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Parental Child Feeding Practices: How Do Perceptions Of Mother, Father, Sibling, And Self Vary?

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Abstract

Mothers are important contributors to the development of eating behavior in children, but less is known about the influence of fathers. The purpose of this study was to investigate family perceptions of parental child feeding practices. Seventy two-parent American families including a mother, father, and two bio-logically related children participated in the study. Participants completed parent and child versions of the Child Feeding Questionnaire that assessed perceptions of parental control in child feeding. Most family member reports were positively correlated, indicating agreement about the use of the examined parental feeding practices; however, some salient differences between the reported behaviors of mothers and fathers were uncovered. Mothers reported using higher levels of monitoring and responsibility than fathers. In addition, fathers and children reported higher levels of paternal pressure related to feeding com-pared with mothers. Mothers and fathers used more pressure and felt more responsible for feeding younger children compared with older children. One interaction revealed that older male siblings reported the highest level of pressure from fathers. Reported differences in parents' use of child feeding practices suggest that mothers and fathers may have distinct interactions with their children regarding food. Paternal feeding practices are likely to have unique implications for understanding the development of children's eating behavior.

Amy T. Galloway, Rose Mary Webb, Lucinda O. Payne & Carol Pulley (2014) "Parental Child Feeding Practices: How Do Perceptions Of Mother, Father, Sibling, And Self Vary?" *Appetite* #80 pp.96-102. Version of Record Available From (ww.sciencedirect.com) [DOI: 10.1016/2014.05.001]

A confluence of several factors, including growth in the number of two-earner families and the availability of affordable quality childcare, has resulted in shifts in expectations for fathers and questions about the nature of fatherhood in the United States (Pleck, 2004). Today, the cultural ideal of fatherhood has shifted toward one of a coparent who shares in the care of children. However, although fathers' contributions to childcare are proportionately higher than in the past, research indicates that levels of paternal responsibility and involvement with children have not paralleled the high expectations of mothers and continue to follow traditional gender roles (Pleck & Masciadrelli, 2004). Role theory suggests that maternal and paternal contributions to child development reflect gender-based societal expectations for each parent (Hosley & Montemayor, 1997), and that fathers continue to interact with their children in the traditional role of family provider and disciplinarian (McKinney & Renk, 2008). Research suggests that the influence of the father on a child's development, particularly in the promotion of positive psychosocial development, is often as great as and sometimes greater than the influence of the mother even though the quantity of time fathers spend directly interacting with their children is comparatively low (Lamb & Lewis, 2004; Rohner, 1998).

The purposes of this study are to examine family members' perceptions of parental child feeding practices and to better understand how parent gender, child gender, and relative sibling age might relate to controlling feeding practices used by mothers and fathers.

Despite the greater diversity of roles fathers can fulfill in a modern household, mothers are still considered to be the primary caregiver responsible for feeding children. Studies that asked parents to provide information regarding their children's eating found that only 2–8% of respondents were fathers (Patrick, Nicklas, Hughes, & Morales, 2005; Wardle, Carnell, & Cooke, 2005). Another study found that 63% of mothers compared with 4% of fathers reported that they were mostly responsible for their children's feeding (Blissett, Meyer, & Haycraft, 2006). It is not the case that fathers neglect to participate in the feeding of their children. For instance, in the previous study only 3% of fathers indicated never being responsible for their children's feeding (Blissett et al., 2006). Therefore, fathers are involved in the task of feeding children, but compared with mothers their contributions are significantly lower.

In addition to having distinctive parenting responsibilities compared with mothers, fathers may use an interaction style that is dif-

ferent, perhaps less traditionally nurturing, than the style used by mothers (Young, Miller, Norton, & Hill, 1995). In caregiving activities, such as feeding or bathing, fathers are thought to engage in them as tasks to be accomplished, while mothers tend to approach such activities as opportunities for verbal interaction (Young et al., 1995). The differences in such approaches may have a beneficial effect on children. Two parents who interact with their children in unique and possibly contrasting ways provide a more diverse set of interactive experiences for their children (Doherty, Kouneski, & Erickson, 1998). Therefore, a father's behavior may contribute to the child's development in a way that is different from the mother's contribution. It must be noted, however, that there are few studies that gather data directly from fathers rather than from mothers' reports of fathers' parenting practices (Fraser et al., 2011).

