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**WHO DECIDES? MOTHERS' AND CHILDREN'S BELIEFS
ABOUT FOOD CHOICES**

A dissertation submitted in partial satisfaction
of the requirements for the degree of

DOCTOR OF PHILOSOPHY

in

PSYCHOLOGY

By

Jennifer C. Rigney

June 2012

The Dissertation of Jennifer C. Rigney
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Abstract

**WHO DECIDES? MOTHERS' AND CHILDREN'S BELIEFS
ABOUT FOOD CHOICES**

BY

JENNIFER C. RIGNEY

What do mothers and children believe about whether parents are in charge of what and how much a child should eat? The current study explored children's beliefs about the scope of parental authority over food decisions and whether these beliefs depend on features of the situation. Additionally, relations between children's and their mothers' beliefs were explored. Mothers and their 5- or 7-year-old children were interviewed separately regarding 4 different types of hypothetical food-related disagreements where a mother requested her child to: eat **healthy** foods, eat **unhealthy** foods, eat foods **equally** healthy to what the child wanted, and eat more or less than the **amount** the child desired. Mothers were also interviewed about actual family disagreements about food and strategies for dealing with them. Results showed that in healthy scenarios mothers and children viewed what children ate as the mothers' decision; however, in all other scenarios mothers viewed what to eat as the child's choice. Children were more likely to see what children ate as up to the parent, only reliably categorizing the unhealthy scenario as the child's choice. Exploring individual differences showed the proportion of mothers' rule-like strategies for real-life food conflicts were correlated with children's authority-based answers. Mothers' political position also predicted children's authority orientation toward food decisions, with children of conservative parents more likely to focus on authority.

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Who Decides? Mothers' and Children's Beliefs about Food Choices

Although food is an essential part of children's lives, we still know relatively little about children's food-related reasoning. Cognitive developmental studies examining children's understanding of food and eating have mostly focused on children's awareness of biological relationships between food and the body (Inagaki & Hatano, 1993; Nguyen & Murphy, 2003; Wellman & Johnson, 1982). These studies emerged from the naive theory literature, where current debates question whether children have biological theories that are distinct from psychological theories (e.g., Carey, 1985). A separate line of nutrition research focuses on relations between parental feeding practices and children's eating outcomes (e.g., Birch, 1990, 2006; Fisher & Birch, 1999; Johannsen, Johannsen, & Specker, 2006). Both these lines of research fail to capture the complexity and importance of both parents' and children's beliefs about food. Eating is at the same time a highly personal activity and a socio-cultural activity, having important meanings beyond its biological role of providing nutrition. Therefore, research on children's reasoning about eating as a social activity within families is needed.

The purpose of the current study is to understand children's beliefs about the scope of parental authority over food issues and how these ideas develop in relation to their mothers' beliefs. Food-related disagreements are common occurrences in middle-class American households (Ochs, Pontecorvo, & Fasulo, 1996; Paugh & Izquierdo, 2009), which begs the question of how children reason about these

disagreements and what they are learning about the role of parent and child within these interactions. Children construct their ideas about parental authority and their own personal choice within everyday parent-child interaction (Nucci, Killen, & Smetana, 1996; Nucci & Weber, 1995). Both children and parents likely have many opportunities to develop ideas about when children should be given freedom to choose what they eat and when it is the parents job to regulate children's eating. Following research in the socio-cultural tradition, the current study takes the perspective that child and parent are both active participants in the child's cognitive development and that children learn ways of thinking tied to specific contexts or activities within parent-child interaction (Callanan, Rigney, Nolan-Reyes, & Solis, in press; Grusec & Davidov, 2010; Rogoff, 1990). Therefore, both children and their mothers participated in the current study in order to gain a more complete view of development in the food domain.

Parents' and children's ideas about who gets to decide what children eat are likely dependent on the situation, including what type of food is involved. For instance, mothers may feel it is worth the battle when making sure their child eats their vegetables but may be more lenient when letting the child choose a snack. In support of this idea, Nucci and Smetana (1996) found that mothers reported giving their children choice over the type and amount of food to eat but saw it as in their authority to make sure children eat healthy foods. Although their study did not probe children's ideas about different food-related decisions, similar research has looked at

young children's judgments about parental authority over issues ranging from deciding what to wear to prohibitions about hitting another child. Children judged parents to have legitimate authority over moral issues such as hitting and conventional issues such as saying "please" (Nucci & Weber, 1995). However, children were less likely to accept parental authority over issues such as clothing choice and other issues that they perceived as matters of personal preference and individuality. It is an open question where children draw boundaries in the food domain between issues legitimately regulated by parents and those that are not.

In everyday food disagreements, children may learn to think about the importance of nutrition, personal preferences, or inner feelings of satiety and to use this information to reason about the bounds of parental authority. Research from the naïve theory literature indicates that children as young as 18 months understand that people choose to eat foods they like and avoid foods they dislike, even if the liked and disliked foods are opposite of the child's preferences (Repacholi & Gopnik, 1997). Additionally, 4-year-old children evaluated foods as "healthy" and "unhealthy" (Ngyuen 2007, 2008; Nguyen & Murphy, 2003) and kindergarteners predicted that eating vegetables will give someone more energy (Inagaki & Hatano, 1993; Wellman & Johnson, 1982). Five-year-old children are also aware that their mind cannot will their stomach to digest food faster, even if the child wants to eat more food (Inagaki & Hatano, 1993). Do children think about preferences, nutrition, and satiety in everyday food-related disagreements? Or do they focus more on obligation to parents over a focus on nutrition or personal preferences?

Whether children learn to focus on nutrition or personal preference over obligation to obey their parents' authority likely emerges within parent-child interaction. Do mothers who give their children more choice over food decisions have children who think about personal food preferences more often than children of mothers who focus on authority or obligation? Previous research suggests that mothers and others in care-giving roles provide messages of choice (e.g., what would you like to wear today?) when events involve no harm to the child or others, or do not relate to social norms (Killen & Smetana, 1999; Nucci & Smetana, 1996; Nucci & Weber, 1995). On the other hand, mothers provide more rule-like and directive statements (e.g., "don't touch that") when the child may potentially harm others (e.g. hitting another child), harm herself (e.g., touching a hot stove), or even violate social norms (e.g., elbows on the table; Nucci & Weber, 1995). Depending on whether a parent values everyday food choice as an opportunity for children to develop personal preferences and individuality, some children may be constructing ideas about eating being a personal choice while other children may be learning that obligation or even nutrition is more important.

Both parents and children might change their ideas about the scope of parental authority as children develop the ability to make better choices (Nucci et al, 1996). With age and particularly in adolescence, children attempt to reject parental authority and claim more issues as matters of individual choice; parents also report giving children more choice with age while still sometimes feeling that they have legitimate authority over issues that their adolescents attempt to claim as individual choice

(Smetana, 1983, 1988, 1989; Smetana & Asquith, 1994). Not surprisingly, the areas where parents' and children's views conflict often lead to disagreements. In addition to claiming more issues as under personal control, older children also provide more personal domain justifications (e.g., "it's her decision") when asked to evaluate hypothetical health-related disagreements between parents and children whereas younger children focused on potential harm to the child (e.g., "he could get hurt"; Tisak & Turiel, 1984). Given that parent-child interactions involving food and eating are frequent and everyday occurrences and often sources of parent-child disagreements (Paugh & Izquierdo, 2009), eating could be one domain where children begin to reject parental authority early on. Therefore in the current study, I compared 5-year-olds and 7-year-olds and their mothers to understand developmental differences in how children and mothers think about parental authority with regard to food and what considerations they make when doing so. Are 7-year-olds more likely than 5-year-olds to judge that food decisions should be in the child's personal control?

Rozin (2007) argues that eating (and perhaps sex) is unique in being necessary for survival but also imbued with personal, cultural, religious, and moral meanings that may "overshadow" the nutritional importance of food (pg. 393). It is an empirical question how children, within particular socio-cultural contexts, learn to think about the many different reasons for eating. People may choose to eat a particular food (or amount of food) for many reasons. For instance, I may choose to eat vegetables because they provide valuable nutrients, because I like the taste of vegetables, or even

because I know my mother would be proud of me for being a vegetable-eater. Children may also feel obligated to eat certain foods for no other reason than it is what their parent wants. Thus, a second goal of the current study is to explore variation in how mothers and children explain their reasoning about who should decide what children eat. Do mothers and their children agree on what is important when making food decisions, such as focusing on the nutritional value of foods or focusing on listening to the parent?

