

## **Responsive Feeding Practices and Influences: A Qualitative Analysis of Parent Experiences with Feeding their Young Children**

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### **Abstract**

*Parenting styles and feeding practices influence child eating behaviors. Using a qualitative method with a responsive feeding lens, this study explored the feeding practices described by a sample of parents of young children between the ages of 3-5 years. Findings indicated that although parents hoped their children would develop a lifelong healthy relationship with food and for the most part understood responsive feeding, their confidence and ability to consistently practice responsive feeding was influenced by their children's behavior, previous experiences, family and friends, and their own beliefs about food and feeding. These findings can inform how we support parents during the early years as they navigate food and feeding with their young children and strive for the development of lifelong healthy eating habits.*

**Keywords:** young children, child care, responsive feeding, feeding practices

### **1. Introduction**

Poor health habits such as consumption of energy dense, low nutrient foods and lack of physical activity that contribute to short and long term health risks begin to develop in early childhood (Benton, 2008; Gable, Britt-Rankin & Krull, 2008; Roberts, Shields, de Groh, Aziz & Gilbert, 2012). A recognized public health challenge is childhood overweight and obesity known to be associated with the development of chronic diseases such as cardiovascular disease and diabetes as well as academic performance and relationship difficulties (Benton, 2008; Gable, Britt-Rankin & Krull, 2008). To illustrate the scope of this challenge, the World Health Organization (WHO) reported that almost 42 million children worldwide under the age of five were overweight or obese in 2013 (WHO, 2014). Early in life, infants and young children have an innate ability to self-regulate their food intake through a series of evolving non-verbal and verbal cues (Birch, Fisher & Davison, 2003; Bante, Elliott, Harrod & Haire-Joshu, 2008). Upon birth, parents become active influencers of their child's food intake and play a crucial role in how a child accepts food and what associations they develop around food and feeding (Benton 2008; Eliassen, 2011; Peters, Sinn, Campbell & Lynch, 2012).

Parenting styles and feeding practices are shaped by their families and social circles, culture, socio-economic status, the range of policies and programs at the local, regional, national and global levels and, of course, the interactional relationship parents share with their children (Siddiqi, Irwin & Hertman, 2007; Bante et al, 2008; Gable et al, 2008; Sleddens, Kremers, Stafleu, Dagnelie, DeVries & Thijs, 2014). It has been noted that interventions that do not consider parenting and feeding contexts are limited and will not be fully successful in addressing child eating behaviors and the growing rate of childhood obesity (Mitchell, Farrow, Haycraft & Meyer, 2012; Peters et al, 2012; Sleddens et al, 2014).

## 2. Background: Parenting and Feeding Context

Ventura and Birch (2008) identified three parenting patterns; parents as providers, role models or controllers; that were associated with the feeding practices of modeling, restricting, pressuring and monitoring. Expanding on this, Black and Hurley (2010) defined four parenting styles: authoritative (democratic, involved, nurturing, structured), authoritarian (controlling, forceful, restrictive, structured), uninvolved (neglectful, unengaged, insensitive, unstructured) and indulgent (permissive, uninvolved, nurturing, unstructured). As illustrated in Table 1, these parenting styles have been expanded into responsive and unresponsive feeding styles including the impact each style has on the development of positive and negative eating behaviors (Black & Hurley, 2010; Mitchell et al, 2012; Harbron, Booley, Najaar & Day, 2013).

**Table 1. Parenting Styles, Feeding Styles and Possible Consequences for the Child**

Parenting Style	Feeding Style	Characteristics of Parent	Possible Consequences for the Child
Authoritative	Responsive	Creates feeding structure, responds appropriately to child's hunger and fullness cues; is engaged and interactive; supports self-feeding	Develops food intake self-regulation and healthy associations with food
Authoritarian	Unresponsive	Dominates feeding, uses forceful, pressure, restrictive and bribery strategies	Distress, develops poor food intake self-regulation, may overindulge on food
Uninvolved	Unresponsive	No feeding structure, no response to child's hunger and fullness cues; little engagement	Develops poor food intake self-regulation, may overindulge on food
Indulgent	Unresponsive	No feeding structure, uses food as a comforter (reward) and controller (instrumental)	May overindulge on energy dense, low nutrient foods

Adapted from Harbron et al (2013)