Studies comparing maternal and paternal child feeding practices are scarce (Khandpur, Blaine, Fisher, & Davison, 2014). In one study, mothers reported higher levels of monitoring of the children's eating than fathers, but there were no differences between maternal and paternal reports of using pressure and restriction with their children, suggesting that children within families experience similar levels of controlling feeding practices from both parents (Blissett et al., 2006). Similarly, Haycraft and Blissett (2008) found no differences between maternal and paternal self-reported use of pressure and restriction. However, differences were detected when feeding practices were observed and measured: Paternal, but not maternal, self-reported and observed feeding practices were positively correlated. The authors suggested that mothers may behave differently depending on whether fathers are present at mealtimes because their self-reported and observed practices were uncorrelated, although an alternative explanation might be that mothers intentionally or unintentionally report their practices inaccurately. In a study that focused on toddlers with a non-organic feeding disorder, fathers who were less involved in feeding their children showed significantly reduced sensitivity compared with mothers during videotaped feeding interactions (Atzaba-Poria et al., 2010). These authors concluded that while fathers are less involved in feeding overall, they can still influence the feeding of the child in meaningful ways and should be considered in the design of interventions related to feeding.

While mothers and fathers use different general parenting styles for their sons and daughters (McKinney & Renk, 2008), the extent to which parents use distinct feeding practices according to the gender of the child is unclear. In one study, parents exerted more control in the food domain if their overweight child was a girl rather than a boy, indicating that the relationship between parental control and children's weight-status is sometimes gender-specific (Johnson & Birch, 1994). Blissett et al. (2006) examined the child feeding practices reported by mothers and fathers and found no differences in the use of restriction, pressure, or monitoring of boys compared with girls. However, in a study of observed mealtime strategies used by parents, the findings indicated that mothers were more likely to offer play rewards and twice as likely to praise daughters for eating specific foods (e.g. "You ate all of your chicken – good job.") compared with sons (Orrell-Valente et al., 2007). Orrell-Valente et al. also reported that fathers were four times more likely to pressure sons to eat than daughters. Girls in this study were more likely to comply with their parents' requests compared with boys; thus, the authors suggested that daughters might be more sensitive to external cues of satiety.

Much of the research concerning the development of eating behavior in children has focused on parents because they impart both biological and environmental influences (Carnell, Kim, & Pryor, 2012; Davison & Birch, 2001; Kral & Rauh, 2010). Parents use a variety of practices to achieve day-to-day goals involving when, what, and how much children eat (Faith, Scanlon, Birch, Francis, & Sherry, 2004). A family systems theory perspective is useful in conceptualizing the interdependencies that exist in a dynamic family unit and how each dyad or combination of family members is unique (Minuchin, 1985). In terms of eating behavior, this theory implies that the development of eating habits can be affected by a child's interaction with each family member individually and by the relationships between other members of the family.

To date, no studies have investigated parental child feeding practices in a way that incorporates the family dynamic by including the perspectives of four family members. Whether children's and parents' perceptions of child feeding practices concur is relatively unstudied, but the few results are intriguing. Carper, Orlet Fisher, and Birch (2000) showed that parents' and daughters' reports of pressure, but not restriction, were positively correlated. Daughters' perceptions of parental pressure to eat, but not the parents' perceptions of pressure, were linked to dietary restraint and emotionally disinhibited eating in the girls. In other words, girls who perceived that their parents pressured them to eat were more like to report using cognitive control of their eating and to report eating in response to emotional cues rather than eating in response to physical cues of satiety. In a retrospective study of parents' and their college-aged children's perceptions of past parental restriction and monitoring, parents' perceptions, but not children's perceptions, were linked to higher levels of current emotional eating for college-aged women, but not for college-aged men (Galloway, Farrow, & Martz, 2010). These associations between parental feeding practices and child eating behavior warrant a closer look at family members' perceptions in the household.