Mothers likely have many strategies for dealing with food-related disagreements, depending on the situation or even on parental folk beliefs about how to socialize healthy eating (Casey & Rozin, 1989). These strategies reveal parental beliefs about who should decide what or how much children eat. Building on Baumrind's (1971) parenting style typology, research from the child feeding literature suggests that some parents take an "authoritarian" stance towards eating, some take an "authoritative" stance, while others are more "permissive" (Hughes, Power, Fisher, Mueller, Nicklas, 2005; Patrick, Nicklas, Hughes, & Morales, 2005; Vereecken, Keukelier, & Maes, 2004). Mothers in the current study were asked to report the strategies they use for dealing with food-related conflict. Using ideas about a food "parenting-style" as a guide, the current study looks at whether mothers frame their strategies as more rule-like (more "authoritarian"), as compromise, negotiation, or reasoning-based ("authoritative"), or as child-controlled ("permissive"). By relating these strategies to children's ideas about parental authority over food decisions, we

can also shed light on the ways that children's reasoning are connected with parents' socialization practices.

Although mothers likely employ multiple strategies for dealing with food-related disagreements, parental beliefs about food and health or even general beliefs about parental authority may relate to the types of strategies mothers choose. Mothers placing high value in a certain domain (e.g., healthy eating) are more likely to be concerned about their child's behavior relative to that valued domain (Constanzo & Woody, 1985). Mothers who place high value on eating healthy foods or identify as healthy eaters may be very concerned with their child eating healthy foods and avoiding unhealthy foods. Perhaps these mothers would employ more rule-like or parental-controlled strategies, not compromising with their child on what foods they eat. Additionally, mothers likely vary in the value they place on children's respect for authority no matter what the issue. Interestingly, research suggests that liberals and conservatives have different orientations to authority, with conservatives placing more importance on deference to authority than liberals and liberals more concerned with individual rights (Graham, Haidt, & Nosek, 2009; McAdams et al, 2008). Thus, political position may be a simple but useful way to measure a global orientation to authority, which may also extend into mothers' beliefs about food-related decisions. As such, the current study explores variation in mothers' and children's beliefs about food decisions as a function of concern for the healthiness of foods and mothers' political position.

The Current Study

In the current study, children and mothers (separately) evaluated whether hypothetical children should listen to their mom or eat what they want for 4 types of food related disagreements between a parent and a child: Mom's way = **Healthy** foods (e.g., mother wants child to eat veggies, child does not like veggies), Mom's way = **Unhealthy** foods (e.g., mother wants child to eat ice cream, child prefers to have broccoli), Mom's way = **Equally** healthy to child's preference (e.g., child wants an apple, mom wants child to have an orange) and Mom's way = against child's expressed feelings of **Satiety** (e.g., child is full, mother wants child to finish what's on his plate). Children were also asked a follow-up question for each scenario, requiring them to judge what the child should do in the absence of the mother. In addition, mothers were asked to provide accounts of the actual food-related conflicts they have with their children and the strategies they use for dealing with these conflicts.

Goals of the current study include investigating whether children and mothers judge parental authority to be a function of the type of food issue and exploring potential individual differences in these judgments. Scenarios were designed to allow participants at least three predominant reasons for explaining why a parent or child should get to decide the outcome of the disagreement. Participants could reason about the individual choice or preference of the child (Personal Domain justifications), and participants were explicitly told the taste preference of the child in the scenario (e.g., Chris thinks vegetables are yucky). Participants were told what the parent in the scenario desired the child to do or eat, so participants could focus on obligation to the

parent (Authority justifications). And finally, although participants were not explicitly told nutrition information, they could focus on the discrepancy in health status between what the child wanted and what the parent wanted (Health Justifications). In addition to these three justification types, participants could possibly focus on the feelings of the parent (e.g., to not hurt the mom's feelings), or not wasting food, both of which can be considered moral reasons (Moral justifications). To attempt to tease apart the importance of following authority versus eating healthy foods, the **Unhealthy** food scenarios require participants to think about which is more important, eating healthy foods or listening to authority?

In sum, the present study has three main research questions. Mothers' and children's evaluations of the hypothetical scenarios address the question: Do children and their mothers believe parents have authority over food decisions and do these beliefs depend on the nature of the disagreement (e.g., when healthy foods are involved)? Examining relations between mothers' and children's judgments and justifications of the scenarios, as well as relations between mothers' real-life strategies and children's judgments and justifications addresses the question: Is there evidence that children's beliefs about food decisions are linked to parent-child interactions? Finally, measuring mothers' concern with the healthiness of foods and mothers' political position addresses the exploratory question: Can we identify personal beliefs that relate to mothers' reasoning about parental authority and child choice?

Method

Participants

Forty mother-child dyads were included in the final sample for this study. Participants were recruited from a database of participants who had either participated in past child development studies or had been recruited at events such as farmer's markets and child music programs. Twenty mothers and their 5-year-olds ($M = 5;6$, range 5;0 to 5;11; 10 girls) and twenty mothers and their 7-year-olds ($M = 7;6$, range 7;0 to 7;11; 10 girls) participated. There were relatively equal numbers of only children, older children, and younger children in each age group. The majority of mothers reported family income of over \$65,000 ($n = 34$), had completed a four-year college or higher ($n = 32$), and self-reported their ethnicity to be European-American ($n = 34$), mixed ($n = 5$) or Hispanic ($n = 1$). Two additional families were excluded from analyses (1 mother only completed one page of the questionnaire and 1 child did not want to complete the procedure).

Design and Procedure

Mothers were given the option of participating in the lab on campus or having the study take place in their homes. Two mothers chose to have the study conducted in their home; the procedure was identical at home and in the lab. After signing the consent form mothers were invited into a different room for the parent interview while the child and a research assistant remained behind to complete the child task. Mothers were interviewed by the first author; children were interviewed by a trained research assistant, blind to research hypotheses. The mother-interview was audio-recorded while the child-interview was videotaped. Mothers' semi-structured

interviews ranged from 7 minutes 30 seconds to 33 minutes 39 seconds ($M = 17:14$, $SD = 6:22$); mothers' scenario task ranged from 4 minutes to 9 minutes 46 seconds ($M = 6:12$, $SD = 1:27$). Children's scenario task ranged from 7 minutes 39 seconds to 19 minutes 57 seconds ($M = 12:22$, $SD = 2:30$). Children remained in the room with the research assistant and colored or played games until the mother was finished with the interview.

Child scenario task. Children listened to 8 stories, each dealing with a parent-child disagreement related to food. The scenarios dealt with 4 different issues and children heard two of each type. In each story, children heard what the child liked/did not like and what the mothers wanted the child to do. The structure of these stories and follow-up questions were adapted from procedures used by Nucci and Weber (1995). To aid children in story comprehension, they viewed a picture depicting each disagreement. Pictures were hand drawn and colored on 9 x 12 sheets of paper. The gender of the child in each scenario matched the gender of the participant.

Scenario types.

Mom's way = healthy (Healthy). Two scenarios depicted disagreements where the mothers' wishes could be considered healthy. In one scenario, the child doesn't want to eat his/her vegetables because he thinks they're yucky while the mother would like the child to eat his/her vegetables. In the other scenario, the child loves cookies and would like to continue eating cookies (after already having 5) while the mother would like the child to stop eating cookies.

Mom's way = unhealthy (Unhealthy). Two scenarios depicted disagreements where what the mother wanted could be considered unhealthy. In one scenario, the child loves broccoli and wants to have it for lunch while the mother wants the child to have ice cream. In the other scenario, the child loves milk and wants to have it with dinner while the mother would like the child to have soda.

Mom's way = equally healthy (Equal). Two scenarios depicted disagreements where what the mother wanted was of equal health status to what the child wanted. In one scenario, the child loves apples and wants to have one for snack while the mother would like the child to have an orange. In the other scenario, the child loves brownies and would like to have one for dessert while the mother would like the child to have a piece of cake.

Mom's way = against child's expressed satiety (Satiety). Two scenarios depicted disagreements where the child expresses being hungry or full and the mother tells the child to keep/stop eating. In one scenario, the child has eaten half his/her plate of pasta and announces he/she is full; the mother tells the child she would like him to finish his plate. In the other scenario, the child has had a bowl of soup, declares she is still hungry and reaches to serve herself another bowl; the mother tells the child she would like her to stop eating.

Questions. After being read each scenario children were asked three types of questions: *control*, *compliance*, and *contingency*. In order for the interviews to sound less repetitive, an additional question relevant to each scenario was asked after the 3 main types of questions.

Control questions. To make sure children followed the story they were asked two control questions. 1) What does the [child's name in scenario] want to do? 2) what does his/her mother want him/her to do? Children heard "what does child want to do" first for half the stories and "what does the mother want..." for the other half. The order of the control questions for each scenario was also counterbalanced across participants within each age group and gender. Only 2 children answered incorrectly for what the child wanted, for one scenario each. These children were then read the story over and were able to answer the control questions correctly.

Compliance questions. The compliance question probed children's ideas about what the story characters *should* do. After the control questions children were asked "what do you think [child's name in scenario] should do? If children responded "I don't know" or gave a response not related to the options in the scenario they were asked a follow up question giving them forced choice options (e.g., should Chris eat the vegetables or not eat the vegetables). After children gave an answer to this first question (or the follow up question) they were then asked to justify their answer.