### 2.1. Responsive Feeding Practices

Recommended by the WHO (2003) as a global strategy for feeding infants and young children, responsive feeding refers to the reciprocal and dynamic interaction between a parent or caregiver and their child (Black & Aboud, 2011; Harbron et al, 2013). Responsive feeding involves establishing a routine that supports this interaction; the child signaling hunger or fullness by verbal, motor or facial expressions, a prompt response by the parent or caregiver that is appropriate and emotionally supportive, and the reaction to the response by the child (Eshel, Daelmans, Cabral de Mello & Martines, 2006; Hughes, Patrick, Power, Fisher, Anderson & Nicklas, 2007; Black & Aboud, 2011; Harbron et al, 2013). A supportive social environment is a key component to responsive feeding represented by a calm, comfortable feeding setting with minimal distractions, modeling of healthy eating behaviors, encouraging acceptance of new foods and self-feeding in response to hunger or satiety, and verbal responses that focus on internal rather than external cues (Ramsay, Branen, Fletcher, Price, Johnson & Sigman-Grant, 2010; Black & Aboud, 2011; Harbron et al, 2013). Responsive feeding practices appear simple but establishing and sustaining them are a challenge if family, culture, social and economic supports undermine the confidence parents have in themselves as well as in their children (Orrell-Valente, Hill, Brechwald, Dodge, Pettit & Bates, 2007; Black & Aboud, 2011).

For example, young children often experience neophobia particularly with plant foods (Addessi, Galloway, Visalberghi & Birch, 2005) that can frustrate attempts by parents to follow responsive feeding practices and promote acceptance of a wide variety of vegetables, fruits and grains (Vereijken, Weenen & Hethering, 2011).

While it is well established that regularly consuming these foods plays an important role in the prevention of chronic diseases, how they are introduced to children is important to ensure positive associations with these foods for life long healthy eating habits (Benton, 2008).

## **2.2. Non-responsive Feeding Practices**

Non-responsive feeding practices (see Table 1) are characterized by the lack of reciprocity between the parent/caregiver and child (Harbron et al, 2013). In a study of mothers of five-year-old girls, Francis, Hofer and Birch (2001) found that mothers who were concerned about their own weight and perceived that their daughters were overweight, used restrictive feeding practices and those who perceived that their children were underweight used pressure feeding practices. Further, the pressure feeding practices used external cues suggesting that the mothers did not have confidence in their child's ability recognize internal feelings of hunger and fullness. There is evidence that restrictive feeding practices lead to over eating and/or over indulgence of high calorie, low nutrient dense foods (Puhl & Schwartz, 2003; Black & Aboud, 2011; Harbron et al, 2013). Uninvolved feeding practices whereby the parent/caregiver ignores or is inattentive to the child may be due to competing demands or stresses on parent/caregiver and, similar to restrictive or pressure feeding practices, lacks a reciprocal relationship between parent and child that can negatively affect the child's emotional development and ability to self-regulate feeding (Black & Aboud, 2011). Parental inability to recognize their child's hunger and fullness cues and/or their lack of confidence in responsive feeding may also lead to indulgent practices such as offering food or treats to placate the child (Black & Aboud, 2011) and is associated with a higher risk for overweight and obesity (Hughes, Shewchuck, Baskin, Nicklas & Qu, 2008).

## **3. Purpose**

The purpose of this study was to explore the influences on and the practices described by parents in the Nutrition Standards in Child Care Project (NSCCP) (Kelly Rossiter & Mann, 2015) in feeding their young children and through a responsive feeding lens. The intent is that these findings can provide insights about responsive and non-responsive feeding practices, the barriers that prevent consistent application of responsive feeding and how supports for parents could be reimagined to better support them during their children's early development around food and feeding.

## **4. Methodology**

Using a qualitative descriptive research methodology (Neergaardm, Olesen, Andersen & Sondergaard, 2009) this study analyzed semi-structured interviews of parents with young children. This methodology was selected as it supported the thematic analysis of qualitative data through the lens of responsive feeding practices and influences (Neergaard et al, 2009). Strategies to promote authenticity, credibility, criticality and integrity as outlined by Neergaard et al (2009) were applied throughout the data collection, analysis and review. For example, prompts were given during the interviews to encourage the parents to elaborate on their comments about feeding their children and the researchers reflected on the assignment of codes and themes through multiple reviews.

### **4.1. Ethics**

The NSCCP and this study, using the secondary data, received university research ethics approval which follows the Canadian Tri-Council Policy Statement: Ethical Conduct for Research Involving Humans (CIHR, NSERC, SSHRC, 2005). All research ethics requirements have been strictly adhered to by the NSCCP research team and the student researcher of this study.

### **4.2. Data Collection**

Twenty-two parents of children between the ages of two and five years attending regulated child care agreed to take part in either a face-to-face or telephone interview (Kelly et al, 2015). Interviews were conducted by research assistants over a three month period in the Spring and Fall of 2014. All interviews were audio-recorded and transcribed. The semi-structured interview questions (Table 2) were designed to engage the participants in a conversation about their experiences with feeding their children following the 2011 implementation of the Nova Scotia Standards and Guidelines for Food and Nutrition in Regulated Child Care Settings (Government of Nova Scotia, 2011; Kelly et al, 2015).

The first group of interview questions were related to parents' understanding and impact of the Standards; and while not directly related to this study, some relevant responses were elicited.