Current study

The aim of this study was to examine maternal and paternal use of child feeding practices from the perspective of both parents and two children from the same family. In addition, we assessed family members' perceptions of child feeding practices as a function of parent gender, sibling gender, and relative sibling age. Based on previous research (Blissett et al., 2006), we expected that mothers would report higher levels of responsibility for child feeding, but it is unclear whether mothers and fathers would self-report similar levels of controlling feeding practices in the form of pressure, restriction, and monitoring. Given the lack of previous research concerning children's perceptions of parental feeding practices, it is important to explore how children perceive how their mothers and fathers use pressure and restriction. However, research from the general parenting literature suggests that fathers are likely to be perceived as influential even if they are less involved in the feeding domain compared with mothers (Lamb & Lewis, 2004; Rohner, 1998). Furthermore, we will run exploratory analyses to examine whether mothers and fathers use differential feeding practices for girls compared with boys, but we hypothesize that both parents will use higher levels of controlling feeding practices with younger siblings given that they would be relatively more dependent on their parents with regard to food.

Method

Participants

This project was part of a larger study that explored the nature of child feeding behavior within the family (Horn, Galloway, Webb, & Gagnon, 2011; Payne, Galloway, & Webb, 2011). Permission to conduct the research was granted by the Institutional Review Board at the researchers' university. The research was conducted in accordance with the Ethical Principles of the American Psychological Association. Written informed consent was obtained from each parent and each child was asked to give assent for participation prior to data collection. Research assistants recruited participants by ad-

vertising in the community using flyers, local media, and email Listserv announcements. Exclusion criteria included genetic, physical, or neurological impairments that impeded food intake. Parents completed their questionnaires in 1–2 hours, and the children completed their questionnaires in 30-45 minutes. Families received compensation of $25 per person ($100 per family).

Seventy-seven American families participated in the study including one mother, one father, and their two biological children between the ages of 6 and 12 years, for a total of 308 participants. Seven families were excluded from the analysis because of incomplete data. Older siblings in this sample (30 girls, 40 boys) were $M = 10.45$, $SD = 1.30$ years old, and younger siblings (30 girls, 40 boys) were $M = 8.21$, $SD = 1.26$ years old. The experimenter-measured Body Mass Index percentiles (BMI%; Kuczmarski et al., 2000; Ogden & Flegal, 2010) for the older siblings were $M = 54.41$, $SD = 29.40$ (22% were overweight or obese, over the 85th percentile) and for younger siblings were $M = 57.19$, $SD = 28.92$ (19% were overweight or obese, over the 85th percentile). Experimenter-measured parental Body Mass Indexes (BMIs) for the mothers were $M = 27.72$, $SD = 7.17$ and for the fathers were $M = 28.49$, $SD = 5.70$. Using the recommendation to classify a BMI over 25.0 as overweight and over 30.0 as obese (Centers for Disease Control and Prevention, 2014), 54% of mothers and 69% of fathers in this study were overweight or obese. BMI% and BMIs are reported to characterize the weight status of the participants but are not analyzed here (see Payne et al., 2011, for an examination of child feeding and BMI). In the United States, 31.8% of children between 6 and 11 years old are overweight or obese (Ogden, Carroll, Kit, & Flegal, 2012) and 69.2% of adults are overweight or obese (Flegal, Carroll, Kit, & Ogden, 2012). Therefore, children in the current study had a relatively healthy weight status while adult BMIs were comparable to current American norms.

Additional demographic data indicated that over 95% of the participant parents were married, and the household income data measured in US dollars for the participants was <$20,000 = 7.55%; $20,000–35,000 = 15.09%; $35,000–50,000 = 30.19%; >$50,000 = 47.17%. In comparison, while the median household income in the United States was $52,762 between 2007 and 2011, the median household income for the study area during this time was $34,497 (U.S. Census Bureau, 2013). The sample was racially and ethnically homogeneous, non-Hispanic white, reflecting the racial and ethnic demographics of the study area.

Measures

Background information

Mothers were asked to provide qualitative background and family demographic information. Mothers also provided family income and education information on Likert scales. In addition, mothers provided a detailed health history for each child participating in the study.

Child Feeding Questionnaire (CFQ)

Each parent completed the CFQ independently. This questionnaire assesses parental control of child feeding and the factors that may elicit parental control (three subscales: pressure, restriction, monitoring) and includes another subscale (responsibility) that examines responsibility parents reported for their child's feeding (Birch et al., 2001). Three types of control in child feeding are assessed using subscales that examine the extent to which parents attempt to restrict their child's access to food, the extent to which parents pressure their child to eat, and the level of monitoring of their child's food intake that is reported by parents.

