

# Houston ... We Have a Problem! Measurement of Parenting

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**O**besity is a dominant child health problem in the United States<sup>1</sup> and virtually worldwide.<sup>2</sup> Obesity in childhood is associated with a number of negative health outcomes,<sup>3,4</sup> with substantially increased risk of adult obesity.<sup>5</sup> The energy balance model indicates obesity is the result of overconsumption of calories, low levels of physical activity, and high levels of sedentary behavior, mostly high screen time (TV, videos, and videogames).<sup>6</sup>

Considerable evidence indicates that parents shape children's behaviors<sup>7</sup> by influencing the behavior directly, the predisposing psychological variables, or by controlling the child's environment.<sup>8</sup> Concern has been expressed that one factor contributing to the low efficacy of obesity treatment<sup>9</sup> has been interventions not predicated on an informed understanding of how parents influence child behavior.

"Parenting" is the term generally used to explain how a parent influences a child's behaviors and development.<sup>10</sup> Confusion exists regarding the impact of different aspects of parenting on children's dietary outcomes. Most studies linking parent-child interactional processes to children's dietary intake/weight status have focused on either (1) highly controlling food parenting practices (*e.g.*, restriction, pressure to eat) or (2) parenting styles that are considered to be a more stable and overarching description of the approach to parenting.<sup>11</sup> Research on individual food parenting behaviors has largely failed to consider the larger context of their use, *i.e.*, parenting styles. Alternatively, research focusing on parenting styles alone has been limited by a vague understanding of the processes or mechanisms through which global dimensions of parenting shape children's dietary intake. These problems are compounded by poor theoretical development and inconsistent

measurement of feeding constructs. A limitation in this line of research is almost complete reliance on the self-report of personal behavior. The literature on parenting in regard to physical activity<sup>12-14</sup> and sedentary behaviors<sup>15,16</sup> is less ample, but also problematic. As a result, a conference of leading investigators and practitioners was held. The specific aims were to: (1) Have presenters identify innovative approaches to measurement and the strengths and weaknesses in the existing literature on measures of parenting styles and parenting practices in regard to diet, physical activity, and sedentary behavior (screen media use); (2) convene four writing groups to write reports that summarize their considerations in regard to advancing measurement of each category of parenting (general style, food, physical activity, screen media); and (3) establish links among investigators to collaboratively develop and validate new measures.

To mitigate confusion, the coordinators, presenters and workshop leaders agreed to the following definitions: Parenting style is a constellation of parental attitudes and beliefs toward childrearing, creating an emotional climate through which parental practices are expressed,<sup>11,17</sup> including the quality of parent-child interactions. Parenting style has two independent dimensions: (1) Demandingness/control, defined as claims that parents make on children to become integrated into society by behavior regulation, direction confrontation, and maturity demand (behavioral control) and supervision of the child's activities<sup>17</sup>; and (2) responsiveness/nurturance, defined as the extent to which parents foster individuality and self-assertion by being attuned, supportive, and acquiescent to children's requests including autonomy support and reasoned communication.<sup>17,18</sup> Crossing the first two dimensions yields four categories of parenting style: (1)

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Authoritative (high demanding, high responsive) characterized by parental involvement, nurturance, and expectations with monitoring; (2) authoritarian (high demanding, low responsive) characterized by restrictive, punitive, and power-assertive behaviors; (3) indulgent (low demanding and high responsive) characterized by warmth and acceptance in conjunction with a lack of monitoring of child behavior; and (4) uninvolved (low demanding, low responsive), characterized by little control, nurturance, or involvement with the child.<sup>19</sup> Child overweight was most prevalent in those with authoritarian parents (highly demanding, but not very responsive),<sup>20</sup> but was also associated with permissive parenting style.<sup>20–22</sup> Some researchers have conceptualized a third dimension, structure, defined as the ways in which parents organize their children's environment to achieve their desired childrearing goals, and that includes aspects of parent behavior such as consistency, organization, and proactive strategies, such as providing opportunities and modeling.<sup>23,24</sup> Structured homes are characterized by an organized environment in which parents provide clear rules, boundaries, and support and guidance for following the rules, which are consistently enforced.<sup>24</sup>

