-esteem, cause worries about their appearance or negatively impact their child's psychological relationship with food and eating. For these reasons, mothers explained that they actively tried to avoid discussing the topic of weight and overeating with their child.

DISCUSSION

This study makes several new contributions to the literature. Specifically, in this study of low-income US mothers of young children, six longitudinal patterns were identified, which described mothers' evolving concerns about child overweight and obesity over a two year period. In their narratives, mothers described becoming more aware of their child's overweight status, as well as factors contributing to and concerns about the consequences of their child's weight. This study extends prior work using survey methodology that has shown that the accuracy of mothers' perceptions of their child's weight, and concern for overweight increases as the child gets older.⁷ No prior studies, to our knowledge, have identified longitudinal patterns in the evolution of maternal concerns, beliefs and perspectives on child overweight and obesity using qualitative methods.

Prior cross-sectional work has found mothers to be concerned about their child becoming overweight or obese,¹⁷ overeating,^{18,19} suffering social-emotional and health consequences of obesity,¹⁷ and their child's eating habits being out of the mother's control.²⁰ Prior work has also found that mothers of overweight and obese children are more likely to engage in restrictive feeding behaviors,²¹ and have conversations with their children about weight.²² Our study extends this prior work by illustrating how these concerns and behaviors intensify over the early school years.

The fact that mothers' concerns about the problem of overweight and obesity in their child emerged gradually over two years may provide insights, as has been suggested,²³ into why some early child obesity intervention programs may not be effective. If mothers are not concerned about the problem of overweight in their younger children, as many have reported,³ they may be less likely to make sustained lifestyle changes. This study found that over only a two year period, mothers' concerns began to emerge and become more explicit in multiple domains relating to overweight and obesity. Results of the current study suggest that parents may be more concerned and thus potentially more accepting of interventions targeting child obesity when their children are older. However, it could also be argued that at this later time point, children's obesity and obesity-related health behaviors may be more difficult to change. In fact, prior work²⁴ has found that intervention at an earlier age is more effective in treating obesity, possibly because younger children are more adaptable to behavior change and their parents have more control over their diets at this age. The ideal age and timing of child obesity interventions is unclear as the trajectory and influences on the evolution of mothers' beliefs throughout childhood remains unknown. While this study examined the evolution of mothers' beliefs during the early school age years, it is unknown if these beliefs evolve on a continuum throughout childhood, or if there is a critical period for development of concern for overweight and obesity. Furthermore, changes in mothers' beliefs may have more to do with the weight status of their child, than with the passage of time. Future research is needed to identify the evolution of mothers' beliefs throughout childhood and their association with child weight gain to answer the larger question of the ideal timing for child obesity interventions.

Pediatricians may hope that mothers of overweight and obese children develop concern earlier than they typically do. There are two elements of creating maternal concern: helping

mothers to accurately recognize overweight and obesity, which at least one intervention has successfully targeted,²⁵ and helping mothers recognize obesity related health risks. We believe it is unlikely that a fundamental lack of health knowledge is preventing mothers from being concerned about obesity in their children. Rather, based on our prior work,¹⁴ we hypothesize that mothers may be slow to self-identify as being the parent of a child with a weight problem because they equate having an obese child with being a neglectful or inept parent. This may contribute to a mother's rejection of the label of overweight or obesity for her child,¹⁴ as parents of obese children face stigma and blame for their children's weight problems.²⁶ The concerns may not fully develop until several years later, when the child is beginning to experience physical and social consequences of their weight. Pediatricians may be able to accelerate concern for child weight problems in parents by partnering with them, acknowledging their appropriate parenting practices, helping them understand that in today's obesity promoting environment, the causes of obesity in children are complex, and are not attributable to "bad parenting". As a result, mothers may be more open to taking steps to make healthy changes for their children earlier.

In the follow-up interviews, mothers in our study often described themselves as desperate, and not in control of their child's weight and eating habits; mothers seemed ready to change but not able to effect that change to help their child. They described increasing their controlling feeding behaviors in response to these increasing concerns, consistent with prior longitudinal studies using questionnaire methods finding that controlling feeding behaviors emerge subsequent to increases in adiposity.²⁷ While the American Academy of Pediatrics²⁸ cautions parents against the use of overt restrictive feeding practices, mothers are left with few tools to control their older, more autonomous child's problematic eating habits. At follow-up mothers increasingly described wanting to reduce their older child's intake (pattern 5) and talk to them about the problem of weight (pattern 6), but also acknowledged not wanting to cause low self-esteem or disordered eating. Pediatricians should engage parents in discussions about weight management strategies they are employing with their children. Future research is needed to understand how mothers should best manage their child's food intake, identifying adaptive, sensitive and healthful ways to guide older children's eating.