Contingency questions. After answering the compliance question, children were asked a contingency question probing their idea about whether the act would still be okay or not okay in the absence of the mother. If children answered that the child should listen to the mother, they were then asked "What if the mom wasn't there, would it be okay then for [child to not eat the vegetables]?" If children answered that the child should get to eat what they want then they were asked "What

if the mom wasn't there, would it still be okay for [e.g, Chris to not eat his vegetables?]" Children were then asked to justify their answer.

Design. In order to reduce order effects, the scenarios in the child task were counterbalanced within each group (5-year-olds and 7-year-olds) with restrictions. Pilot data indicated that children were unsure how to answer some of the "strange" scenarios when they occurred in a row (e.g., when what the child wants is unhealthy and when what the child wants is equally healthy). Therefore, one restriction held that if a "strange" scenario occurred first it had to be followed by either a "healthy" or "satiety" scenario. Secondly, the scenarios were treated as "blocks" such that one scenario of each type was randomly selected for block A and one scenario of each type was randomly selected for block B. Block A and B contained the same scenarios for all participants but half received block A first while half received block B first. Within each block the scenarios were counterbalanced with the above restrictions and the order was repeated for the other block (e.g., Healthy1, Unhealthy1, Equal1, Satiety1, Healthy2, Unhealthy2, Equal2, Satiety2). This yielded 10 different orders such that a 5-year-old male, a 5-year-old female, a 7-year-old male, and a 7-year-old female received each order.

Mother interview. Mothers were given a semi-structured interview by the author followed by a scenario task. After completing the scenario task mothers were asked to complete a written questionnaire.

Semi-structured interview. Mothers were first asked if they could "tell about a time they disagreed with their child about some food-related issue" If mothers hadn't

already addressed it, they were then asked “what were your strategies for dealing with that disagreement?” and “what was the outcome?” Mothers were then asked to provide a second disagreement and asked about strategies and outcomes. Mothers were next asked about any foods they absolutely do not want their child eating, foods they have trouble getting their child to eat, what food related issues they set limits on, and whether there are any food related issues they tend to be more lenient about. Mothers were asked other questions (e.g., did you have disagreements with your parents when you were growing up) after the questions of importance to the current study; however, these questions are not addressed in the current study.

Mother scenario task. After completing the semi-structured interview mothers were read the same 8 scenarios depicting food-related disagreements between parents and children, slightly adapted for mothers. Mothers received the scenarios in the same order as their child. They were read each scenario (typed on a 3 x 5 notecard), were handed the notecard, and asked whether they thought the outcome of the disagreement should be “up to the parent”, “up to the child”, or “could go either way”. Mothers then placed each notecard in one of three piles labeled “up to parent”, “up to child” or “could go either way”. After each categorization decision mothers were then asked to give a justification for their decision.

Mother background information. After completing the scenario task mothers filled out a written questionnaire. Of greatest interest to the current study, mothers filled out the “Diet-health link” and “Perception of self as healthy-eater” subscales from Rozin, Fischler, Imada, Sarubin, and Wrzesniewski (1999). Parents were also

asked to fill out demographic information including ethnicity (how would you describe your ethnicity?), religious beliefs, frequency of attending religious services, political position, mothers' highest level of education, and family income.

Coding

Children's and mothers' answers to the scenario task and mothers' semi-structured interviews were transcribed verbatim before coding. One research assistant transcribed the interviews while a second research assistant checked the transcripts for errors; discrepancies were discussed and a final decision was made by the author. Reported reliabilities are based on coding 25% of the transcripts and obtained between the author and an undergraduate research assistant blind to research hypotheses.

Coding children's beliefs about "who decides".

Compliance questions. Children's final answers to the compliance question were assigned a 1 for indicating the child should comply with the adult and 0 for indicating the child should do what he/she wants. If children did not want to choose (even after being asked the forced choice question) and gave an answer of "both" or some compromise they were coded as .5. Answers were then summed across the type of scenarios, meaning that each child could have a total possible score of 2 for each scenario type.

Contingency. Children's answers to the contingency questions were given a 1 for indicating that the child should still do what the mom originally wanted even in her absence and given a 0 for indicating the child should do what he/she wants.

Children were given a .5 for indicating some compromise between the two choices. Answers were summed across the types of scenarios, meaning that each child could have a total possible score of 2 for each scenario type. Reliability for children's answers to the Compliance and Contingency questions was 100%.

Child justification coding. Children's justifications to the compliance and contingency questions were coded into categories based in previous research (e.g., Nucci, 1981; Smetana, 1981; Turiel, 1983). However, only justifications to the compliance questions are of interest to the current study. Each unique justification was coded mutually exclusively into one of the coding categories; however, participants could provide multiple justifications to the same question and each one was coded (92% agreement; Kappa = .90). See Table 1 for examples from the children's interviews.

Authority. These were justifications that referred to the issue as a matter of authority, up to the parent, or involving norms, rules, or disciplinary consequences for the child.

Personal domain. These were justifications that appealed to the personal domain of the child in the story including references to the story character's personal preferences, statements about rights, or references to the child knowing their own feelings of satiety or satiety being an individual/personal choice.

Health/Nutrition. These were justifications that referred to health-related consequences for the actor, whether short term or long term, or the health status of the foods in question.

Moral. These were justifications referring to the rightness or wrongness of the act, harm the act would cause others, or impact on others feelings. Children could also refer to wastefulness, which would be coded as moral.

Other. The “other” category included justifications not falling in one of the above categories. These included the taste of the foods (e.g., “because ice cream is yummy”), amount (e.g., “that’s too much”), timing (e.g., “she might get hungry after she brushes her teeth), self (e.g., “because I like ice cream”), adding premises to the story (e.g., because she probably eats apples all the time), and categorical (e.g., “it’s a vegetable”).

Coding mothers’ beliefs about “who decides”. Mothers were given a 1 for sorting the item as “up to the parent” (similar to children’s decision that the child should listen to the parent), a 0 for sorting as “up to the child” and a .5 for sorting “could go either way”. Responses were summed for each type of scenario, for a possible score of 2 for each scenario. Mothers placed each scenario in separate piles which were then tallied immediately after the interview; therefore, achieving reliability was not needed with mothers’ sorting.

Mothers’ justification coding. Mothers’ justifications for their categorization of scenarios were coded using the same coding scheme as for the children: authority, personal domain, health, moral, or other. See Table 1 for examples of mothers’ justifications. Reliability for coding mothers’ justifications was 80% agreement (Kappa = .78).

Semi-structured interview coding. Mothers' semi-structured interviews were first coded to identify distinct conflicts and strategies mentioned after the "disagreement" question or elsewhere in the interview (75% agreement; Kappa = .70). Distinct conflicts and strategies were then coded into mutually exclusive categories; mothers could provide multiple strategies for the same disagreement and each strategy was coded. Reliability was 93% agreement for the Disagreement codes (Kappa = .92) and 87% for the Strategy codes (Kappa = .85).

Disagreement coding. Disagreements were coded but not analyzed for the current study. Mothers had disagreements with their children about eating too much or too little of a specific food, eating too much or too little in general, about particular mealtimes or timing of the meal, because their child in general was a difficult or picky eater, because their child didn't ask permission to eat certain foods, and because their child sometimes wasted food.

Strategy coding. Mothers' strategy codes were created first based on notions of authoritarian, authoritative, and permissive feeding styles (Hughes, et al. 2005; Patrick, et al, 2005; Vereecken, et al. 2004); however, five distinct categories emerged from the data. Strategies were coded into one of the following mutually exclusive categories. See Table 2 for examples from mothers' interviews.

Rule. Strategies were coded as a rule if the mother indicated the child just has to listen, comply, or follow a rule; the mother implements a rule without any sort of negotiating.

Parental controlled/monitored (Monitored). These are strategies where the

mother reported monitoring or controlling what or how much the child eats. These included monitoring children's intake and restricting foods she did not want the child eating or only letting the child have the food on special occasions. These also included covert mechanisms where parents keep unwanted foods out of the house or do not expose their children to those foods.

Parent controlled with some child choice (Constrained Choice). These strategies were parent-controlled but indicated some negotiation with the child or letting the child have some choice. A parent may make a child take a bite of something but allow the child to spit it out if they don't like it. The parent may also allow the child a choice between different vegetables or proteins (the child still has to eat vegetables but they get a choice of which vegetables they eat).

Reasoning/Explaining (Explain). These were strategies where the mother reported using reasoning or explaining to get their child to eat/not eat something. These include explaining health or nutritional reasons to eat /not to eat certain foods or when the mother responded that she just talks to child about it.

