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## Like Parent, Like Child:

### Child Food and Beverage Choices During Role Playing

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### Abstract

**Objective**—To examine food and beverage choices of preschool-aged children.

**Design**—Semistructured observational study. While pretending to be adults during a role-play scenario, children selected food and beverage items from a miniature grocery store stocked with 73 different products, of which 47 foods and beverages were examined in this analysis. Parents self-reported how frequently they purchased specific grocery items.

**Setting**—A behavioral laboratory.

**Participants**—One hundred twenty children, aged 2 to 6 years, and 1 parent for each child.

**Main Outcome Measure**—Children's total purchases were classified according to the number of healthier and less healthy products they selected as least healthy, somewhat healthy, and most healthy choices. The same categories were used to classify parents' self-reported purchases.

**Results**—Most of the children (70.8%) purchased foods that were categorized as least healthy choices. Only 13 children (10.8%) had shopping baskets consisting of the healthiest choices. On average, children in the group with the least healthy choices purchased the same number of healthier and less healthy products, whereas children in the group with most healthy choices purchased 5 healthier products for each less healthy product selected. The healthfulness of children's total purchases were significantly ( $P=.02$ ) predicted by their parents' purchasing categorization.

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**Author Contributions:** Dr Sutherland had full access to all of the data in the study and takes responsibility for the integrity of the data and the accuracy of the data analysis. *Study concept and design:* Sutherland and Bernhardt. *Acquisition of data:* Bernhardt and Dalton. *Analysis and interpretation of data:* Beavers and Kupper. *Drafting of the manuscript:* Sutherland, Beavers, and Kupper. *Critical revision of the manuscript for important intellectual content:* Sutherland, Beavers, Kupper, and Heatherton. *Statistical analysis:* Beavers and Kupper. *Obtained funding:* Heatherton and Dalton. *Administrative, technical, and material support:* Bernhardt. *Study supervision:* Sutherland and Dalton.

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**Conclusions**—When presented with a wide array of food products, young children chose combinations of healthier and less healthy foods and beverages. The data suggest that children begin to assimilate and mimic their parents' food choices at a very young age, even before they are able to fully appreciate the implications of these choices.

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During the Past 2 Decades, the prevalence of obesity has risen dramatically in the United States. Today, two-thirds of American adults are affected by excess weight; more than 65% of Americans are overweight and 35% are obese.<sup>1</sup> This increase has a significant effect on public health because obese individuals are more likely to have coronary heart disease, type 2 diabetes mellitus, endometrial and colon cancer, postmenopausal breast cancer, osteoarthritis, and psychological disorders such as depression.<sup>2</sup> It is estimated that obesity accounts for more than 100 000 deaths each year, making it the second leading cause of preventable death in the United States.<sup>3,4</sup>

Childhood obesity is also increasing at alarming rates in the United States. During the past 30 years, the prevalence of overweight (body mass index, >95th percentile) among preschool-aged children (2–5 years) has more than doubled from 5.0% to 13.9%; it has tripled among school-aged children (6–19 years) from 4.9% to 16.5%.<sup>5</sup> Overweight adolescents are at risk for type 2 diabetes mellitus, hypertension, early maturation problems, and psychosocial problems.<sup>6,7</sup> Because overweight adolescents are more likely to be overweight as adults, they also have a higher risk for weight-related illnesses later in life.<sup>8</sup> Although the root causes of the population-wide increases in weight are not known conclusively, poor diet quality has been shown to be an important risk factor for being overweight.<sup>9,10</sup>

Family dietary practices and food availability in the home have been shown to be important determinants of the quality of children's diets.<sup>11–13</sup> A number of studies have shown that children are more likely to be overweight if their parents are overweight<sup>14–16</sup> and that the composition of parent and child diets is highly correlated.<sup>17</sup> For example, Fisher and colleagues<sup>18</sup> found that daughters of parents who consumed more fruits and vegetables had higher fruit and vegetable intakes themselves. They also had higher micronutrient and lower fat intakes compared with the daughters of parents who did not consume as many fruits and vegetables. Similarly, the same researchers found that girls were more likely to drink milk and to have resultant higher calcium intakes if their mothers regularly drank milk.<sup>19</sup> In white and Mexican American families, Patterson and colleagues<sup>20</sup> found that children's energy, fat, and sodium intakes were positively correlated with those of the parents.

Because most children are eating at least some of their meals with their parents, it is not surprising that children's diets are similar to those of their parents. However, to the extent that these similarities are based on preference rather than simply on food availability, children may be forming dietary habits that will stay with them throughout their lives. Currently, we do not have a clear understanding of how children's dietary preferences form, how strongly they are influenced by their parents' dietary behaviors, or at what age children begin to develop ideas and attitudes about food and diet.

The goal of the primary study was to examine young children's perceptions of adult behaviors for tobacco and alcohol use.<sup>21</sup> As a secondary goal, this analysis was conducted to identify the food preferences young children may have implicitly learned through exposure to parental self-reported consumer practices, media, and other external influences. We used a role-playing scenario that involved a play grocery store to determine which foods and beverages young children would choose while pretending to be adults shopping for an evening with friends. Parents were surveyed about their own food purchasing behaviors and other factors that could potentially influence children's food and beverage choices.

## METHODS

The study was conducted in a behavioral laboratory at the Department of Psychological and Brain Sciences, Dartmouth College, and the protocol was approved by the Committee for the Protection of Human Subjects at Dartmouth College. Participants were recruited from the pediatric outpatient clinic at Dartmouth-Hitchcock Medical Center and from local supermarkets and day care centers in Lebanon, New Hampshire. Potential participants were told that this study was about children's attitudes toward popular products sold in supermarkets and adult social behaviors.