While this study describes the evolution of mothers' concerns about overweight and obesity in their children, it did not examine the external influences that may have shifted those beliefs. Understanding what influences are persuasive in changing parents' opinions, beliefs and actions is extremely important to effect change. Influences such as public health messaging, increased societal awareness of obesity and school initiatives, to name a few, likely affected mothers' beliefs and may have prompted these concerns. The influence of advice and counseling from healthcare professionals on parents' beliefs cannot be underestimated. In fact, prior work⁸ has found that conversations with healthcare providers about child weight have an important influence on a parent's concern for their child's weight. Future work is needed to understand how these external factors influence the development and evolution of mothers' longitudinal beliefs about obesity in their children.

This study has several limitations including its small sample size of English speaking US low-income mothers, who were predominantly white non-Hispanic, obese and from a

specific geographic area. The results may not be generalizable to other groups. In addition, mothers' responses in the follow-up interview may have been influenced by their having completed the same interview two years prior. It is also possible that the evolving beliefs were not related to the child growing older, but rather to other influences such as increasingly more prominent public health messaging about childhood obesity or discussions with the child's healthcare provider. These other potential influences on mothers' beliefs were not captured in this study, and are therefore a limitation.

CONCLUSIONS

Mothers of overweight and obese children became more concerned about their child's weight and eating habits over time. Furthermore, over time, these mothers reported using more direct and intentional methods to address the problem of overweight and obesity in their child. Future research should consider these changing maternal perspectives and emerging concerns in the development of family based interventions for preventing childhood obesity.

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WHAT'S NEW?

Mothers of overweight and obese children became more concerned about their child's weight and eating habits over time. Mothers reported using more direct and intentional methods to address the problem of weight in their children as children grew older.

Table 1

Participant characteristics at baseline and follow-up, (N = 37)

	Baseline	Follow-up
	N (%) or mean (SD)	
Child characteristics		
Child age, (years)	5.86 (0.64)	8.17 (0.65)
Child sex, (male)	18 (49)	18 (49)
Child BMI z-score	1.98 (0.65)	2.01 (0.5)
Child weight status		
Overweight	12 (32)	10 (27)
Obese	25 (68)	27 (73)
Mother characteristics		
Maternal age, (years)	30.03 (4.75)	32.33 (4.78)
Maternal race/ethnicity		
White non-Hispanic	26 (70.27)	26 (70.27)
Black non-Hispanic	5 (13.51)	5 (13.51)
Hispanic	4 (10.81)	4 (10.81)
Other	2 (5.41)	2 (5.41)
Highest level of maternal education achieved		
high school diploma	18 (49)	18 (49)
> high school diploma	19 (51)	19 (51)
Maternal BMI	38.62 (10.67)	38.40 (12.44)
Maternal weight status		
Underweight	0	0
Normal weight	4 (11)	5 (14)
Overweight	5 (13)	3 (8)
Obese	28 (76)	29 (78)
Household characteristics		
Food insecurity		
Secure	29 (78)	28 (76)
Insecure	8 (22)	9 (24)
Single parent household	18 (49)	13 (35)

Table 2

Quotes illustrative of longitudinal patterns of change in mothers' perspectives regarding child overweight and obesity across two time points

	Baseline interview (mean child age 5.9 years)	Follow-up interview (mean child age 8.2 years)
1: Mothers' identification of and concern for a weight problems in their child emerges gradually over time.		
Mother of girl who was obese at baseline and follow-up	"To me [she's] not overweight. To me she's healthy. Yes, she's bigger than she's supposed to be but that's that body mass [index] and that thing is for millions of people not just her. She is a little chunky but I don't classify her [as] overweight... She's heading [toward being] overweight but in my eyes she's not yet."	"I have trouble buying clothes [for her]... she's getting chunky and I tend to buy a lot maternity clothes because that's where her weight always is—it's in her butt and her stomach so she's not even wearing clothes that normal kids would wear."
Mother of girl who was overweight at baseline and obese at follow-up	"I don't want her to be overweight. Because she's eating more throughout the day, so I'm afraid she's gonna be overweight. Right now I'm not too worried... I mean, I'm worried but I'm not worried about her weight."	"She is overweight. Um, and I keep trying to tell her that... Way overweight—just a whole lot of extra weight. And that's where I'm afraid [child] is heading. If we don't nip it in the bud like ASAP."
2: Mothers' level of concern about their child's overeating increases over time.		
Mother of girl who was overweight at baseline and obese at follow-up	"I'm worried more about her nutrition than her weight... when she doesn't finish her meals, I worry."	"I try to tell her all the time 'You're not hungry... go outside and play' and she just—I don't know, she just wants to keep eating, you know, she'll eat -- two hours later, [she says] 'I'm starving'. So it's hard to explain to her."
Mother of boy who was obese at baseline and follow-up	"He doesn't eat that much throughout the day."	"I know he's not hungry half the time that he says he's hungry, and he swears he's hungry... I mean, I just know he's overeating."
Mother of girl who was obese at baseline and follow-up	"Really it's like the stuff that she eats [that's the problem], it's not actually how much of it she eats, it's what she eats... when she does get the healthy thing she'll only eat a couple bites."	"Yes, [I worry]. Very -- very much all the time daily yes, I feel that she does (eat too much) but then when I say no, she just wants to keep eating."
3: Mothers' concerns about consequences of obesity intensify and change over time.		
Mother of girl who was obese at baseline and follow-up	"I know some of the food she likes is not healthy but... I don't want her to get that complex or that thought in her head 'I can't eat this. I'm getting fat'... I don't want her to be self-conscious all the time on what she should and shouldn't have."	"I don't want her to have sugar. I don't want her to have a heart attack. I don't want high cholesterol. I want her to be healthy, but I want her to be happy, too (laughs)... I don't want people to call her names 'cause she's a kid and I don't want her to feel bad about herself. I want her to have good self-esteem and I worry about stuff like that 'cause she's getting chunky."
Mother of girl who was obese at baseline and follow-up	"I mean, the majority of my family -- is, very, uh obese. My uh, I've had quite a few relatives die from the uh, the uh, obesity... Kind of put it in my daughter that she's not going to be that"	"With her going to school and the way the kids are -- I know how rough it can be -- because you know you get [some] kids that can't handle it and they end up with the suicide, or