Previous research illustrates the validity of the CFQ in predicting children's eating behaviors and psychological well-being (Birch et al., 2001; Spruijt-Metz, Lindquist, Birch, Fisher, & Goran, 2002). All items were measured using a 5-point Likert-type scale, 1 (*disagree* or *never*) to 5 (*strongly* or *always*), depending on the subscale. Table 1 provides alpha coefficients for maternal and paternal reports for all the subscales used in the current study.

Table 1
Cronbach's alphas for maternal, paternal, and sibling reports for parental use of pressure restriction, monitoring, and responsibility.

	Older sibling	Younger sibling
Maternal		
Pressure	.58	.75
Restriction	.82	.81
Monitoring	.90	.91
Responsibility	.72	.84
Paternal		
Pressure	.72	.69
Restriction	.80	.71
Monitoring	.86	.92
Responsibility	.84	.87
Sibling		
Maternal pressure	.63	.64
Paternal pressure	.79	.79
Maternal restriction	.58	.38
Paternal restriction	.55	.35

Child Feeding Questionnaire for Children (CFQC)

Each child completed the children's version of the Child Feeding Questionnaire (Carper et al., 2000). This questionnaire was developed to assess children's perceptions of the level of control that their mothers and fathers exert during feeding situations, specifically the use of restriction and pressure. The CFQC assesses children's perceptions of specific behaviors that parents may or may not use in feeding contexts. Parents may attempt to prevent children from eating certain amounts or types of food (restriction) and attempt to get children to eat certain amounts or types of food (pressure). Examples of CFQC items included: "Does your mom (dad) make you eat all the food on your plate?" and "If you're with your mom (dad) and you want something to eat, does she (he) let you pick what you want to eat?" The CFQC uses three-point response options of 1 (*no*), 2 (*sometimes*), and 3 (*yes*). The CFQC is a relatively unstudied measure; internal consistency values ranging from .57 to .72 for the restriction subscale and from .67 to .83 for the pressure subscale previously reported influenced the decision to rely upon it in this study (Carper et al., 2000). In the current study, this measure shows adequate internal consistency for the older children's reports of pressure and restriction and for younger children's reports of pressure, but less reliability for the younger children's reports of restriction (see Table 1).

Procedure

After signing consent forms, a research assistant escorted the parents to a separate room and provided instruction on how to complete the questionnaires. The assistant remained in the room to answer questions and to ensure that the parents did not discuss their responses. A second research assistant accompanied the children to another room and explained how to complete the questionnaires. The assistant remained in the room to ensure the children did not discuss the questions and to assist the children as needed. All research assistants were trained to answer questions in an age-appropriate, neutral manner. In addition, if children required assistance in reading the questions, the research assistants were trained to read the question to the children without prompting responses. A third research assistant measured each participant's height and weight in private. A fourth research assistant provided childcare for the participating children when they had finished completing their questionnaires as well as for any additional siblings who were not participating in the study but had joined the family on the lab visit.

Table 2
Parental self-reported mean (and standard deviation) scores for their use of pressure, restriction, monitoring, and responsibility for child feeding.

	Pressure	Restriction	Monitoring	Responsibility
Maternal				
Older girls	2.36 (.86)	2.93 (1.00)	4.18 (.45)	4.01 (.44)
Younger girls	2.52 (1.01)	3.01 (.95)	4.02 (.67)	4.11 (.48)
Older boys	1.97 (.78)	3.06 (.99)	3.97 (.84)	3.81 (.71)
Younger boys	2.26 (1.05)	3.05 (.90)	3.97 (.93)	3.94 (.70)
Paternal				
Older girls	2.74 (1.08)	2.78 (.94)	3.10 (.92)	2.86 (.82)
Younger girls	2.88 (.89)	2.66 (.73)	3.24 (.89)	2.86 (.80)
Older boys	2.50 (1.06)	3.01 (.83)	3.36 (.94)	2.78 (.77)
Younger boys	2.76 (1.06)	3.00 (.72)	3.38 (.99)	2.87 (.79)

Note: $N = 70$ pairs; $n = 30$ older girls; $n = 30$ younger girls; $n = 40$ older boys; $n = 40$ younger boys. Child Feeding Questionnaire responses were 1 (*disagree*), 2 (*slightly disagree*), 3 (*neutral*), 4 (*slightly agree*), and 5 (*agree*). Higher values indicated higher levels of controlling feeding practices.

