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RESEARCH

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Parental Feeding Practices in the United States and in France: Relationships with Child's Characteristics and Parent's Eating Behavior

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ABSTRACT

Given the role of parental feeding practices in establishing children's eating habits, understanding sources of individual differences in feeding practices is important. This study examined the role of several psychological variables (ie, parental perceived responsibility for child's eating, parental perceptions of the child's weight, and parents' own eating patterns) in individual differences in a variety of feeding practices. Parents of preschool-aged children completed surveys in a cross-sectional study. Two cultural contexts (ie, United States, n=97 parents; and France, n=122 parents) were included to assess the cross-cultural generalizability of the findings. Monitoring was associated with parental perceived responsibility for child's eating, parental restrained eating, and parents' desire for their child to be thinner, especially in France. Restriction for weight reasons was more prevalent in France and was associated with parents' perceived responsibility for child's eating, perception of child's body weight, and parental restrained eating. Parental use of foods for nonnutritive purposes was more prevalent in the United States and was associated with parental uncontrolled or emotional eating. Finally, parents' perceived responsibility for child's eating was strongly related to child control over feeding, teaching about nutrition, encouragement of balance, and variety and modeling. These associations between psychological variables and parental feeding practices shed light on the sources of individual differences in feeding practices and suggest possible opportunities for intervention when feeding practices are suboptimal.

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The familial aggregation of obesity is partly explained by common genes (1). Other contributing familial factors, which, unlike genes, are modifiable, deserve particular attention. For young children, the family provides a major context for early eating experience, through which attitudes about the body or food develop (2).

Parents influence the eating behaviors of children in a variety of ways, especially through their child-feeding practices (3,4). Parents determine what foods the child is offered, when and where they are eaten, which foods are forbidden, and the emotional tone of eating occasions (5-7). Some research has examined factors that are associated with parents' feeding practices. We previously found that parental feeding practices were not clearly related to sociodemographic characteristics of either parent or child (8). In contrast, parents' attitudes toward their own body shape and their own eating have been linked to their child feeding practices (9,10). Fisher and Birch (11) found that mothers' own restrained eating was associated with greater restriction of their daughters' access to snack foods.

While most of the work in this area has been done with American samples, considerable differences exist between French and American adults in their attitudes toward food (12). Similarly, we found large differences in feeding practices between French and American parents (8). Our goal, therefore, was to explore some of the potential motivators of parental feeding practices for their children, such as parental perception of child's weight or parents' own eating behavior in both a French and an American sample.

METHODS

Study Design

Families participated in a cross-sectional study on children's eating behavior, which took place in the United

States and in France to explore transcultural differences. The US sample was recruited (May 2004 to August 2004) from preschools in a mid-sized Midwestern city and surrounding towns. The French sample was recruited (October 2005 to January 2006) from schools in a large city and a small town in the Ile-de-France and Picardy regions, respectively. French preschools were chosen to have similar median family income in both samples. The US sample comprised 68 children (age range=3.7 to 6.8 years). The French sample comprised 72 children (age range=4.0 to 6.8 years). One or both parents of each child participated in the study. The detailed procedure was described previously (8). The Human Subjects Review Board of Bowling Green State University approved the data collection in both samples.

Measures

Parents in each of the samples completed the same set of questionnaires, except for an additional eating behavior questionnaire filled out only by the French parents.

Anthropometric Data. Parents reported their own weight and height, from which body mass index (BMI; calculated as kg/m^2) was calculated. A trained investigator measured child's weight (to the nearest 0.1 kg) and height (to the nearest 5 mm) at the child's school.

Parental Eating Behavior. Restrained eating was assessed by the restraint scale of the Dutch Eating Behavior Questionnaire (13) in both the United States and France. An additional questionnaire, a revised version of the Three-Factor Eating Questionnaire, was included in France to assess other dimensions of eating behavior: uncontrolled eating (tendency to eat more than usual because of a loss of control) and emotional eating (overeating during dysphoric mood states, ie, when feeling lonely or anxious) (14).

Parental Feeding Practices. Nine aspects of parental feeding behavior were measured by the Comprehensive Feeding Practices Questionnaire (15): monitoring child food intake, using food to regulate the child's emotions, using food as a reward, child control over feeding, teaching about nutrition, encouraging balance and variety, restricting child's food intake for weight reasons, restricting child's intake for health reasons, and modeling healthful eating habits. The applicability of this questionnaire has been demonstrated in both the United States (15) and French samples (8).

Parents also responded to three questions about the extent to which they perceive that they are responsible for their child's eating behaviors.

Parental Perception of Child's Body. Concern for child's overweight was derived from the Child Feeding Questionnaire subscale (5). Using body silhouettes of children (16), parents were also asked to indicate which of the seven figures they felt most closely resembled their child and then rate the figure they would most like their child to resemble. The desire of parents for their child to be thinner (or heavier) was calculated from the difference between the figures representing the current and desired silhouettes for their child.

Statistical Analysis

To understand how parental characteristics were related to parental feeding practices, linear regressions were run with feeding practices as the dependent variables. To account for correlations between parents, a family variable was introduced as a random effect at the level of the intercept, and the other variables were fixed effects (SAS 9.1.3, 2005, proc Mixed, SAS Institute, Cary, NC). First, each parental feeding practice was related to parent's sex, country, explicative variable (perceived responsibility, perception of child's body, and parental eating behavior; each in a separate model), and interaction term between country and the explicative variable. Second, as several explicative variables could be associated with a given parental feeding practices, multiple linear regressions were conducted with all significant ($P<0.05$) explicative variables.

All analyses were also run adjusting for child's age and BMI; parent's age, BMI, and education level; and for familial income, but these adjustments did not change the results (data not shown).

RESULTS AND DISCUSSION

Participant Characteristics

Familial income was roughly comparable between the samples (Table 1): the median yearly income was $75,000 to $90,000 in the United States and 60,000€ to 70,000€ in France. However, French parents reported a higher education level. In the US sample, 97% of the parents were white and, in the French sample, 89% of the parents were born in France and 78% reported that both of their parents had been born in France as well. The French children were slightly older than the American children, but children's BMI did not differ across the two samples, even after adjustment for children's age ($P=0.8$). The American parents reported higher BMIs than did the French. Monitoring child eating and restriction of child eating for weight control were more common in France than in the United States (Table 1), whereas nonnutritive uses of food, child control over food intake, and teaching about nutrition were more common in the United States. US parents expressed a stronger desire for their child to be thinner relative to the French parents, but there was no difference for parental concern for child overweight or for parental perceived responsibility for child's eating.

Perceived Responsibility for Child's Eating

Parents' perceived responsibility toward their child's eating was a good predictor of parental feeding practices (Table 2), as described in previous studies (17) for parental restrictive practices. Interestingly, it was also related to higher teaching about nutrition, higher modeling of healthful eating habits, higher encouragement of balance and variety, and lower child control over feeding, especially in France. The associations between parental perceived responsibility for child's eating and parental feeding practices remained substantial in multivariate models. It has been shown that, although mothers report being more motivated by the long-term health value when they choose food for their children than when they choose food for themselves, they in fact feed their children