Feeding styles are a derivative of parenting style based on two dimensions related to the feeding context.<sup>25</sup> Responsiveness refers to how the parents encourage eating, *i.e.*, the level of nurturance parents use in directing their children's eating. Demandingness refers to how much the parent encourages eating (*i.e.*, how demanding they are during the eating experience). Four types of feeding styles have been proposed to correspond to those from parenting style. Positive associations were detected between indulgent feeding styles and children's weight status<sup>25,26</sup>; however, among low-income African-American and Hispanic families, authoritarian feeding styles were negatively related to children's weight status.<sup>25,26</sup>

Parenting practices are specific goal-directed parent actions or behaviors designed to influence children's behaviors.<sup>11</sup> Controlling food parenting practices were linked to lower self-regulation in eating<sup>27</sup> and higher child weight status across laboratory, cross-sectional, and longitudinal studies.<sup>28–31</sup> Parental influences were correlates of children's physical activity (PA)<sup>32–42</sup> and screen media use.<sup>16,43–46</sup> Parenting practices that effectively influence child behaviors likely vary by age and culture,<sup>47</sup> and perhaps over generations, but little research has addressed these variations. Some parenting practices are more effective in getting children to comply with their desires, whereas others may be less effective, not influence the child, or even increase the undesired behavior.<sup>48</sup> It is not clear how important these physical activity and food parenting practices may be in influencing a child's behavior versus the parent's skill at general parenting.<sup>49</sup>

There are substantial limitations and problems of measurement in most of the existing scales of parenting style,<sup>50</sup> and food,<sup>51</sup> physical activity,<sup>52</sup> and media<sup>53</sup> parenting practices. To advance this area of research, major advances

are needed in measurement. New measures must be based on the latest theory<sup>54</sup> and use state-of-the-art, cutting-edge approaches to ensure we move toward the most promising, valid, reliable, sensitive to change, and least burdensome measurement procedures.<sup>42</sup> Basic improvements are needed in how the questions are asked and correcting for possible response biases.<sup>42</sup> Innovations should be considered in using implicit measurement procedures, ecological momentary assessment, item response theory, computerized adaptive testing, item banks, observational recording with pattern recognition technology, and simulations of parent-child interactions.<sup>42</sup> The new measures must reflect a firm understanding of what has been attempted in the past, especially the limitations.<sup>55</sup> Developing the new measures will require qualitative research to identify new items and perhaps new levels of measurement.<sup>56</sup> The scales and items used to measure food related parenting are likely very different from those to measure physical activity<sup>52</sup> or sedentary behavior<sup>53</sup> parenting.

Investigators will want to know what measures they can confidently use today. Recent research has indicated that there may be differences in the use of the items primarily by age of the child, but also by parental education and ethnic group.<sup>47</sup> While future research should clarify these issues, investigators who can't wait need to select from the various existing scales that measure the constructs most relevant to their research and have the best psychometric characteristics in samples most comparable to theirs.

In summary, a fundamental reconsideration is needed of the foundational knowledge of parenting in regard to energy balance behaviors in light of the poor functioning of existing measures and inconsistencies in the findings to date. More qualitative and observational research is needed because key dimensions of parenting may yet be discovered. Investigators need to adhere to consistent definitions to enhance consistency of findings and to better understand when and why the inconsistencies occurred. It seems unlikely that the dimensions or mechanisms of influence of parenting on different child behaviors (diet, physical activity, screen media use) will differ substantially at the conceptual level, therefore more transdisciplinary research is needed among these investigators so the research on physical activity and screen media parenting practices can benefit from the advances in general parenting and food parenting practices. New methods are needed to minimize the likely socially desirable responses to existing methods, relieve respondent burden, and better understand the functioning of scales and items. Attendees rightly identified inadequate attention to the role of the child (*e.g.*, temperament and other characteristics) in the selection or use of types of parenting. The extent to which different measures are needed for different genders, ages of children, child temperament, or different cultures (*e.g.*, across ethnic groups, countries)<sup>57</sup> requires serious attention.

The publication of the articles emanating from the presentations and working group reports are an indication of early progress, but the longer-term success will be evident

from more collaborations, enhanced conceptual development, additional formative research, and new scales with documented validity and reliability using the latest psychometric procedures. We look forward to the day when the younger attendees can say, "Houston, we have landed!"

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