The children completed a separate CFQC for each parent. The mother provided background and demographic information for the family and a CFQ and health history for each child. The father completed the CFQ for each child.

Analytic strategy

The mean scores from the parent CFQ completed by the mother and the father were computed for levels of pressure, restriction, monitoring, and responsibility for each child. The mean scores for each child's responses to the CFQC for levels of restriction and pressure were determined for each parent. Mixed model ANOVAs were used to examine differences among parents' and siblings' perceptions of parental child feeding practices. Two-tailed Spearman correlations were used to investigate agreement between parent and sibling reports.

Results

Descriptive statistics from the maternal and paternal self-reports of the use of pressure, restriction, monitoring, and level of perceived parental responsibility for feeding are reported in Table 2. Descriptive statistics for children's perceptions of maternal and paternal use of pressure and restriction are presented in Table 3.

Relationships between sibling reports and parental self-reports

Agreement across reports of child feeding practices, focusing on pressure and restriction, was examined in several ways and is reported in Table 4. First, mothers' and fathers' reports of their use of each feeding practice for each child were positively correlated, although the correlation between parents for their use of restriction for their younger children did not reach statistical significance. When parent and child reports were compared, statistically significant correlations were found for older children for pressure (with fathers and mothers) and for restriction (with fathers, but not with mothers). Younger children's reports of their mothers' and fathers' restriction were not correlated with parent reports. However, older and younger children agreed in their reports of each parent's use of each practice, all of which were statistically significant.

Table 3
Sibling reported mean (and standard deviation) scores for their parents' use of pressure and restriction.

	Pressure	Restriction
Maternal		
Older girls	1.93 (.41)	2.11 (.43)
Younger girls	1.94 (.48)	2.12 (.77)
Older boys	2.10 (.39)	1.94 (.29)
Younger boys	2.11 (.42)	2.13 (.32)
Paternal		
Older girls	2.01 (.55)	1.98 (.41)
Younger girls	2.12 (.56)	2.09 (.43)
Older boys	2.18 (.47)	2.02 (.34)
Younger boys	2.03 (.48)	2.11 (.37)

Note: $N = 70$ pairs; $n = 30$ older girls; $n = 30$ younger girls; $n = 40$ older boys; $n = 40$ younger boys. Child Feeding Questionnaire for Children responses were 1 (*no*), 2 (*sometimes*), and 3 (*yes*). Higher values indicated higher levels of controlling feeding practices.

Table 4
Two-tailed spearman correlations between parental and sibling reports of parental use of pressure and restriction.

Person	M-S1	M-S2	F-S1	F-S2	S1-M	S1-F	S2-M	S2-F
M-S1	–		.317**		.280**			
M-S2		–		.586***			.161	
F-S1	.466**		–			.236**		
F-S2		.207		–				.222
S1-M	.200				–		.544**	
S1-F			.269*			–		.402**
S2-M		.149			.280*		–	
S2-F				.085		.315**		–

Note: $N = 70$ families. Pressure correlations are presented above the diagonal and restriction correlations are presented below the diagonal. M = mother; F = father; S1 = older sibling; S2 = younger sibling. The first letter indicates who completed the evaluation (parent or sibling) and the second letter indicates who was evaluated (parent or sibling).
* $p < .05$.
** $p < .01$.
*** $p < .001$.

Parental and sibling reports of parental child feeding practices

A series of four $2 \times 2 \times 2$ mixed-model ANOVAs (mother – father $\times$ female sibling – male sibling $\times$ sibling 1 – sibling 2) was used to examine differences in parental self-reports for each of the four child feeding practice dependent variables: pressure, restriction, monitoring, and responsibility. For each of these ANOVAs, parent report was treated as a repeated measures independent variable (mother versus father report). Sibling gender was treated as a between-subjects independent variable and was coded dichotomously. Sibling order was also treated as a repeated measures independent variable wherein parents reported on either sibling 1 or sibling 2. A similar series of two $2 \times 2 \times 2$ ANOVAs (mother – father $\times$ female sibling – male sibling $\times$ sibling 1 – sibling 2) was used to examine the differences in sibling reports of parental use of the two child feeding practice dependent variables: pressure and restriction. Here, the sibling reports were treated as a repeated measures independent variable (reporting on maternal practices versus paternal practices). Sibling gender was treated as a between-subjects independent variable and was coded dichotomously. Reports from each child were treated as a second repeated measures independent variable (sibling 1 versus sibling 2). ANOVA results for these six analyses are shown in Table 5.