**Table 2. Semi-Structured Interview Questions**

Please tell me about your understanding of the NS Standards for Food and Nutrition in Regulated Child Care Settings. Have your child's eating behaviors changed since the new standards were introduced at the child care centre your child attends? If yes, in what ways? How do you believe the new standards will impact your child (now and long term)?
Can you describe how and when your child typically eats at home? In the child care setting? Are they different? Describe the meal and snack routines at home. What do you think has shaped the way your child eats? Probes: family background and relationships, culture, beliefs, and so on.
Can you provide us with your experiences on the challenges you face and on the enjoyments you have around feeding your children.
As a parent of young children, how do you handle feeding your children food that you consider to be good for them? How do you handle snacks and treats?
Thinking into the future, are there any thoughts you have about how would like your child to relate to food?

### 4.3. Analysis

Using MSExcel 2010 (version 14.4.3) phrases from the parent interviews that corresponded to the responsive and non-responsive feeding practices and influences, as described by existing knowledge reported in the literature (Eshel et al, 2006; Ramsay et al, 2010; Black & Aboud, 2011; Harbron et al, 2013), were thematically coded (Attride-Stirling, 2001; Neergaard et al, 2009). A code of [1] was assigned for responsive feeding practices and positive influences; and [0] for non-responsive practices and negative influences to responsive feeding. Additional emerging themes were also identified and coded. The researcher conducted multiple reviews of the interviews until it was determined that saturation was reached and no further themes were identified. Three research team members also reviewed the interviews, codes and themes and participated in peer debriefing sessions to ensure reliability and validity of research findings.

### 5. Findings and Discussion

The analysis resulted in 310 codes segments that fell within 11 separate themes, as summarized in Table 3. The findings are discussed under the six feeding practices themes and their relationships with the five influences themes as applicable.

**Table 3. Parent Feeding Practices and Influences: Themes and Codes**

Themes	Responsive	Non-responsive
<b>Feeding Practices</b>		
- Feeding environment and routine (comfortable, minimal distractions, family together)	37	6
- Modeling behaviors	36	6
- Provide nutritious foods	15	1
- Encouragement (acceptance of new foods, self-feeding in response to hunger and satiety)	22	7
- Communication about food	23	0
- Rewards and treats	5	8
<b>Influences</b>		
- Confidence in self and in child for feeding and self-regulation	27	37
- Previous experience; family/friend influences	20	14
- Parent's relationship/knowledge about food and feeding	10	7
- Culture and beliefs about food and feeding	7	11
- Future hopes for children	11	0

For the most part, the parents of young children who participated in this study articulated the application of the responsive feeding practices, similar to another qualitative study of parental feeding (Carnell, Cooke, Cheng, Robbin & Wardle, 2011). Their study of the feeding practices employed by a sample of mothers in the United Kingdom, noted that while there was a diversity of styles including overt and covert strategies to promote healthy

eating, the overriding approach was responsive. Similarly most parents in this study expressed hopes that their children develop a lifelong healthy relationship with food which emerged as an important influence on how parents chose to feed their children, as illustrated by ‘hopefully that they [the children] know what are healthy choices and that they’re able to make those healthy choices for themselves. I hope that I am creating for them sort of those habits around eating at the table and eating together that will follow them throughout life’ (P4, 340). However despite their best intentions, parents described a range of challenges in feeding their children, for example, ‘we love food as a family, and it’s kind of important to us. But it is just the same struggles that every working parent has trying to get them fed in a reasonable time. And food that’s healthy that they’ll eat’ (P13, 206).

### **5.1. Feeding Environment and Routine**

A feeding environment where the family routinely eats meals together in a calm, social context without external distractions supports the necessary responsive feeding interactions and modeling of eating behaviors (Orrell-Valente et al, 2007; Kral & Rauh, 2010; Habron et al, 2013). Parent participants voiced an understanding of the important role feeding environments and routine play in shaping eating behaviors of young children, such as ‘eating together, any meal, is necessary [but] I feel sometimes it might not be possible. But, for the most part, if we’re going to eat, we’re sitting down at the kitchen table, and we’re eating supper together. That way, we can, you know, eat and talk about how our day was’ (P15, 235). Previous experience and family/friend influences play an important role in shaping parental feeding practices (Tucker, Meizi, Bouck & Pollett, 2006; Black & Aboud, 2011). Participants voiced a number of familial influences that shaped their own parenting decisions around the feeding environment and routine for their young children such as eating together as a family and making fresh healthy food available at all times, like these quotes: ‘my husband and I both came from families where we always sat down for dinner together’ (P17, 312) and ‘we always had a garden, there was always fresh produce, so fruits and vegetables would have always been around and readily available and that is sort of I guess the basis of how that I choose to be’ (P4, 208). Even negative experience can shape current feeding practices. Our participants described making conscious decisions around feeding practices to ensure past experiences were not repeated, for example, ‘my family liked food to keep you quiet ... I mean we ate family dinners together, but we spent a lot of time like in front of the TV eating food. So I would hope that when, as my kids grow older that they think about [food] more as fuel for their bodies and their health and connect it to other parts of their life’ (P3, 389).