	Baseline interview (mean child age 5.9 years)	Follow-up interview (mean child age 8.2 years)
baseline and follow-up	way."	<i>something. You know? They go the wrong way, and I just don't want that for her... She used to be so much different. And I don't know how to explain it, she was more happy and now that she's gained the weight you can just tell that it -- it bothers her."</i>
Mother of girl who was obese at baseline and follow-up	<i>"[Obesity] makes me think of the Maury show you know and the people with those 300 pound 10- year olds and stuff, you know, so yeah it worries me very much ... and [I worry that] sooner or later she's gonna be a big ol' person you know with diabetes or something, you know?"</i>	<i>"So that's what I worry about it... [that she will be] bullied in school, hrm... Diabetes. I'm worried that she may get diabetes, -- worried it could kill her you know? ... I'm worried -- just her gettin' way too big and heart problems and, blood pressure 'cause that runs in my family so I know, being heavy will 'cause blood pressure or heart problems or something'. I'm just worried about her health."</i>
4: Mothers feel less control over their child's eating and weight over time.		
Mother of boy who was obese at baseline and follow-up	<i>"I have, you know, done the healthy mode with him and, I mean, it doesn't matter what mode it is, you know ... he just wants to eat."</i>	<i>"When I asked the doctor [to let me] put him on a diet or something, [and the doctor says] 'well he's a kid' and okay yeah, he's a kid but are you gonna wait until he gets overweight to the point where the state steps in? ... well I've tried... they're not helping me! I mean I even went as far as taking pictures of him and sending them to Jillian Michaels to try to get some help [or] some advice."</i>
Mother of girl who was overweight at baseline and obese at follow-up	<i>"I can feed her breakfast, lunch and dinner and [she] still wanna be in the kitchen all day and eat! [laughs] But I let em ... I let em eat whatever they want."</i>	<i>"She's eating too much and you know I tell her, 'You're supposed to have three meals a day and not too much junk because you are going to get sick. [child]'. And she just, she gets mad, she thinks I don't want her eatin'. She starts crying and she makes me feel bad. So I'm like, ok, I give in to her always."</i>
Mother of girl who was obese at baseline and follow-up	<i>"Sometimes I wanted to get help with [my child's] overeating] because I didn't know what to do. Because I give in and I just give it to her you know..."</i>	<i>"When I say no and try to stick to it... then you gotta hear her the whole time, you know. So it's like, 'Alright, you get one little thing and that's it.' And then it's like, that one little thing turns to two little things... I just tell [her father], 'will you tell her because she won't listen to me as good so you're gonna have to let her know [she cannot have any more food]'."</i>
Mother of girl who was obese at baseline and follow-up	<i>"[Child] loves sweets. I have to really watch her on 'em but her utmost favorite is ice cream. So, at dinnertime she knows that if she does not clear her entire plate, there's no ice cream."</i>	<i>"She doesn't want to go to bed so she wants to try to eat something... and see, I am a sucker. I always believe everything they say. So when she's telling me, 'Mom I'm starving, I don't feel like I ate enough today,' it's 8 o'clock at night and I'm sitting there like, 'I really don't want you to eat anything 'cause all you're gonna do is just sit there and it's gonna become like fat'."</i>
5: Mothers' efforts to manage eating and weight become more intentional over time.		
Mother of girl who was obese at baseline and follow-up	<i>"Food is always available. If she's hungry, she'll tell me. I'll feed her. I don't, uh, withhold, uh, hold junk food [laughs], you know. But my girls, they eat what they want and, uh, when they've had enough they've had enough."</i>	<i>"She's a snacker and she likes to snack at night, and... if I tell her she can't have it she'll sneak in and get it [laughs]. But, you know, she just- she eats too late at night. I try to watch her... I try to, curb her times of what- you know like ice cream or something'. I try to get her to eat it earlier in the day so that she has time to run it off."</i>