There was a significant main effect for parental gender on three of four analyses based on parent reports and one of two analyses based on sibling reports. Fathers reported using more pressure to eat than mothers. In contrast, mothers reported significantly higher levels of monitoring of food intake and higher levels of responsibility for child feeding than fathers. Sibling data also indicated that children perceived higher levels of pressure to eat from their fathers than their mothers.

Relative sibling order also exhibited predictive power in three of the six total analyses. Parental self-report indicated that there was a significant main effect for sibling order, where younger siblings

Table 5
Summary of mixed ANOVA data for parent and sibling reports of parental child feeding practices.

	Pressure			Restriction			Monitoring			Responsibility		
	F	*p*	η^2	F	*p*	η^2	F	*p*	η^2	F	*p*	η^2
Parent reports												
1. Parent gender	15.85	.001[a]	.19	1.86	.18	.03	30.51	.001[b]	.31	76.31	.001[b]	.53
2. Sibling gender	2.07	.16	.03	1.44	.23	.02	.05	.82	.00	1.08	.30	.02
3. Sibling order	4.46	.04[c]	.06	.23	.88	.00	.01	.92	.00	5.38	.02[c]	.07
4. 1 × 2	.41	.52	.01	.84	.36	.01	1.45	.23	.02	.36	.55	.01
5. 1 × 3	.08	.78	.00	.95	.33	.01	3.10	.08	.04	1.74	.19	.03
6. 2 × 3	.43	.52	.01	.02	.97	.00	.06	.80	.00	.73	.40	.01
7. 1 × 2 × 3	.004	.95	.00	1.09	.30	.02	2.22	.14	.03	.19	.66	.00
Sibling reports												
1. Parent gender	4.07	.05[a]	.06	.69	.41	.01						
2. Sibling gender	1.44	.23	.02	.14	.71	.00						
3. Sibling order	.02	.90	.00	5.91	.02[c]	.08						
4. 1 × 2	3.80	.06	.06	2.96	.09	.04						
5. 1 × 3	.22	.64	.00	.00	.99	.00						
6. 2 × 3	1.76	.19	.03	.98	.33	.01						
7. 1 × 2 × 3	4.34	.04[d]	.06	2.18	.17	.03						

Note: $N = 70$ families.
[a] Significant ($p < .05$) main effect for parental gender such that fathers reported or were perceived to use higher levels than mothers.
[b] Significant main effect for parental gender such that mothers reported higher levels than fathers.
[c] Significant main effect for sibling order where younger siblings received or perceived more of the measure in question than older siblings.
[d] Significant interaction among sibling order, parent gender, and sibling gender such that older male siblings reported higher levels of pressure from fathers than mothers.
No other effects or interactions were significant.

received more pressure to eat than older siblings. Parents also reported feeling more responsibility for feeding their younger children than their older children. Additionally, younger siblings reported significantly more restriction than older siblings. The direction was consistent across all three analyses with younger siblings receiving more of the measure in each analysis.

Finally, there was a marginally statistically significant interaction among sibling order, parent gender, and sibling gender on pressure such that older male siblings reported significantly higher levels of pressure from fathers than from mothers. No other main effects or interactions were statistically significant.

Discussion

This is the first study to examine parental child feeding practices from the perspective of two parents and two children. Much research in this field has focused on mothers and daughters, primarily from the self-report data provided by mothers. Although mothers have consistently been shown to be primarily responsible for feeding their children, it is possible that fathers also influence the development of their children's eating behavior in unique ways. Results from this study suggest that parents' perceptions about their feeding practices do not always correspond with their children's perceptions. Reported differences in mothers' and fathers' use of child feeding practices indicate that parents may influence their children's eating habits in distinct ways.

Pressure

While the overall levels of reported pressure were low in this sample, both mothers and fathers reported higher levels of pressure for younger siblings compared with older siblings. However, this tendency was not clear from the child reports. Contrary to some earlier findings showing no differences between mothers' and fathers' use of pressure (Blissett et al., 2006; Haycraft & Blissett, 2008), results from the current study indicate that fathers reported using higher levels of pressure when compared with mothers. It is possible that the discrepancy between studies is due to differences in the age or the culture of the child participants, as the previous results were reported from parents of preschoolers in the United Kingdom. Gender differences in parental use of pressure in the current study were corroborated by the fact that older male siblings reported receiving higher levels of pressure from their fathers. These data support the observational reports by Orrell-Valente et al. (2007) that fathers use more pressure with boys than with girls. Boys who perceived being pressured to eat by parents have been shown to exhibit more emotional and external eating (Van Strien & Bazelier, 2007).