Child controlled. These were strategies allowing the child to make the final decision. These included just "exposing" the child to certain foods (but they didn't have to eat them), accommodating to what the child wanted (mother ends up making the food the child wants), or when the mother indicated she just didn't want to pressure her child into eating.

Written questionnaire. Of importance to analyses in the current study, mothers completed the "Diet-health link" and "Perception of self as healthy-eater"

subscales from Rozin, Fischler, Imada, Sarubin, and Wrzesniewski (1999). The “diet-health link” subscale contained 4 items rated on a scale from 1 to 4 (1=no link, 4=strong link), asking participants “how much of an effect do you believe diet has on the following: Heart Disease, Obesity, Good Health, Cancer.” Mothers’ scores were averaged across items on this scale. The perception of self as a healthy eater only contained one item (“I am a healthy eater”) that was scored as true or false. Mothers’ scores on the “Diet-Health” subscale ranged from 3.00 to 4.00 (one participant did not fill out this section), $M = 3.75$, $SD = .27$. Every single mother answered “true” to the item “I am a healthy eater”. On average, the mothers in this sample believed in the link between diet and health and believed themselves to be healthy eaters.

Demographic Variables. The demographic variable of interest for the analyses was a simple question asking mothers to characterize their political position on a conservative to liberal scale (1= very conservative, 5 = very liberal). Mothers’ political beliefs fell into all 5 categories and 4 mothers added a category (moderate/liberal): Very Conservative (N = 3), Conservative (N = 3), Moderate (N = 9), Moderate/Liberal (N = 4), Liberal (N = 19), and Very Liberal (N = 2). Because political position is often correlated with schooling, mothers’ level of schooling was also used in analyses to check for spuriousness in any effects related to political position. Mothers’ highest level of schooling included high school (N = 3), Two-Year College (N = 5), Four-year College (N = 17), Masters (N = 12), and Doctoral Degree (N = 3).

Results

Children’s Beliefs about Parental Authority over Food Decisions

The first set of analyses address the research question: Do children believe parents have authority over food decisions and do these beliefs depend on the nature of the disagreement? Figure 1 displays the mean frequency of scenarios categorized as the parent’s decision. Children’s judgments about parental authority depended on whether the food decision involved the mother desiring the child to eat healthy foods (*Healthy*), to eat a certain amount (*Satiety*), to eat a food equally healthy to what the child wanted (*Equal*), and to eat unhealthy foods (*Unhealthy*). Mean frequency of children’s judgments about whether the parent should decide were submitted to a 2 (Gender) x 2 (Age) x 4 (Scenario Type) mixed ANOVA,¹ which confirmed that these judgments depended on features of the food disagreement, $F(3, 34) = 25.44, p < .001, \eta_p^2 = .69$. Pairwise comparisons² showed that children were most likely to believe that the parent should decide the outcome of the *Healthy* Scenarios (compared to the *Satiety* Scenarios, $t(39) = 4.87, p < .001$, *Unhealthy* Scenarios, $t(39) = 8.96, p < .001$, and *Equal* Scenarios, $t(39) = 4.88, p < .001$). Children were also more likely to believe the parent should decide the outcome of the *Satiety* scenarios and the *Equal*

¹ A significant main effect of order emerged in a preliminary analysis, $F(1, 38) = 5.63, p = .017, \eta_p^2 = .14$. Children who started with Block 2 were significantly more likely to say “up to mom” ($M = 1.44, SD = .46$) than children who started with Block 1 ($M = 1.07, SD = .49$). This effect is difficult to interpret and since there were no significant interactions with scenario, gender, or age, Block was removed from analyses.

² All follow-up pairwise comparisons to explore significant main effects or interactions from the overall ANOVAs throughout this paper were two-tailed and multiple comparisons were accounted for by using Bonferroni adjustment.

scenarios than the *Unhealthy* scenarios, ($t(39) = 5.57, p < .001$, and $t(39) = 3.72, p = .004$, respectively). There were no significant differences between children's judgments in the *Satiety* and *Equal* scenarios, $t(39) = 1.19$. Contrary to predictions, there were no significant differences between 5- and 7-year-old children's judgments.

On average, children, regardless of Gender and Age, judged that the story characters in the *Healthy* scenarios should listen to their parent but that the story characters in the *Unhealthy* scenarios should eat what they wanted; children were also more likely to judge that children in the *Equal* and *Satiety* scenarios should listen to their parent than children in the *Unhealthy* scenarios. The pattern of responses between the *Healthy* and *Unhealthy* scenarios suggests that the health status of the food trumped parental authority. Comparing the number of children who consistently believed the parent should decide for both scenarios of each type to children who consistently decided the story character should eat what he/she wanted for both scenarios of each type confirmed that the majority of children categorized both *Healthy* scenarios as up to the mother ($N = 36$)³ while only one child categorized both scenarios as the child's decision, $\chi^2(1) = 33.108, p < .001$. In contrast, more children consistently categorized both *Unhealthy* scenarios as up to the child ($N = 24$) than up to the parent ($N = 9$); $\chi^2(1) = 6.82, p = .009$. There were no significant differences between the number of children categorizing both *Equal* scenarios as the parent's decisions ($N = 20$) or the child's decision ($N = 11, \chi^2(1) = 2.61, ns$). Interestingly, more children viewed both scenarios about hunger/fullness as the parents' decision

³ These χ^2 comparisons did not include children who choose one scenario as up to the parent and the other as up to the child

($N = 19$) than the child's decision ($N = 5$; $\chi^2(1) = 8.17, p = .004$), suggesting that children believed parental authority to be more important than expressed feelings of satiety; however, clearly there were children who were mixed on this decision as 16 children were not consistent across the two *Satiety* scenarios.

Do children's beliefs about the scenarios change when asked what would happen if the child is eating alone? Figure 2 compares children's responses to the *Compliance* and the *Contingency* questions. Interestingly, children changed their responses even for the *Healthy* scenarios, suggesting that they viewed the story character's actions as somewhat contingent on the presence of authority. Paired comparisons confirmed that children more often sided with the child in the absence than in the presence of the mother for the *Healthy*, $t(39) = 4.51, p < .001$, *Unhealthy*, $t(39) = 2.97, p = .02$, *Equal*, $t(39) = 5.01, p < .001$, and *Satiety* scenarios, $t(39) = 4.24, p < .001$.

Children's Reasoning about Parental Authority: Justifications

To better understand children's reasons for categorizing the scenarios, and to later compare mothers' and children's focus when thinking about food decisions, children were asked to provide justifications for their judgments of who should decide what to eat. To control for child talkativeness, the frequencies of authority, personal domain, health, and moral justifications for each scenario were divided by the total number of justifications given for that scenario. These proportions were used in all subsequent analyses.

Examining means (Table 3) revealed that children rarely made moral considerations ($n = 5$). Therefore, moral justifications were not considered in inferential analyses. Results from analyses confirmed that children's authority, personal domain, and health justifications differed depending on the features of the food decision (significant Justification x Scenario interaction, $F(6, 31) = 15.65$, $p < .001$, $\eta_p^2 = .75$). Results from this 2 (Age) x 2 (Gender) x 4 (Scenario Type) x 3 (Justification) mixed ANOVA also revealed a main effect of Justification, $F(2, 35) = 19.433$, $p < .001$, $\eta_p^2 = .53$. Overall, children used a higher proportion of health-related justifications ($M = .40$, $SD = .23$) than personal domain justifications ($M = .11$, $SD = .18$), $t(39) = 6.08$, $p < .001$. Thus, children gave justifications like "because it's healthy" more often than statements like "because it's her decision" or "because that's what she likes."

To better understand children's use of authority, personal domain, and health justifications, separate repeated measures ANOVAs were run for each Justification Type using Scenario as the repeated measure. First, Authority justifications were considered. Children's proportion of Authority justifications (e.g., "it's good to obey your mom") differed depending on the features of the food decisions, $F(3, 37) = 6.17$, $p = .002$, $\eta_p^2 = .33$. Interestingly, children were more likely to use authority justifications for the *Equal* scenarios than the *Healthy*, $t(39) = 3.84$, $p = .003$ or *Unhealthy* scenarios, $t(39) = 3.02$, $p = .026$. Children were also more likely use authority justifications for the *Satiety* scenarios than the *Healthy* scenarios, $t(39) = 3.71$, $p = .004$, or *Unhealthy* scenarios, $t(39) = 2.85$, $p = .046$. Thus, when children

did focus on the authority of the parent they tended to do so for scenarios where there were no health discrepancies between what the parent and child wanted and also when the parent wanted the child to eat a different amount than what the child wanted.