### **5.2. Modeling Behaviors**

Modeling healthy eating behaviors is a key element in responsive feeding (Black & Aboud, 2011; Harbron et al, 2013) and can go beyond the family meal table by involving children in all aspects from purchasing through to food preparation. Our results suggest that parents can identify opportunities that enrich their children’s understanding of enjoying and eating healthy food as this quote illustrates, ‘we enjoy exposing our children to different flavors, food from different cultures. We enjoy food in our house a lot, right from selection to preparation to serving, we try to make food preparation a family event. I’m trying to get my daughter, and my son when he’s old enough, interested in preparing the food and not only just consuming it’ (P10, 122). A parent’s personal relationship with food and feeding, stemming from their experiences (Puhl & Schwartz, 2003), also emerged as an influence of parental modeling behaviors. For example, ‘so it’s really that piece too, of not letting your own personal filter affect your child’ (P16, 228), and ‘it’s difficult, and so food is one of those enjoyable things in my life and on the other hand it’s one of the most struggle things in my life’ (P6, 627). Challenges with extended family members who didn’t follow the same feeding practices was mentioned by a number of our parent participants signifying the important role social support networks play in modeling healthy eating behaviors for young children (Siddiqi et al, 2007) as these quotes illustrate, ‘one of my biggest challenge is Grammy. He knows that he can have whatever he wants and she’s got her own special cupboard for him and when he comes home he’s off the walls. So we try to minimize Grammy time’ (P7, 317), and ‘they [grandparents] let her eat anything that she wants – ice cream at 5 o’clock before supper. They’ve got zero respect for our rules, zero. Kind of guilt trip me into allowing her...’ (P2, 225).

### **5.3. Provide Nutritious Foods**

Successful modeling of healthy eating behaviors is linked to the foods provided and therefore the parental food preferences (Mitchell et al, 2012). However, our findings reveal that these preferences may not always represent positive modeling or they may be a source of contention between the parents, for example, ‘I don’t think milk is

healthy for you, I don't drink it, I never have drank it, and I have no issues whatsoever, you can get calcium from other vegetables. I think that it's no better than juice' (P2, 207) and 'my husband ... he was brought up that his food came with meat and potato and the only vegetable ever offered to him was peas I think because that seems to be the only [one] that he'll eat. And he likes a slice of bread and butter with every meal, it doesn't matter what meal it is' (P6, 471). Provision of nutritious foods is also influenced by parental self-confidence which can be challenged by internal and external influences, as illustrated by these examples, 'it's battle within myself I'm never really sure if what I'm giving them is a healthy best choice' (P6, 187); 'I sometimes wonder because my parents or his parents will tell me that we're too strict with that stuff and that could turn her the opposite way, we have a lot of large people in our family. I do worry that maybe we are too strict sometimes with food' (P2, 276), and 'one day we were somewhere and he asked what's a Tim-bit? And he was three ... he has cake and things like that just not an everyday thing so he didn't know ... I guess it's a healthy relationship but maybe it's a little too much, I don't know' (P1, 140). These comments also illustrate the uncertainties associated with whether to restrict foods or not. As noted in section 2.2 above, while there may be longer term negative consequences associated with food restriction, Sleddens et al (2014) determined that covert control (control over food that was not obvious to the child) and encouragement feeding styles may be linked to more healthy eating behaviors when the parenting context was more nurturing and structured.

#### **5.4. Encouragement (Accepting New Foods and Responding to Hunger Cues)**

Encouraging the acceptance of new food and self-feeding may require a range of strategies. Tucker et al (2006) reported that the parents in their qualitative study were concerned about promoting their children's healthy eating but due to time, economic and knowledge limitations, tended to resort to bribery and food restriction. Similarly, findings from a large sample of parents in Missouri, noted that attempts to increase vegetable and fruit intakes by their young children, in response to public health campaigns, often resulted in well-intentioned but inappropriate feeding practices such as pressure and rewards (Bante et al, 2008). However, parents in this study described encouraging their children and using positive strategies rather than forceful, coercive or pressure strategies, a practice that is a recommended approach to for promoting food acceptance (Galloway, Fioito, Francis & Birch, 2006; Vereijken et al, 2011; Mitchell et al, 2012; Fildes, van Jaarsveld, Wardle & Cooke, 2014), for example, 'they need to try and they can have a bite and then there's always options like I would have a couple of vegetables on the table' (P4, 266), and 'I have to hide the vegetables if he sees it, he doesn't eat it. At daycare, he's presented with vegetable, and he'll see his friends eating the vegetable, and, oh yeah, I eat these vegetables just like you' (P15, 141). This latter comment illustrates the positive role of peers in accepting new food. This parent went on to state that she felt that there was 'nothing wrong with hiding vegetables in the food'. While this practice may lead to recognition of the flavors of those vegetables over time, it may not encourage long term acceptance of the vegetables without parental modeling of the eating behaviors (Adessi et al, 2005; Vereijken et al, 2011).