	Baseline interview (mean child age 5.9 years)	Follow-up interview (mean child age 8.2 years)
Mother of girl who was overweight at baseline and follow-up	"Sometimes when you're not looking... she's helping herself to the cupboards. So, she eats enough, that's for sure (laughs)... and you'll see like the little traces of stuff on her mouth. I'm like, 'What'd you get into?' 'Nothing' and she's like this really quick. So it's kind of amusing, but she's - she's an eater."	"If she does ask for more we're very careful on how much we give her more just because I wanna make sure she doesn't like overeat... when she's here [at home] she doesn't get to have a lot of junk so... it's very limited you know."
Mother of boy who was overweight at baseline and follow-up	"Just I'd like to cut him back on I-I've been cutting him back on his junk food. I have to put it up and hide it in my closet and lock my closet door in the bedroom (laughs)."	"You know like 'cause he is a junkfood junky and- but like I-I keep a lot of that out of the house anymore. I limit what I buy, because it's like - I'm done. You can't be eating junk food constantly. And you will if I-if I would let you, you would."
Mother of boy who was obese at baseline and follow-up	"My children do get McDonald's. They don't get it every day - they will get it once a week... I don't feel it should be an everyday occurrence and I refused to give my child French fries till he was 7 months. I was like, 'Don't even bring them in the house'."	"I make sure that [his plate has] a nice healthy portion and then if he's still hungry he'll get like half that portion and then we're done. I'm like, 'You need to let that settle'... when he comes to me later he says, 'Mom you know my stomach shrunk... but I'm not hungry.' So we we're working on the physical aspects of being full."
Mother of girl who was overweight at baseline and follow-up	"When she goes through like a growth spurt it's to be expected that she's gonna obviously eat more. And when I notice that she's doing that, that's when I push the more fruits and vegetables as much as I possibly can."	"Do I tell her that she can and can't have stuff? Yes. Um everything that she eats when it comes to snacks or, meals or whatever I choose, what she eats... whether it's a piece of fruit or a cupcake or whatever I choose... She doesn't get a choice 90% of the time whether she wants a cupcake or a vegetable. I choose for her."
6: Mothers are more likely to initiate conversations about weight as their child gets older.		
Mother of boy who was obese at baseline and follow-up	"It's like [child], come one! Are you really eating again? Didn't you just have enough?" (laughs) Whatever. Have at it. That's why I liked when I had my own house because then he could go in there and grab whatever he wanted, whenever he wanted. And if it was something messy he'd sit at the table and, you know, whatever. Just wander around the house, and, 'Make sure you take care of the trash,' that's all I ask. 'Make sure you pick up your stuff after you're done'."	"[Children are overweight because of] not a lot of activity and eating excessively. And I've seen that a little bit in my son... Seein' him [overweight], it just sorta scared me... I sat down and I was like, '[child], you can't be eatin like this... You're a heavy boy. You're not fat, you know, you just you're stout, you're heavier. You can't be eatin' like that or else you will be overweight and you'll get unhealthy.' So, I mean, I've tried to express it to him, so..."
Mother of boy who was obese at baseline and follow-up	"I try to limit his snacks. He always acts very hungry at night time so even after dinner he's like, 'Could I have a snack now?' and I'm like, 'No you just ate.' So I'll say, 'Eat an apple or eat an orange or eat a banana.' So he eats a lot of fruit, umm, you know, throughout the evening like one or two pieces."	"I try to tell him. I don't just let him eat however many. But still, I don't say - 'cause I don't want him to have like a complex like, oh- 'cause one time he's like, 'Does this shirt make me look fat?'... and then I'm like, 'You're perfect'."
Mother of boy who was obese at baseline and follow-up	"My husband gets emotional with him... [My husband] tries to talk to him about it and I said, 'You gotta realize you're talkin' to a first grader'... then... I said, 'Don't talk to him about it. Put action into it. Take him for a walk, take him to play at the park or somethin' like that.' So, that's what [my husband is] workin' on with him, so."	"And a lot that's helped [child] is my gardening in the summer, because we get him involved and he can help pick and, so. It's just teaching him the right way to eat... [I worry about his] weight. I don't want him being made fun of and bullied... hopefully with all the sports he's in this summer we'll [get] him back onto track."