Second, the analysis of children's Personal Domain justifications revealed that children differed in their use of Personal Domain justifications (e.g., "if she's hungry she should eat, if she's not she can stop") depending on the features of the food decisions, $F(3, 37) = 4.65, p = .007, \eta_p^2 = .27$. Consistent with hypotheses, children were more likely to see the *Equal* scenarios as personal domain issues than the *Healthy*, $t(39) = 3.34, p = .01$, or *Unhealthy* scenarios, $t(39) = 3.09, p = .025$. Children were also more likely to see the *Satiety* scenarios as a personal domain issue than the *Healthy* scenarios, $t(39) = 3.21, p = .015$. Thus, children more often focused on the personal domain of the child when considering scenarios dealing with no health discrepancies between what the parent and child wanted and when the mother wanted the child to eat a different amount than what the child wanted.

Regarding children's Health justifications (e.g., "if he doesn't eat them he won't have enough energy"), again, children differentiated by type of food decision, $F(3, 37) = 29.28, p < .001, \eta_p^2 = .70$; they tended to justify their answers in terms of health reasons when what the mother wanted was healthy more often than when the mother wanted the child to eat a certain amount, $t(39) = 6.79, p < .001$, or when what the mother wanted was equally healthy, $t(39) = 8.37, p < .001$. Children also tended to view the *Unhealthy* scenarios as health issues more often than the *Satiety* scenarios,

$t(39) = 5.58, p < .001$, or the *Equal* scenarios, $t(39) = 5.96, p < .001$. When children were making health-related considerations, they tended to do so both for scenarios where the mother's way was healthy and when the mother's way was unhealthy.

Children's justifications reveal what is salient to children when they are thinking about food decisions. When there was a health discrepancy between the food the mother and child wanted, children tended to focus on health when justifying their decisions. Some children focused on parental authority when deciding whether the child should eat a food of equal health status to the parent's choice and when deciding whether the child should eat the amount of food the parent requested. Interestingly, some children saw these same scenarios as matters related to the personal domain. Perhaps whether children focused on personal choice or authority is related to how their mother viewed the scenarios. Before looking at relations between mother and child, mothers' beliefs about parental authority over food decisions and justifications are examined.

Mothers' Beliefs about Parental Authority over Food Decisions

Do mothers believe parents should have authority over children's food choice and do these beliefs depend on the nature of the disagreement? Figure 1 presents mothers' mean frequency of food decisions categorized as "up to the parent." As is evident in this figure, mothers judged that parents should decide the outcome of food decisions when they involved the mother desiring the child to eat healthy foods (*Healthy*). In contrast, mothers judged that the child should decide when the disagreement involved amount (*Satiety*), equally healthy foods (*Equal*), or the mother

wanting the child to eat unhealthy foods (*Unhealthy*). Results from a 2(Age of Child) x 2 (Gender of Child) x 4 (Scenario Type) mixed ANOVA confirmed that whether mothers thought a food decision should be the parent's decision differed depending on the scenario, $F(3, 34) = 93.39, p < .001, \eta_p^2 = .89$. Specifically, mothers were more likely to categorize the *Healthy* scenarios as the parent's decision than the *Satiety*, $t(39) = 16.43, p < .001$, *Unhealthy*, $t(39) = 12.29, p < .001$, or *Equal* scenarios, $t(39) = 14.36, p < .001$. No other comparisons were significant, all t s $< .46$. Contrary to predictions, there were no significant differences in judgments between mothers of 5-year-olds and mothers of 7-year-olds.

Mothers' Reasoning about Parental Authority: Justifications

To better understand mothers' reasoning when categorizing the scenarios, the proportion of authority, personal domain, health, and moral justifications mothers used for each categorization decision were compared (Table 3). Similar to children, mothers rarely used moral justifications ($n = 2$) and therefore these were dropped from inferential analyses. Mothers' use of authority, personal domain, and health justifications depended on the features of the food decision, as revealed by a significant Justification x Scenario interaction from a 2 (Gender of Child) x 2 (Age of Child) x 4 (Scenario Type) x 3 (Justification Type) mixed ANOVA, $F(6, 31) = 19.64, p < .001, \eta_p^2 = .79$. Additionally, there was a main effect of Justification Type, $F(2, 35) = 14.17, p < .001, \eta_p^2 = .45$. Overall, mothers used a higher proportion of personal domain justifications ($M = .31, SD = .14$) than health ($M = .19, SD = .12$), $t(39) = 3.63, p = .003$, or authority justifications ($M = .13, SD = .14$), $t(39) = 5.30, p < .001$. It

is intriguing that the pattern of mothers' justifications looked quite different from that of children, with much more focus on personal choice, as contrasted with children's focus on health and authority. Finally, although not a focus of the current study, results also showed a significant Justification x Gender interaction, $F(2, 35) = 3.29, p = .049, \eta_p^2 = .16$; mothers of male children used a marginally significantly higher proportion of personal domain justifications ($M = .36, SD = .16$) than mothers of female children ($M = .27, SD = .11$), $t(38) = 1.89, p = .07$. Contrary to research hypotheses there were no significant Age of Child effects or interactions, all F s < 2.27.

To explore the significant Scenario x Justification interaction, mothers' justifications by Scenario Type were explored through separate one-way ANOVAs. First, mothers' use of Authority justifications (e.g., "if Erin's mom says that's the end of the cookies, then that's the end") differed depending on the food disagreement, $F(3, 37) = 14.52, p < .001, \eta_p^2 = .54$. Mothers were most likely to view the *Healthy* scenarios as a matter of authority (compared to *Unhealthy*, $t(39) = 3.11, p = .022$, *Satiety*, $t(39) = 4.30, p = .001$, or *Equal* scenarios, $t(39) = 5.58, p < .001$).

Next, looking at Personal Domain justifications (e.g., "I think you need to respect of child's sense of his body") revealed that again, mothers use of these justifications depended on features of the food disagreement, $F(3, 37) = 35.36, p < .001, \eta_p^2 = .74$; mothers were significantly more likely to view *Satiety* scenarios as personal domain issues than *Healthy*, $t(39) = 8.09, p < .001$, or *Unhealthy* scenarios, $t(39) = 6.05, p < .001$. Mothers were also significantly more likely to view *Equal*

scenarios as personal domain issues than *Healthy*, $t(39) = 7.53, p < .001$, or *Unhealthy* scenarios, $t(39) = 6.30, p < .001$. Finally, mothers' Health justifications (e.g., "sometimes they'll just get their stomach hurting from too much sugar") also depended on the scenario, $F(3, 37) = 3.58, p = .023, \eta_p^2 = .23$; mothers were significantly more likely to use Health justifications for the *Equal* scenarios than the *Satiety* scenarios, $t(39) = 3.76, p = .004$ and more likely to use Health justifications for the *Unhealthy* scenarios than the *Healthy*, $t(39) = 2.8, p = .047$ or *Satiety*, $t(39) = 3.69, p = .004$, scenarios.

In sum, when mothers focused on parental authority, they tended to do so when the parent wanted the child to eat healthy foods. Children, on the other hand, tended to use authority justification for the *Equal* and *Satiety* scenarios. Mothers and children showed similar patterns when thinking about the personal domain of the child. When mothers and children focused on personal domain issues, they did so more often for the equally healthy and *Satiety* scenarios. When mothers focused on health and nutrition it was when justifying their responses to the *Unhealthy* and *Equal* scenarios. Children also justified the *Unhealthy* scenarios using health justifications. However, children also used health justifications for the *Healthy* scenarios. Although mothers and children showed different patterns of responses, the variability within each of these groups begs the question of whether there are relations between mothers and children.

Relations between Mothers' and Children's Judgments and Justifications

The next set of analyses address the research question: Is there evidence that children's beliefs about food decisions are linked to their mothers' beliefs? To look at relations between mothers' justifications and children's judgments and justifications, composite scores were created. Judgments of the scenarios as up to the parent (=1) or up to the child (=0) were averaged across all 8 scenarios (4 scenarios, 2 of each type) for each participant to create a composite judgment score. Justifications were added across scenarios for each participant and each justification type. Participants' use of each justification type divided by their total justifications (proportions) were used in analyses.

First, mothers' judgments to each of the scenarios and children's judgments to each of the scenarios were compared. Surprisingly, mothers' beliefs about which food decisions should be under parental control were not correlated with their children's beliefs about these same decisions. Next, mothers' proportion of each justification (using the composite score) were compared to children's composite judgment score and proportional use of each justification. Surprisingly, mothers' proportion of Personal Domain justifications was not related to children's judgment score or to children's proportion of Personal Domain justifications.

Interestingly, however, the more that mothers used Authority justifications the more likely their children were to categorize the scenarios as the parents' decision and the more likely their children were to invoke authority in their justifications (mothers' proportion of Authority justifications were positively correlated with children's judgment score, $r(38) = .34, p = .03$, and with children's proportion of

Authority justifications, $r(38) = .49, p = .001$). Additionally, mothers using a greater proportion of health justifications were more likely to have children who categorized the scenarios as the child's decision as shown by a negative correlation between mothers' health justifications and children's judgment score, $r(38) = -.34, p = .033$. However, mothers' health justifications were not correlated with children's health justifications.

