

# Feeding Style Differences in Food Parenting Practices Associated With Fruit and Vegetable Intake in Children From Low-income Families

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## ABSTRACT

**Objective:** To examine the moderating effects of feeding styles on the relationship between food parenting practices and fruit and vegetable (F & V) intake in low-income families with preschool-aged children.

**Design:** Focus group meetings with Head Start parents were conducted by using the nominal group technique. Parents completed information on food parenting practices and feeding styles. Three dietary recalls were collected on each child.

**Setting:** Parents completed measures in Head Start centers and/or over the telephone.

**Participants:** 667 parents of preschool-aged children participated.

**Outcomes:** Food parenting practices and F & V intake.

**Analysis:** Mean differences in the food parenting practices across the 4 feeding styles were established through multivariate general linear modeling using MANOVA. Moderated multiple regression analysis was conducted to examine the moderating role of feeding style on food parenting practices and child F & V intake.

**Results:** The indulgent feeding style moderated the relationship between food parenting practices and child F & V intake.

**Conclusions and Implications:** This study indicates that parents' feeding styles have a moderating effect on the relationship between the food parenting practices and children's F & V intake. This finding can facilitate the development of interventions aimed at reducing childhood overweight.

**Key Words:** feeding styles, food parenting practices, child, fruit and vegetable intake, focus group (*J Nutr Educ Behav.* 2013;45:643-651.)

## INTRODUCTION

Parents play a major role in the socialization of eating behaviors in young children.<sup>1,2</sup> During the preschool years, parents are usually the primary determinants of the types and amounts of food children eat.<sup>3</sup> Consuming fruits and vegetables (F & V) is an important component of the child's diet and has been negatively associated with overweight and obe-

sity.<sup>4,5</sup> Focusing on food parenting behaviors that promote child F & V intake may help to reduce child overweight, in part because eating F & V have been linked to increased satiety, reduced hunger, and lower energy consumption.<sup>6,7</sup>

Parents influence their children's eating through both their styles of parenting and their goal-directed food parenting practices.<sup>1,8</sup> The general approach parents use to raise children

is known as the general parenting style, which creates the emotional climate of the parent-child relationship.<sup>9</sup> In some studies, general parenting style has been linked to child food consumption<sup>10</sup> and childhood overweight,<sup>11-13</sup> whereas in other studies, no relationship has been found.<sup>14,15</sup> Because parenting behavior can vary across contexts, Costanzo and Woody<sup>16</sup> argued that it may be more constructive to measure parenting in specific domains. Feeding styles are more focused than general parenting styles because they examine the emotional climate that parents create in the feeding context. Feeding styles have been associated with child food consumption<sup>17,18</sup> and child weight status,<sup>8,19</sup> specifically in low-income families. Indulgent feeding styles have been associated with less optimal child eating behaviors and higher weight status.<sup>8,17,19,20</sup>

Unlike general parenting or feeding styles, parenting practices are the

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specific goal-directed behaviors that parents use to accomplish their objectives. Parents of different racial and ethnic backgrounds have been found to engage in diverse feeding practices.<sup>21</sup> Feeding styles are based on 2 dimensions, much like parenting styles.<sup>19</sup> Responsiveness refers to how the parents encourage eating; that is, in a nurturing way or a nonnurturing way (the level of nurturance parents use in directing their children's eating). Demandingness refers to how much parents encourage eating (ie, how demanding they are during the eating experience). These 2 dimensions translate into 4 feeding styles. Authoritative parents actively encourage eating by using nondirective and supportive behaviors (ie, drinking milk makes you big and strong); authoritarian parents encourage eating by using highly directive behaviors and are unsupportive (ie, eat all of your food!); uninvolved parents make few demands on children to eat, but those demands are unsupportive (ie, eat whatever is in the fridge); and indulgent parents also make few demands on their children to eat, but those demands are supportive (ie, eat whatever makes you happy).