The ability of the infant and young child to signal cues about hunger and satiety and for the parent to recognize and respond appropriately goes beyond verbal conversations and is central to responsive feeding practice (Black & Aboud, 2011; Harbron et al, 2013). As the young child gains more independence, parents can continue to encourage the child to respond to their feelings of hunger and satiety through self-feeding (Birch et al, 20013; Bante et al, 2008). However while this ability appeared to come easily for some parents, recognizing the cues was a challenge for others. Similar findings have been noted by other researchers (Bante et al, 2008; Carnell et al, 2011), illustrated by the following quotes, 'you can kind of tell when he gets home if he's hungry or not' (P5, 182), and 'if left to his own devices if I just said, you tell me when you're hungry, as opposed to, it's lunch time, I'm not sure I'd hear from him' (P11, 180). Parents who have confidence or trust in their children to indicate hunger and satiety cues and accept a variety of healthy foods will be less likely to question the effectiveness of their responsive feeding practices (Carnell et al, 2011).

We found evidence of such confidence from some of our parent participants suggesting an understanding of the role they are able to play in the development of healthy eating habits in their children as noted by the following, 'my daughter can tell you when she's hungry and needs a snack' (P21, 189), and 'I'll throw a lot of effort into something that I think they might want, and sometimes they will appreciate the effort, and sometimes they will not' (P18, 128). Responding appropriately does not always mean giving in to the child's demands (Black & Aboud, 2011) but rather responding to their child's hunger cues as conveyed in this parent's sentiment, 'if you come to me and say you're hungry and you want something to eat, I'll get you something to eat' (P16, 261). Nor does it mean responding with force as this parent describes, 'she's not hungry in the mornings, I find.

But I know that breakfast is so important. So I want her to eat forces to eat' (P22, 232). Use of force, even if well-intentioned, can undermine the child's internal hunger cues and interfere with the child feeding competence (Orrell-Valente et al, 2007; Black & Aboud, 2011; Mitchell et al, 2012).

### **5.5. Communication about Food**

Parents in this study appeared to have established very good interaction with their children about food and eating as evidenced by the conversations at the dinner table and beyond. How parents communicate their support for healthy eating behaviors to their children is important. Communication that uses even mild verbal pressure and/or external instead of internal focused cues that have been found to lead to less acceptance of particular foods (Galloway et al, 2006; Bante et al, 2008; Ramsay et al, 2010). Children may learn to ignore the pressure which can lead to frustration by parents and use of even more pressure or force to eat (Galloway et al, 2006). Verbal cues that focus on hunger and fullness support self-regulation; however traditional and common practice tends to use externally focused cues (Ramsay et al, 2010). For example the following quote uses external cues, 'help you grow' rather than asking the child to respond to his internal feelings of hunger by saying 'are you hungry' or 'will you be hungry later if you don't eat now?': 'what if it is something that he just wouldn't want to eat? How would I talk him into it? I don't know, I mean you just hear yourself saying the things your parents did [like] it's going to help you grow, it's like you need to go to sleep because that's when you do your growing' (P1, 178). Family or friend influences may undermine self-confidence and/or lead to confusion about the message they should give to their children, for example, 'my mother-in-law, who's significantly over-weight, always says don't give positives for eating all your supper, it traumatized her, but sometimes you need to eat all your supper because you didn't eat enough' (P21, 238).

### **5.6. Rewards and Treats**

Some parents in our study demonstrated a belief that using food to coerce or reward behaviors is good practice. This quote illustrates the dessert being used to coerce the child to eat her meal, 'she knows I don't care who's around she's not getting not one bit of that dessert unless she eats ... and I'll eat it right in front of her that does not bother me one iota. Because I think it's a good lesson' (P2, 165). However, there is evidence that while this practice may have short term effectiveness, in the longer term it creates a positive association with the food rewards, often energy dense, low nutrient foods, with a potential for development of unhealthy, overindulgence eating behaviors (Puhl & Schwartz, 2003; Ventura & Birch, 2008; Hughes et al, 2008; Sleddens et al, 2014). Other characterizations of using food as a reward described by our parents is the practice of using it to influence positive behaviors such as, 'so we do use food as a part of a reward system right now so we're transitioning from a crib to a bed and so the reward is staying in bed until a certain time, you get a reward when you wake up and it's food based' (P5, 165). Fedewa and Davis (2015) summarized evidence why this practice is discouraged by many government and professional agencies. They noted that this practice creates an increased desire for the reward food likely caused by the establishment of a neurological response with the reward that can become habit forming. Further, use of food or other external rewards have been found to decrease the intrinsic motivation to perform the behavior in the future (Fedewa & Davis, 2015).