Conflicting with the finding that parents in this study report using more pressure with younger siblings, older sons reported the highest levels of pressure from fathers. It is unclear why the older boys in this study reported being pressured to eat more. Perhaps the perceptions or the ability to report perceptions in younger siblings are not as sophisticated as in older siblings. It may also be true that older boys are more sensitive to the use of pressure when it comes from their fathers. Older sibling reports of maternal and paternal pressure were positively correlated with their parents' reports regardless of whether the children were boys or girls. Orrell-Valente et al. (2007) found that mothers used more frequent and different types of prompts to eat than fathers. These data suggest that although mothers report being more responsible for feeding their children, fathers may have others types of influence that are developmentally relevant supporting conclusions made by Atzaba-Poria et al. (2010). Given that the use of pressure is related to picky eating behavior and to external and emotional eating in boys (Van Strien & Bazelier, 2007), it is possible that the role of fathers may be important in understanding the development of these eating behaviors.

Restriction

The agreement in children's reporting of parental use of pressure supports previous findings that pressure is overt and may be more easily reported by children whereas the use of restriction may be a covert feeding strategy (Haycraft & Blissett, 2008; Ogden, Reynolds, & Smith, 2006). These studies suggest that children may not be aware of restriction as it primarily involves the management of food in the home. In addition, because children's access to food is managed by parents at times apart from direct feeding interactions and in ways that children may not detect, this type of covert control is difficult to measure with existing quantitative and observational measurement scales (Haycraft & Blissett, 2008).

Parental reports showed no differences in the use of restrictive feeding practices with regard to parent gender, sibling gender, or

sibling order. However, younger siblings reported that their parents used more restrictive feeding practices compared with older siblings. Within-family correlations also indicated mixed agreement among family members about the use of parental restriction in younger children. Maternal and paternal reports of restriction were positively correlated for older, but not younger, children. Sibling reports were correlated for both parents, but most parent and sibling reports were not correlated. These findings partially support previous research showing positive correlations between mothers and fathers of preschool-aged children (Blissett et al., 2006). Blissett et al. questioned whether the similar reports across parents represented actual behavioral similarities between parents, or if fathers reported the practices that they observed the mothers using. In the current study, we found that, although parents were in agreement about the practices they used for a single child, parental reports across children did not agree. This may imply that parents are not using a single, generalized child feeding strategy for all children in the household.

The mixed pattern of agreement concerning parental use of restriction for the younger children may be because mothers are more involved with feeding the younger siblings; however, this is not corroborated by the work of Blissett et al. (2006). Some researchers have questioned whether the construct of restrictive feeding practices should be extended (Musher-Eizenman & Holub, 2007; Ogden et al., 2006), positing that restrictive feeding practices may not be as harmful as previously suggested because they are often covert in nature and may not be easily detected by children. Carper et al. (2000) also found positive correlations among parents' and daughters' perceptions of parental pressure but not restriction. These authors suggested that parental self-reports concerning pressure and restriction may have been influenced by a social desirability effect in that parents might perceive the use of pressure as more acceptable than restriction. Results from an observational study support the covert nature of restriction: Restrictive feeding practices were not frequently observed during mealtime interactions (Orrell-Valente et al., 2007). Therefore, restrictive feeding practices may be primarily associated with snacking behavior rather than mealtime behavior, or they may operate out of view such as when purchases are made at the grocery store. The greater responsibility, especially for younger siblings, reported by mothers may provide another clue about the nature of restrictive feeding practices. Perhaps, for mothers some aspects of restriction occur when food is purchased and prepared, making mothers more aware of their behaviors than fathers. Regardless of when and how restrictive feeding practices are employed, these actions may have meaningful influences on the development of eating behavior and weight status and warrant further study (Faith et al., 2004).