Mothers' Reports of Food-Related Conflicts and Strategies

Before further addressing whether there is evidence that children's beliefs are linked to parent-child interactions, analyses first turn to describing which strategies were most prevalent in mothers' interviews. Although mothers were only specifically asked to discuss two disagreements about food, on average they described 4.65 disagreements ($SD = 1.8$). Mothers also had an arsenal of strategies to deal with these disagreements. To control for mothers' talkativeness, proportions of each strategy are used in inferential analyses instead of frequencies.

Mothers differed in their proportional use of each strategy, revealed by a significant effect of Strategy Type in a 2(Gender) x 2(Age) x 5 (Strategy Type: rule, monitored, constrained choice, reasoning, child controlled) ANOVA, $F(4, 33) = 4.80, p = .004, \eta_p^2 = .37$. Mothers reported a higher proportion of constrained choice strategies ($M = .29, SD = .21$; 85% of mothers) than rule strategies ($M = .14, SD = .16$; 63% of mothers), $t(39) = 3.15, p = .03$, and more than reasoning strategies ($M = .11, SD = .11$, 57% of mothers), $t(39) = 4.02, p = .003$. There were no significant differences in mothers' proportional use of monitored ($M = .18, SD = .17$, 73% of

mothers) and child controlled ($M = .21$, $SD = .14$, 85% of mothers) strategies, and no significant interactions by Age or Gender, all F s < 1.20 . Mothers tended to report more strategies letting the child have some choice in the matter (albeit determined by the mother) than strategies where mothers stated a rule and more than reasoning strategies. Mothers also frequently mentioned child controlled strategies, allowing the child to determine the outcome of the disagreements.

Relations between Mothers' Strategies and Their Reasoning about Parental Authority over Food Decisions

The next set of analyses explored whether mothers' overall reasoning in the categorization task reflected how mothers reported dealing with food decisions when asked to talk about actual disagreements. Mothers who believed the hypothetical food issues were matters of authority were predicted to report dealing with their actual conflicts using rules and monitoring. Mothers using a higher proportion of health justifications were also predicted to use more reasoning strategies. Mothers who believed the hypothetical food issues were personal domain issues were predicted to use more strategies giving some choice to the child (constrained choice or child controlled). Correlations showed that, as expected, mothers who reported using more rule-based strategies were more likely to view the scenarios as the parents' decision, to invoke authority justifications, and less likely to use personal domain justifications; rule strategies were positively correlated with mothers' judgment score, $r(38) = .48$, $p = .002$, and with mothers' Authority justifications, $r(38) = .68$, $p < .001$, and negatively correlated with mothers' Personal Domain justifications, $r(38) = -.35$, $p =$

.027. Mothers' Monitoring strategies were negatively correlated with mothers' judgment score, $r(38) = -.43, p = .006$, and negatively correlated with mothers' Authority justifications, $r(38) = -.37, p = .018$. Thus, mothers who reported using more monitoring strategies were more likely to view the scenarios as the child's decision and were less likely to use authority justifications.

Relations between Mothers' Strategies and Children's Beliefs about Parental Authority over Food Decisions

To further address the question of whether there is evidence that children's beliefs about food decisions are linked to parent-child interactions, mothers' reported strategies were correlated with children's categorization decisions and children's justifications. Results showed that mothers who reported a greater proportion of rules as strategies had children who were more likely to categorize the scenarios as the parent's decision and to use authority justifications; rule strategies were positively correlated with children's categorization decisions, $r(38) = .38, p = .015$, and with children's Authority justifications, $r(38) = .44, p = .005$. No other strategies were significantly related to children's categorization decisions or justifications.

Relations between Health Beliefs, Political Position, and Beliefs about Parental Authority over Food Decisions

The final set of analyses explored the research question: Can we identify personal beliefs that relate to mothers' reasoning about parental authority? Specifically, these analyses explored mothers' belief in the diet-health link and mothers' political position as predictors of differences in mothers' and children's

beliefs about food decisions. Given that there was little variability in mothers' responses to the diet-health subscale, it is not surprising that it was not significantly related to any of the variables of interest.

The final variable of interest was mothers' political position (1= very conservative, 5 = very liberal). Initial analyses showed that the more conservatively mothers rated themselves, the more likely they were to use authority justifications and the less likely they were to use health justifications; mothers' political position was negatively correlated with the proportion of mothers' authority justifications, $r(38) = -.39, p = .012$, and positively correlated with the proportion of mothers' health justifications, $r(38) = .36, p = .024$. Additionally, the more conservatively mothers rated themselves, the more their children used authority justifications and the less their children used health justifications; political position was negatively correlated with children's proportion of authority justifications, $r(38) = -.58, p < .001$ and positively correlated with the proportion of children's health justifications, $r(38) = .35, p = .029$. Additionally the more mothers rated themselves as conservative the more they had children who categorized the scenarios as the parent's decision, $r(38) = -.52, p = .001$.

Given these significant correlations, two separate regression models were run; the first checked whether the relationship between mothers' political position and authority justifications was due to mothers' schooling⁴, given that political position and schooling were significantly positively correlated, $r(38) = .41, p = .008$ and given

⁴ Mothers' reported family income was not correlated with political position, schooling, judgments, or justifications.

that the proportion of children's authority justifications was negatively correlated with mothers' schooling, $r(38) = -.34, p = .032$. The second model checked whether the significant association between mothers' political position and children's judgment score (composite) was due to mothers' schooling, given that children's judgment score was related to mothers' schooling, $r(38) = -.35, p = .029$.

The first regression model predicted children's authority justifications from mothers' political position, schooling, and authority justifications. The overall regression model was significant, $F(3, 36) = 8.73, p = .001, R^2 = .42$; both mothers' political position, $B = -.12, t(38) = -2.85, p = .007$, and mothers' authority justifications, $B = .61, t(38) = 2.16, p = .037$, were significant predictors whereas mothers' schooling was not. Thus, the significant association between children's authority justifications and mothers' political position was not accounted for by the relationship between children's authority justifications and mothers' education. Both political position and mothers' authority justifications independently predicted children's authority justifications.

The final model predicts children's judgment score from mothers' schooling, political position, and authority justifications. This model was significant, $F(3, 36) = 5.37, p = .004, R^2 = .31$; however, only mothers' political position was a significant predictor, $B = -.21, t(38) = -2.5, p = .02$, whereas mothers' authority justifications and schooling were not. Therefore, the significant association between mothers' political position and children's judgment of the scenarios as up to the parent were not due to

mothers' schooling. Interestingly, mothers' authority justifications did not predict children's judgments once political position was taken into account.

Discussion

Patterns in Beliefs about Parental Authority over Food Decisions

Should parents have authority over food decisions? While mothers and children could have indiscriminately judged that parents have authority over all food-related decisions (or conversely, that children should have personal choice over all food-related decisions), both mothers and children in the current study ascribed parental authority differently based on the features of the food decision. Both mothers and children were more likely to see the decision to eat healthy foods as up to the parent to decide. However, ideas about mothers' authority were not absolute; if it was the child who wanted healthy foods and the mother who requested the child to eat unhealthy foods, both mothers and children thought the child should be allowed to eat what he/she wanted. Thus, children coordinated their naïve theories about health and the body (e.g., Nguyen & Murphy, 2003; Wellman & Johnson, 1982) with ideas about parental authority. Children not only evaluated the healthiness of the foods in the scenarios but also decided that a child *should* eat healthy foods, even if a parent is telling them otherwise.

When the food decisions dealt with a child desiring a food equal in health status to the parent (e.g., apple vs. orange), the majority of mothers believed children should get to decide the outcome of these scenarios. Mothers in this sample also believed that children should get to decide the amount of food they eat. Surprisingly,

children, on the other hand, believed that parents should decide the amount children eat (*Satiety*) and many children also believed parents should decide what their child eats even when there were no health consequences (*Equal*). These results suggest that, for 5- and 7-year-old children in the present study, in contrast to their parents, parental authority trumps a child's feelings of satiety and may even trump children's preferences when there are no health consequences. The boundary of parental authority only ends for these child participants when a parent violates children's beliefs that one should eat healthy foods over unhealthy ones.

Why did mothers and children show different patterns in their beliefs about the scope of parental authority? Mothers' reported strategies for dealing with actual food-related conflicts may provide some insight into these differences. The majority of mothers mentioned using the constrained choice strategy, framing eating as the child's choice. However, these choices are controlled by the mother as can be seen in some of the examples in Table 2. Given the language mothers used to talk about these strategies (e.g., "but at least I'm giving her the choice of, you know, not forcing her..."), it is likely that mothers see this strategy as consistent with believing eating to be a personal decision. Children, on the other hand, may see through this strategy, and understand that their food "choices" are actually restricted by their parents. In their research asking mothers what they allowed children choice over, what they set limits on, and what they had conflicts about, Nucci and Smetana (1996) found that many of the activities mothers reported giving children freedom to choose were also mentioned by these same mothers as activities they sometimes placed limits on; not

surprisingly, mothers also reported these activities as sources of conflict. Nucci and Smetana's (1996) finding seems consistent with mothers' use of constrained choice – giving their children choice but also limiting it in some way.