However non-food rewards (stickers) have been found to increase acceptance of vegetables when associated with multiple exposures (Fildes et al, 2014). As well, some parents in this study indicated that they try to have their children associate rewards or treats with more nutritious foods, as illustrated by, 'a treat for her, she loves any kind she loves chocolate, cakes, anything that you think is a treat. So if you tell her that fruit and berries, or that yogurt and berries is a treat, she'll think that's a treat' (P2, 180), and 'I think it's nice to have something as a treat. And when I say, 'a treat,' you know, I consider the white rice a treat. I'm not talking chocolate bars and candy' (P9, 95). It is not known if this practice will have positive outcomes or whether it will lead to a desire for less nutritious rewards once the child becomes more aware of the food options.

Rewarding behavior whether food related or not is a challenging topic, especially in our society where the availability of treats is so plentiful and often inexpensive. None-the-less it is a subject that warrants attention when supporting parents during early childhood.

## **6. Limitations**

This research was a part of a larger study. Therefore the interviews with parent participants were designed to explore different objectives that didn't directly focus on responsive feeding practices and influences. For example, while culture or socio-economic status have been identified as important influences in shaping child health and

parenting practices (Siddiqi et al, 2007; Black & Aboud, 2011), there were no specific questions in the interview about these topics. In addition, we did not directly observe parents feeding their children, limiting our ability to fully identify what feeding practices are consistently applied between parent and child. While possible limitations with the qualitative description methodology have been identified, it was appropriate for this study exploring an existing theoretical framework (Neergaard et al, 2009).

## **7. Conclusion and Recommendations**

This qualitative study explored, through a responsive feeding lens, the influences on the practices described by a sample of parents in feeding their young children. Findings indicated that parents for the most part, understood responsive feeding practices. However encouraging young children to accept new foods, use of verbal cues and/or pressure in feeding, and the role of food rewards and/or treats in healthy eating are practices that emerged as challenging areas for a number of parents. This study also illustrated the complex influences on parental feeding practices (Siddiqi et al, 2007). Parents articulated their hopes that their children would develop a lifelong healthy relationship with food. The main influence on feeding practices, both positively and negatively, was parental self-confidence to support this healthy relationship with food for their children. Self-confidence, in turn, was influenced by their past experiences, family and social relationships, knowledge and beliefs about food and feeding, and the responses of their children to their feeding practices. For example parents who had positive feeding experiences as children, felt confident in their role as parents and feeding their children. Those who recognized flaws with their past experiences stated a desire to create a more positive experience for their children. It is recommended that future research explore the role of parental as well as child caregiver self-confidence in practicing responsive feeding. The impact of the influences, noted above, on this role as well as the interaction of the influences on each other should also be topics of future research. For example, investigations can explore how beliefs about food are shaped by past experiences, culture and socio-economic status; or how public policy can support parental self-confidence in feeding their children. Such research may employ diary and/or observation (Orrell-Valente et al, 2007) or in-depth interviews (Carnell et al, 2011) and be prospective (Sleddens et al, 2014) or retrospective (Batsell, Brown, Ansfield & Paschall, 2002). A retrospective study might shed further insight on how parents repeat or modify the feeding practices they experienced as a child.

Identification and/or evaluation of programs or interventions to support responsive feeding practices, particularly in the areas of introduction of new foods, use of verbal cues and/or pressure in feeding, and the role of food rewards and/or treats in healthy eating, is suggested. Comprehensive reviews of a wide range of such interventions have been conducted by Eshel et al (2006), Peters et al (2012) and Mitchell et al (2013). Effective strategies to support responsive feeding should focus on parenting styles and feeding practices, not just nutrition knowledge (Peters et al, 2012), and should be interactive and cost-effective (Mitchell et al, 2013). This may take the form of story-telling, reflections or case discussions to engage parents, caregivers and even extended family members in the development of effective feeding practices for their children. For example, and based on our findings, this should include a reflection on how parents' past experiences have shaped their relationships with food and the impacts this has on feeding their children as well as how to navigate situations that are in conflict with responsive feeding practices. Related to this, it is recommended to incorporate similar knowledge sharing strategies in nutrition and early child care education programs. These strategies should be used in socially supportive group settings and accompanied by reliable education materials (Mitchell et al, 2012). The importance of the parenting and feeding context in the development of lifelong healthy eating habits of young children was illustrated by this study.

Recommendations were made to explore the complex interrelationships among the influences on parental self-confidence in responsive feeding practice as well as to assess the effectiveness of feeding practice interventions. Responsive feeding is an emerging and important area for researchers, policy makers, caregivers and parents. As noted by Black & Aboud (2011), we should not only prioritize 'what' children are fed but ensure considerable focus is directed towards 'how' young children are fed.