Finally, there may be a methodological explanation for the pattern of results across the child reports of parental feeding practices. Because parental restriction happens somewhat covertly, child reporters, especially the younger ones in this sample, may not be able to reliably report on its practice. Parental pressure to eat is a more overt practice, so it may be more salient to children. This proposition is supported by the relative reliabilities of the child reports of the parental feeding practices measured in this study: Whereas child perceptions of pressure were reliably reported by both older and younger children, perceptions of restriction were less reliably reported, especially for younger siblings. Because of these lower reliabilities within measures – which can in turn attenuate subsequent correlations between measures – we caution the reader to interpret these correlations with care.

Responsibility and monitoring

Mothers and fathers reported higher levels of responsibility for younger siblings compared with older siblings. In addition, mothers reported significantly higher levels of monitoring their children's eating behavior and responsibility for child feeding compared with fathers. While research has shown that levels of paternal engagement have significantly increased over the past several decades (Cabrera, Tamis-LeMonda, Bradley, Hofferth, & Lamb, 2000), findings from this study support previous work indicating that mothers report higher levels of responsibility in child feeding activities than fathers (Blissett et al., 2006).

General comments

Mothers in this study reported higher levels of responsibility and monitoring of their children's feeding when compared with fathers, and mothers reported being more responsible for feeding younger siblings when compared with older siblings. While family members' reports of the use of pressure and restriction varied, the current study suggests that parents differ in their use of pressure and restriction. Within-family correlations for child feeding practices were positive for parental use of pressure, but there was some disagreement about parental use of restriction, especially with younger siblings. Parents' reports of pressure and restriction were not correlated across siblings, suggesting that their use of child feeding practices may differ for each child in the family. However, agreement between siblings' perceptions of parenting practices suggests that they are perceiving consistent use of pressure and restriction by their parents. These results indicate that parents' perceptions about their feeding practices do not always correspond with their children's perceptions. Reported differences in mothers' and fathers' use of child feeding practices suggest that parents may influence their children's eating habits in distinct ways. Child characteristics may also influence mothers and fathers differently. In one study, researchers examined across- and within-family effects and found that across-families mothers and fathers used similar feeding styles, while within-families mothers and fathers reported different interactions with their children when they were differentially concerned about one child's weight (Payne et al., 2011). Another recent study indicated that children's emotional eating predicted maternal use of controlling feeding practices, whereas children's slowness in eating predicted paternal use of controlling feeding practices (Haycraft & Blissett, 2012).

There are several limitations to this study. The three-item response options and low internal reliability for the younger participants' CFQC subscales raise questions about the developmental appropriateness of the items for younger children. However, positive correlations between older and younger siblings indicate that this potential for restricted variability was not a serious problem. Further research should include additional items on children's questionnaires that would enable them to provide more specific information regarding their parents' participation in child feeding activities. The findings of this study are also limited because of the inclusion of primarily middle-class, white, two-parent families. Despite a growing interest in fatherhood, an increasing number of children live in households without fathers and are raised by single mothers (Amato & Sobolewski, 2004). More research is needed to understand how this family dynamic differs from families where two or more caregivers are involved in child rearing (Savage, Fisher, & Birch, 2007). Finally, future studies could employ a patricentric approach to examine how child feeding practices used by fathers can be influenced by cultural norms (see Lewis & Lamb, 2003).

The complexity of family members' perceptions of child feeding practices uncovered in this study supports the notion that an understanding of the family dynamic is necessary to comprehend individual development. Results from the current study demonstrate that even though fathers report lower levels of responsibility for feeding their children than mothers, fathers and their children report higher levels of paternal pressure in feeding situations. This implies

that the quality, rather than the quantity, of paternal interactions regarding food may be significant such that mothers and fathers may be uniquely influential in the development of children's eating behavior. For example, previous research has shown that adolescents perceived fathers to be more effective than mothers in introducing healthy foods into the home environment (De Bourdeaudhuij, 1997). Results from another study comparing how mothers and fathers communicate with their children revealed that mothers talked with children more often than fathers, and that mothers were more engaged in regulating or guiding activities than were fathers, but that fathers appeared to be more direct in their communication with their children compared with mothers (Pruett, 1987). Distinguishing between quality versus quantity of paternal engagement relating to child feeding practices will be a necessary next step. Research that has previously focused on mothers demonstrates the use of controlling feeding practices to be ineffective and possibly detrimental. Whether the same is true for fathers is less clear.

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