Justifications revealed that mothers tended to see many food choices as being personal issues for children, for instance explaining that children should “listen to their body” or that children should learn to choose for themselves. Children, on the other hand, cared more about the health status of the foods in the scenarios than the personal preferences of the characters in the scenarios, despite being given personal taste information in the scenarios (e.g., Chris thinks vegetables are yucky).

Ethnographic research has found food disagreements to be common occurrences in middle-class American families (Paugh & Izquierdo, 2009), similar to the demographics of the current study. Research also suggests that disagreements tend to occur when children focus on the personal aspects of an event (e.g., “it’s my body,” “it’s my room”) while parents focus on implications for health, safety, or social norms (Nucci & Weber, 1995; Smetana, 1989). Thus, it is surprising that it was the mothers in the current study and not the children who raised more personal domain considerations. These mothers were predominantly college-educated (or higher) and were very concerned about health (as indicated by self-report measures). It is likely that many of these mothers’ ideas about how to deal with food-related disagreements are informed by advice from pediatricians and books related to child feeding, as suggested by research on sources of parental beliefs (e.g., Bornstein, Cote, Haynes, Hahn, & Park, 2012) and anecdotally by comments mothers made in the

interviews. The child feeding literature argues that parental “controlling” practices like restricting children from eating certain foods and pressuring them to eat others relate to child outcomes that may be opposite of the intended outcome, at least in a lab setting (Birch, 1990, 2006; Fisher & Birch, 1999; Johannsen, Johannsen, & Specker, 2006). A potential explanation for mothers’ justifications could be that many mothers in this sample believed that controlling children’s food intake too much might “backfire.” An interesting direction for future research would be to understand what parents believe about promoting children’s health in the food domain and how these specific beliefs relate to ideas about parental authority and children’s choice.

Children answered the contingency questions (what if the mom wasn’t there) in a similar pattern to the compliance questions. However, even given their focus on health, children were just as likely to change their answer to the *Healthy* scenario as for the other three types. This finding further supports the idea that children see most food decisions as matters of parental authority; once parents are gone a child is seen as free to do what she wishes, regardless of health consequences. Might children’s claims to personal choice within the food domain emerge from children’s everyday experiences eating in the presence of parents versus in other contexts? Although many children did not see these food issues as the child’s choice if a parent was present, more children did see the child as able to make their own decisions once the parent was absent. Would older children answer more consistently to the *Compliance* and *Contingency* questions, viewing eating as a personal decision no matter whether the child is alone or in the presence of authority? In addition to examining older

children's beliefs, an interesting direction for future research would be to understand children's beliefs about food decisions in the school context, where parents are not present but (depending on the school and parent) perhaps exert their influence by packing their parent-approved foods for lunch. Would children see what to eat as their decision, even if it meant not eating what their mother packed for them?

Relations between Mothers' and Children's Reasoning about Food Decisions

Examining children's justifications suggested some individual differences in whether children viewed food issues, particularly the *Equal* and *Satiety* scenarios, as authority or personal domain issues. However, mothers' personal domain justifications were not related to their children invoking personal domain justifications. Interestingly, authority justifications were related between mother and child. Therefore, mothers who tended to justify the scenarios saying things like "it's the parents' job to teach limits and choose what the limits are" had children who were more likely to justify the scenarios with statements like "you need to listen to your mom." Mothers using these authority justifications were also more likely to have children believing parents should decide the outcome of the scenarios. Additionally, mothers' health justifications, while not correlating with children's health justifications, were related to children believing the outcome of food decisions should be the child's choice. This latter finding supports the idea proposed earlier in this discussion that for many mothers in this sample what is "healthy" is to leave food decisions up to the child (or at least give them the illusion of choice).

Mothers' authority justifications and reported use of rules as a strategy were related to children's authority justifications and judgments about who should decide what children eat. This finding supports the idea that children's beliefs about choice over food decisions emerges within parent-child interaction. However, why were mothers' authority justifications related to children's authority justifications whereas there were no links between mothers' and children's health or personal domain justifications? One possibility is that some families take a clear and consistent authority "orientation" toward food issues; mothers who used rules as strategies also used authority justification in the scenario task, supporting the idea that these mothers have well-defined beliefs about the role of parent and child. Research suggests that parents and other authority figures give direct messages and negotiate less when the situation involves potential violations to social norms and values than when a situation deals with personal preferences and issues of choice (Killen & Smetana, 1999; Nucci & Weber, 1995). Thus, it may be very clear to children from families taking an authority orientation that they are obliged to eat what or how much their parents tell them. As an example, consider a parent who tells their child "eat your vegetables" vs. a parent who asks their child "would you like to eat your vegetables?" The former leaves no room for negotiation while the latter may invite children to attempt to exert their own desires in this situation. Mothers in the present study who explicitly believed that food issues were a personal matter may be more mixed in their messages about food choice in everyday interactions with children. Perhaps these mothers allow children to choose what they eat in some instances but also

attempt to control children's eating on other occasions, similar to Nucci and Smetana's (1996) study finding that the same mothers reported sometimes giving children choice and other times exerting authority regarding the same types of situations. Thus, children in the current study may be in the process of sorting out their ideas about whether they should or shouldn't have control over food issues. Given that the majority of mothers in this sample reported using constrained choice strategies, many children may indeed be figuring out the limits of their choice.

Participants' views of food-related issues were expected to vary depending on the age of the child and mothers' beliefs in the diet-health link, but only mothers' political position and possibly the gender of the child related to participants' beliefs. Although only approaching significance, mothers of male children tended to use more personal domain justifications than mothers of female children. Research investigating gender differences in parent autonomy granting is mixed, sometimes showing that parents give boys more autonomy (e.g., Dowdy & Kliwer, 1998) and other times finding that parents grant girls more autonomy (e.g., Wray-Lake, Crouter, & McHale, 2010). Future research could look at gender differences in autonomy granting specific to the food domain. Research with adults has shown that women tend to worry more about health when thinking about food than do men (Rozin, Bauer, & Catanese, 2003; Rozin, et al., 1999). Although we cannot be sure of the messages mothers are conveying to their children (an interesting direction for future research), it is possible that mothers of male children offer more choice to their children because they are less focused on health concerns. Perhaps gender differences

in parents' and children's beliefs about autonomy and choice in the food domain would be greater given a larger sample size and a sample with older children.

One of the most interesting findings, which calls for further research, was the pattern linking mothers' political position to mothers' authority justifications, and children's beliefs and authority justifications. Specifically, the more strongly mothers rated themselves as conservative, the more likely they were to use authority justifications, and have children who used authority justifications and believed that parents should decide what children eat. Extending research showing that conservatives hold deference to authority as more important than do liberals (Graham, et al, 2009; McAdams, et al, 2008), the significant associations in the current study suggest that these beliefs may also apply to parenting and food issues. Being a conservative or liberal family likely creates a context where certain beliefs are valued over others. Political position may be a simple way to measure a global belief about the role of parents and children, which for these families extended into decisions over food.

Concluding Remarks

Participants in the current study were from similar socio-cultural backgrounds and yet had a variety of beliefs about the role of parent and child in food decisions; this variability in beliefs hints at the importance of situating children's beliefs within everyday social contexts (Callanan, et al., in press; Rogoff, 1990). Exploring the actual strategies mothers used for dealing with disagreements shed light on some of the patterns in children's reasoning about the food decisions. Future research on the

development of children's reasoning should account for the meaningful everyday interactions possibly contributing to development.

One limitation of the current study is the inability to generalize these findings beyond middle-class European-American families living in a generally liberal and health-conscious geographical area. This sample of mothers were highly concerned about health and all identified as being healthy-eaters. Therefore, understanding different orientations to authority and children's choice over food decisions in samples varying in health identities and beliefs are needed. Food and eating take on many different meanings across cultural contexts (Fischler, 1988; Ochs et al., 1996; Ochs & Shohet, 1996; Ristovski-Slijepcevic, Chapman, & Beagan, 2008). Moreover, differences in parents' and children's beliefs about parental authority and children's choice vary across cultures and socio-economic status (Nucci, Camino, & Sapiro, 1996; Nucci & Turiel, 1993). Therefore, it is important for future research to understand cultural variability in beliefs about parental authority in the food domain.