## References

- Addressi, E., Galloway, A.T., Visalberghi, E. & Birch, L. (2005). Specific social influences on the acceptance of novel food in 2-5 year-old children. *Appetite*, 45, 264-271. doi: 10.1016/j.appet.2005.07.007
- Attride-Stirling, J. (2001). Thematic networks: An analytic tool for qualitative research. *Qualitative Research*, 1(3), 385-405.
- Bante, H., Elliott, M., Harrod, A. & Haire-Joshu, D. (2008). The use of inappropriate feeding practices by rural parents and their effect on preschoolers' fruit and vegetable preferences and intake. *Journal of Nutrition Education Behavior*, 40, 28-33. doi: 10.1016/j.neb.2007.02.007
- Batsell, W.R., Brown, A.S., Ansfield, M.E. & Paschall, G.Y. (2002). "You will eat all of that!": A retrospective analysis of forced consumption episodes. *Appetite*, 38, 211-219. doi: 10.1006/appe.2001.0482
- Benton, D. (2008). The role of parents in children's eating habits & childhood obesity. *Journal of Community Nursing*, 22(10), 10-12. Retrieved from <http://search.proquest.com.ezproxy.msvu.ca/docview/208559373/>
- Birch, L.L., Fisher, J.O. & Davison, K.K. (2003). Learning to overeat: Maternal use of restrictive feeding practices promotes girls' eating in the absence of hunger. *American Journal of Clinical Nutrition*, 78, 215-220.
- Black, M., & Aboud. F. (2011) Responsive feeding is embedded in a theoretical framework of responsive parenting. *The Journal of Nutrition*, 141, 490-494. doi:10.3945/jn.110.129973
- Black, M. & Hurley, K. (2010). Infant nutrition. In Bremner, J.G. & Wachs, T. Editors. *Handbook on Infant Development. Applied and Policy Issues*. New York: Wiley-Blackwell, 33-61.
- Canadian Institutes of Health Research (CIHR), Natural Sciences and Engineering Research Council of Canada (NSERC), Social Sciences and Humanities Research Council of Canada (SSHRC). (1998 with 2000, 2002, 2005 amendments). *Tri-Council Policy Statement: Ethical Conduct for Research Involving Humans*. Retrieved from [www.pre.ethics.gc.ca](http://www.pre.ethics.gc.ca)
- Carnell, S., Cooke, L., Cheng, R., Robbins, A. & Wardle, J. (2011). Parental feeding behaviours and motivations. A qualitative study in mothers of UK pre-schoolers. *Appetite*, 57, 665-673. doi: 10.1016/j.appet.2011.08.009
- Eliassen, E.K. (2011). The impact of teachers and families on young children's eating behaviours. *Young Children*, 66(2), 84-89. Retrieved from EBSCOhost
- Eshel, N., Daelmans, B., de Mello, M. & Martines, J. (2006). Responsive parenting: Interventions and outcomes. *Bulletin of the World Health Organization*, 84(12), 992-999.
- Fedewa, A.L. & Davis, M.C. (2015). How food as a reward is detrimental to children's health, learning, and behavior. *Journal of School Health*, 85(9), 648-658. doi:10.1111/josh.12294
- Fildes, A., van Jaarsveld, H.M., Wardle, J. & Cooke, L. (2014). Parent-Administered exposure to increase children's vegetable acceptance: a randomized controlled trial. *Academy of Nutrition and Dietetics*, 114, 881-887. doi: 10.1016/j.jand.2013.07.040
- Francis, L.A., Hofer, S.M. & Birch, L.L. (2001). Predictors of maternal child-feeding style: Maternal and child characteristics. *Appetite*, 37, 231-243. doi: 10.1016/appe.2001.0427
- Gable, S., Britt-Rankin, J. & Krull, J.L. (2008). Ecological predictors and developmental outcomes of persistent childhood overweight. United States Department of Agriculture, Contractor and Cooperator Report No. 42. Retrieved from: <http://handle.nal.usda.gov/10113/32852>
- Galloway, A.T., Fiorito, L.M., Francis, L.A. & Birch, L.L. (2006). 'Finish your soup': Counterproductive effects of pressuring children to eat on intake and affect. *Appetite*, 46, 318-323. doi:10.1016/j.appet.2006.01.019
- Government of Nova Scotia. (2011). *Manual for Food and Nutrition in Regulated Child Care Settings*. Halifax, NS: Government of Nova Scotia. Retrieved from: [http://www.gov.ns.ca/coms/families/provider/documents/Manual-Food\\_and\\_Nutrition.pdf](http://www.gov.ns.ca/coms/families/provider/documents/Manual-Food_and_Nutrition.pdf)
- Harbron, J., Booley, S., Najaar, B. & Day, C.E. (2013). Responsive feeding: Establishing healthy eating behaviour early on in life. *South African Journal of Clinical Nutrition*, 26(3)(Supplement), 141-149. Retrieved from: <http://sajcn.co.za/index.php/SAJCN/article/view/758/1087>
- Hughes, S.O., Shewchuck, R.M., Baskin, M.L., Nicklas, T.A. & Qu, H. (2008). Indulgent feeding style and children's weight status in preschool. *Journal of Developmental & Behavioral Pediatrics*, 29(5), 403-410. doi:10.1097/DBP.0b013e318182a976.