Feeding practices have also been associated with child food intake and obesity.<sup>1,15</sup> What remains largely unexamined is how styles and practices interact in the feeding context. Darling and Steinberg<sup>22</sup> argued that the effects of specific parenting practices may vary as a function of the parents' general parenting styles. Van der Horst et al,<sup>23</sup> in a study using adolescent self-reports, found that the effects of restrictive parenting practices on sugar-sweetened beverage consumption were stronger for parents who were moderately strict and highly involved. Similarly, in a recent study among mothers of preschool-aged children, the effects of maternal monitoring and restriction were different for mothers with permissive vs unpermissive styles.<sup>24</sup> Another study found that children consumed more fat when their parents engaged in controlling behaviors (eg, rule setting), whereas when parents modeled healthful behaviors, children consumed less fat.<sup>25</sup> In addition, child-centered feeding behaviors have been positively related with F & V intake in young adulthood.<sup>26</sup> To the authors'

knowledge, the moderating effects of parenting styles on parenting practices have not been examined in predicting F & V intake. A better understanding of how these parenting constructs relate to 1 another may help to disentangle mixed findings in the child obesity literature regarding the influence of feeding styles and practices on child F & V intake and weight status,<sup>14,16,27,28</sup> especially because parents are often faced with many barriers regarding healthful family food consumption.<sup>29</sup> This information will help researchers design interventions tailored to styles of parenting/feeding that may produce more effective changes in child dietary intake and weight status.

The first aim of the current study was to examine how food parenting practices were related to particular feeding styles in Head Start families to gain a better understanding of these constructs. The second aim was to examine the moderating effects of feeding styles on the relationship between food parenting practices and child F & V intake.

## METHODS

### Participants

Participants were part of a larger study to investigate facilitators and barriers to F & V intake among preschool-aged children. After the study procedures were explained to the potential participants, parental consent and child assent were obtained. Participants were recruited from Head Start districts in 3 regions (Birmingham, AL; rural northeast AL; and Houston, TX) because these centers serve a population whose family income is equal to or below the federal poverty level as determined by family income and size. All children in the study were eligible for and attended Head Start. This study focused on African-American, Hispanic, and white Head Start families. Participants included 667 primary caregivers (293 African-American, 199 Hispanic, and 175 white) identified as the person most often responsible for what the Head Start child eats outside of school. Of these primary caregivers, 95% were female (92% mothers, 6% grandmothers, and 1% other) and 5% were male. For ease in reading, primary caregivers will hereafter be referred to as parents. Table 1 presents descriptive

statistics for the sample. The study was reviewed and approved by the institutional review boards at Baylor College of Medicine and the University of Alabama at Birmingham.

### Procedure

Qualitative work was conducted early in the study to identify practices that parents said they used to encourage their children to eat healthy foods. Eight structured focus group meetings with 65 African-American, Hispanic, and white Head Start parents (8–10 per meeting) were conducted by using the nominal group technique (NGT). Unlike a traditional focus group, the NGT elicits responses to a single question; in this case, the question was "What are the ways parents can help their preschool child eat healthy foods?" The structured format of the NGT meeting minimizes extraneous discussion and provides succinct responses that each participant then prioritizes.<sup>30,31</sup> The collective rank ordering of responses (ie, food parenting practices) therefore provides an objective view of how parents perceive the importance of various practices in terms of their utility for encouraging their children to eat healthy foods. Prioritized responses from each of the NGT meetings were aggregated into 33 distinct food parenting practices and used as the basis for developing a card sort task.<sup>32</sup>

The card sort task was used with a second group of 667 Head Start parents who did not participate in the earlier qualitative work to understand how the 33 food parenting practices were cognitively organized. These food parenting practice statements were used in card sort tasks to obtain parents' judgments about the similarity and distinctions between the statements. For these card sort tasks, participants were asked to consider the meaning of the individual statements that were printed on cards and to use their own criteria to sort the cards into an unspecified number of card stacks. An example of a statement made to parents when explaining how to complete the card sorting is "Please put the cards/statements into an unspecified number of groups/card stacks." Statements within a stack were considered more alike than statements sorted into

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