Table 1

Justification Examples from Mothers' and Children's Interviews

Category	Example (Child)	Example (parent)
Authority	<p>“because you need to listen to your mom”, “it’s good to obey your mom”</p> <p>“so she doesn’t get into trouble”</p> <p>“he should say to himself ‘do I want to get in trouble or not?’”</p>	<p>“if Erin’s mom says that’s the end of the cookies, then that’s the end”</p> <p>“it’s up to the parent to teach limits and choose what the limits are”</p> <p>“you have to cut them off at some point, teach discipline”</p>
Personal Domain	<p>“Cause she wants a brownie, and it’s her decision what to eat at a birthday party”</p> <p>“she could decide if she wanted to or not”</p> <p>“If she’s hungry she should eat, if she’s not she can stop”</p>	<p>“the kid gets to choose you know”</p> <p>“they have to learn to choose for themselves”</p> <p>“I think you need to respect a child’s sense of his or her body”</p>
Health	<p>“because it’s healthy”</p> <p>“because milk has nutrients and soda has caffeine and all that junky stuff”</p> <p>“Sometimes a little chocolate is actually healthier than some other stuff”</p> <p>“he could get sick and throw up”</p> <p>“if he does not eat them then he won’t have a lot of energy”</p> <p>“milk will help your bones stay together”</p>	<p>“it’s healthy”</p> <p>“the milk is the healthier choice”</p> <p>“sometimes they’ll just get their stomach hurting from so much sugar”</p> <p>“milk builds healthy bones to prevent osteoporosis”</p>
Moral	<p>“Jamie’s mom would be really upset”, “cause then her mom would be really happy”</p> <p>“his mom probably worked really hard”, “her mom wouldn’t know and that’s kinda like tricking her”</p>	<p>“it’s up to the parent to make the outcome happy for everyone”</p>

Table 2

Examples of Mother's Strategies

Strategy Code	Examples
Rule	<p>“She just can’t get up from the table until she’s done”</p> <p>“I just say ‘eat it’ and he eats it”</p> <p>“If it’s something he doesn’t like and I’m serving it, he’s going to eat it anyways cuz that’s what we do in our family”</p>
Monitored	<p>“I just don’t keep junk food in the house”</p> <p>“I just monitor what she’s eaten throughout the day. If she’s had chips already then she’ll have fruit for snack”</p> <p>“I don’t say outright ‘no’, um, I think she likes some hope in the world, you know, I think she likes the idea of having some hope, ‘Well maybe you can have some cheddar bunnies later, I’d rather you eat these things first”</p>
Constrained Choice	<p>“She has to try it but if she doesn’t like it she can spit it out. But at least I’m giving her the choice of you know, like not forcing her to eat something she doesn’t want to eat”</p> <p>“I’m trying hard to not be the restrictive mom who always says no. But I also try to keep healthy choices around. I’m giving them the choices of ‘You can have almonds, or you can have an apple,’ so the two choices that I wouldn’t care which one they choose”</p>
Reason/Explain	<p>“we just talk a lot about energy, you know you need to have your proteins cause that’s your energy..”</p> <p>“I say why he needs ‘em because it’s good for your eyes, there’s vitamins, you can’t just have broccoli all the time. Carrots are good for you, you need orange vegetables, you need orange in your diet”</p>
Child Controlled	<p>“I put it in front of her and eventually she takes to what she takes to. I’ve noticed it’s actually worked quite a bit”</p> <p>“she wanted the large Icee and I wanted her to have the small and I gave in and let her have the large”</p> <p>“I definitely always make something I know he will eat. And the whole family basically has to eat stuff we know he will eat”</p> <p>“and if he doesn’t like it, I’m not gonna force him to eat it, and I’m not gonna starve him because I don’t think that’s healthy either so I usually end up making him what he wants”</p>

Table 3

Mean Proportion (and Standard Deviation) of Justifications by Scenario Type

Justification	Scenario			
	Healthy	Unhealthy	Equal	Satiety
Children				
Authority	.12 (.26)	.18 (.31)	.36 (.44)	.33 (.38)
Personal	.03 (.16)	.05 (.15)	.19 (.34)	.16 (.30)
Health	.67 (.38)	.56 (.40)	.15 (.26)	.22 (.33)
Moral	.03 (.16)	0	.01 (.07)	.04 (.13)
Mothers				
Authority	.28 (.30)	.11 (.23)	.03 (.16)	.06 (.13)
Personal	.10 (.21)	.13 (.31)	.51 (.26)	.52 (.30)
Health	.14 (.21)	.35 (.43)	.22 (.20)	.08 (.13)
Moral	.004 (.03)	0	.008 (.05)	0

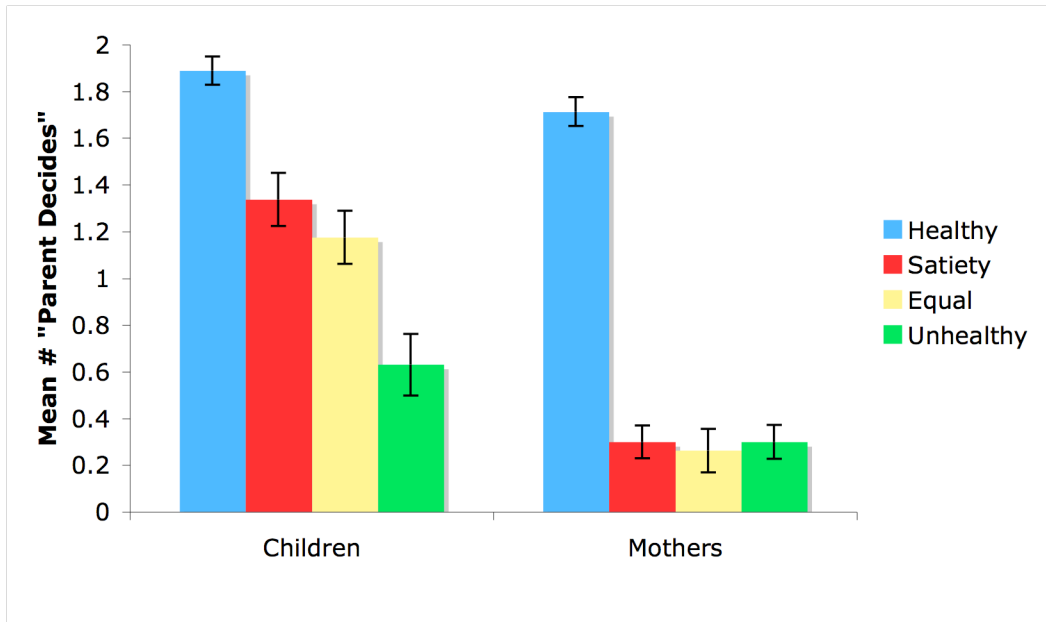


Figure 1. Mean number of scenarios categorized as “parent decides” by children and mothers. Error bars represent standard error.

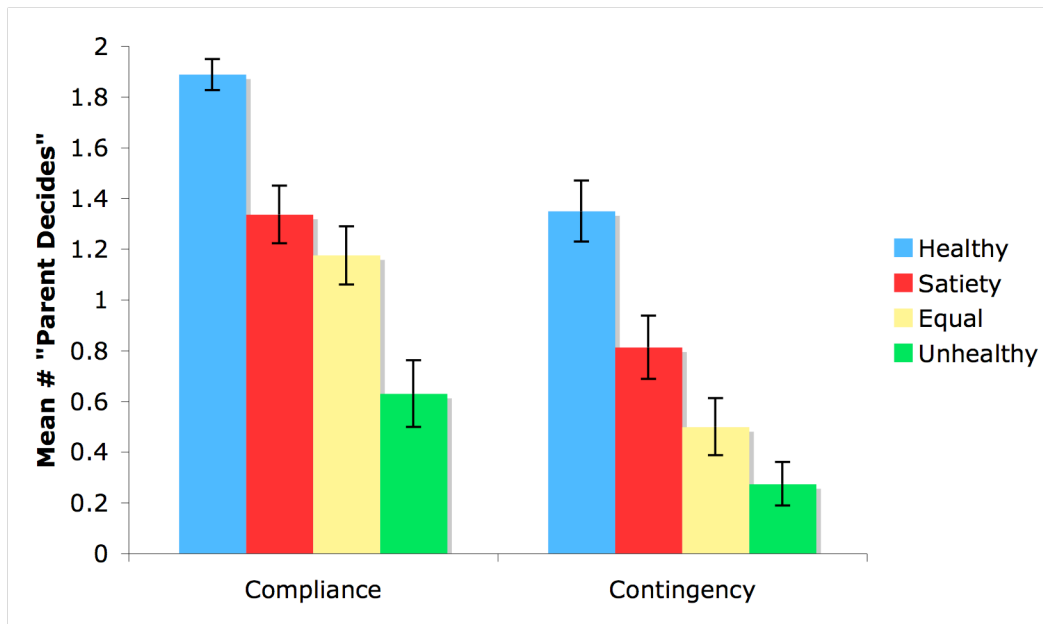


Figure 2. Mean frequency “parent decides” comparing children’s responses to the “compliance” and “contingency” questions. Error bars represented standard error

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