- Kelly, E., Rossiter, M.D. & Mann, L.L. (2015). Assessment of Impact: The Standards for Food and Nutrition in Regulated Child Care Settings in Nova Scotia. Report of the Nutrition Standards in Child Care Project (NSCCP), Mount Saint Vincent University.
- Kral, T. & Rauh, E. (2010). Eating behaviours of children in the context of their family environment. *Physiology & Behavior*, 100, 567-573. doi:10.1016/j.physbeh.2010.04.031
- Mitchell, G.L, Farrow, C., Haycraft, E. & Meyer, C. (2012). Parental influences on children's eating behaviour and characteristics of successful parent-focussed interventions. *Appetite*, 60, 85-94. doi:10.1016/j.appet.2012.09.014
- Neergaard, M.A., Olesen, F., Andersen, R.S. & Sondergaard, J. (2009). Qualitative description – the poor cousin of health research? *BMC Medical Research Methodology*, 9, 52. doi: 10.1186/1471-2288-9-52
- Orell-Valente, J.K., Hill, L.G., Brechwald, W.A., Dodge, K.A, Pettit, G.S. & Bates, “Just three more bites”: An observational analysis of parents' socialization of children's eating at mealtimes. *Appetite*, 48, 37-45. doi: 10.1016/j.appet.2006.06.006
- Peters, J., Sinn, N., Campbell, K. & Lynch, J. (2012). Parental influences on the diets of 2-5 year-old children: Systematic review of interventions. *Early Child Development and Care*, 182(7), 837-857. doi: 10.1080/03004430.2011.586698
- Puhl, R. & Schwartz, M. (2003). “If you are good you can have a cookie: how memories of childhood food rules link to adult eating behaviours.” *Eating Behaviours*, 4(3): 283-93. doi:10.1016/S1471-0153(03)00024-2
- Ramsay, S.A., Branen, L.J., Fletcher, J., Price, E., Johnson, S.L. & Sigman-Grant, M. (2010). “Are you done?” Child care providers' verbal communication at mealtimes that reinforce or hinder children's internal cues of hunger and satiation. *Journal of Nutrition Education and Behavior*, 42(4), 265-270. doi: 10.1016/j.jneb.2009.07.002
- Roberts, K.C., Shields, M., de Groh, M., Aziz, A. & Gilbert, J.A. (2012). Overweight and obesity in children and adolescents: Results from the 2009 to 2011 Canadian Health Measures Survey. *Statistics Canada Health Reports*, 23(3). Retrieved from <http://www.statcan.gc.ca/pub/82-003-x/2012003/article/11706-eng.htm>
- Siddiqi, A., Irwin, L.G. & Hertzman, C. (2007). Total Environment Assessment Model for Early Child Development Evidence Report for the World Health Organization's Commission on the Social Determinants of Health, Retrieved from [http://www.who.int/socialdeterminants/resources/ecdkneviden\\_cereport\\_2007.pdf](http://www.who.int/socialdeterminants/resources/ecdkneviden_cereport_2007.pdf)
- Sleddens, E.F.C., Kremers, S.P.J., Stafleu, A., Dagnelie, P.C., DeVries, N.K. & Thijs, C. (2014). Food parenting practices and child dietary behavior: Prospective relations and the moderating role of general parenting. *Appetite*, 79, 42-50. doi: 10.1016/j.appet.2014.04.004.
- Tucker, P., Irwin, J.D., He, M., Bouck, L.M. & Pollett, G. (2006). Preschoolers' dietary behaviours: Parents' perspectives. *Canadian Journal of Dietetic Practice*, 67, 67-71. Retrieved from ProQuest.com
- Ventura, A. & Birch, L. (2008). Does parenting affect children's eating and weight status? *International Journal of Behavior and Nutrition Physiology*, 5, 15. doi:10.1186/1479-5868-5-15
- Vereijken, C., Weenen, H. & Hetherington, M. (2011). Feeding infants and young children: From guidelines to practice-conclusions and future directions. *Appetite*, 57, 839-843. doi:10.1016/j.appet.2011.07.009
- World Health Organization. (2014). Obesity and Overweight Update. Retrieved from: <http://www.who.int/media/centre/factsheets/fs311/en/>
- World Health Organization. (2003). Global Strategy for Infant and Youth Child Feeding. Retrieved from: <http://apps.who.int/iris/bitstream/10665/42590/1/9241562218.pdf>