The study was designed primarily to examine young children's attitudes toward tobacco and alcohol by using a role-play protocol developed for children aged 2 to 6 years (results and full methods have been published previously<sup>21</sup>). Children's food and beverage choices were examined as a secondary outcome. After children were enrolled in the study, the researcher asked each child to choose 2 adult dolls and explained that the child would pretend to be one of the dolls and the other doll would be a friend who was invited over to watch a movie and have something to eat. The scenario began in the living room. Acting as the friend, the researcher commented that there was nothing to eat and suggested to the other doll (acted by the child) that he or she go to the store to get some things. At the store, the researcher told each child that they could buy whatever they wanted and when they finished shopping or when their cart was full, they should come to the checkout.

### CHILD FOOD AND BEVERAGE PURCHASING BEHAVIOR

The play store was stocked with 133 miniature items representing 73 different products that are typically found in a grocery store. Excluding tobacco, alcohol, nonfood items, condiments, and baby items, the remaining 98 items represented 55 different food and beverage products. The selection of products for the store, which was partially determined by the availability of prefabricated plastic items made by Mattel, Inc (El Segundo, California) and other toy companies, included 14 fruits and vegetables (16 items); 3 candy products (16 items); 7 sweet snacks and desserts (15 items); 10 breads, cereals, and grain products (14 items); 7 meats and nuts (11 items); 6 dairy and juice products (8 items); 3 salty snacks (7 items); 3 prepared foods (7 items); and 2 soft drinks (4 items) (Table 1). As the children checked out with all of their purchases, the cashier (a doll acted by the study researcher) asked them to identify each product to verify that they understood what they were purchasing. Only foods and beverages correctly identified by the children were included in the analyses. We were constrained by the plastic food model design for 2 categories; therefore, 8 products (6 meat products [9 items] and 2 mixed-food products [5 items]) were also excluded from the analyses. Thus, in the final analysis, we examined children's total purchases of 84 items, representing 47 different food and beverage products.

For the purpose of the analyses, the 47 food and beverage products were classified as healthier (n=32) or less healthy (n=15) (Table 1). Foods classified as less healthy were products with higher levels of added sugars and salt and products that were largely energy dense and nutrient poor, compared with the healthier food choices. Most of these products were sweet snacks and desserts, salty snacks (not including pretzels and crackers), presweetened cereal, and sweetened beverages. This classification schema is comparable to the food categories used to describe food eating patterns and nutrient intakes in the Feeding Infants and Toddler Study.<sup>22,23</sup>

### PARENT QUESTIONNAIRE

A self-administered questionnaire for parents was used to collect information on child and family demographics, children's exposure to television programming, and how often children accompanied parents to the grocery store. We also asked parents how often they bought specific

food and beverage products. Parents completed this questionnaire in an observation room while children were engaged in the role playing. Although they could observe their child, parents were unable to see the specific products their child selected because the items were so small.

**Demographic Characteristics**—Parents reported child age and sex and their own level of education.

**Television Access**—Parents were asked “What type of television service do you have in your home?” Response options were regular network television, cable, satellite, or none.

**Parent Food and Beverage Purchasing**—One parent for each child was asked how frequently they purchased common pantry grocery items. The list of products in their questionnaire included 40 foods and beverages, of which 38 items (95%) corresponded to the pantry items available in the play store used for this study. The 4 possible responses for each food item (never, rarely, sometimes, and often) were collapsed into a dichotomous outcome with 0 indicating never/rarely and 1, sometimes/often.

**Shopping Behaviors**—To evaluate children’s participation in grocery shopping and their exposure to different products, we asked parents “How often does your child go grocery shopping with you?” and “How often is your child allowed to choose foods or products he/she wants at the grocery store?” Responses were collapsed into a dichotomous variable with 0 indicating never/rarely and 1, sometimes/often. The first question was not included in the final analyses because 100% of parents reported that their child shopped with them.

## DATA ANALYSIS

We classified children’s total product purchases into 1 of 3 categories (least healthy, somewhat healthy, and most healthy choices) based on the total number of healthier and less healthy products they purchased (Table 2). The score used to classify the children’s total purchases was the *P* value associated with a child choosing a given number of healthy products from the store, under the null hypothesis that the child was choosing products at random. Smaller values of the score, which vary between 0 and 1, indicate that the individual has a nonrandom tendency toward healthier selections. This assumed selection scheme fits a (central) hypergeometric distribution,<sup>24</sup> and the calculated score is more commonly recognized in statistics as the *P* value for a Fisher exact test of a  $2 \times 2$  table. The same scoring method was used for parents and children. The *P* values for the child responses were divided into a 3-level ordinal outcome, such that smaller values (.00 to .333) were associated with the greatest proportion of healthy products, midlevel values (.334 to .666) indicated somewhat healthy products, and the highest values (.667 to >.99) indicated the lowest proportion of healthy products purchased. We used the parent purchasing score as one of the predictors when fitting an ordinal logistic regression model.

Data analysis was performed using SAS statistical software (version 9.1; SAS Institute Inc, Cary, North Carolina). We used SAS software to produce summary statistics (means, ranges, and standard deviations) (PROC FREQ) and to perform an ordinal logistic regression analysis relating the 3-level ordinal outcome variable to the covariates of interest (sex, age, parent education, parent food-purchasing behavior, television access, and child/parent behaviors in the grocery store) (PROC LOGISTIC). The final model was chosen using stepwise regression with an entry cutoff value of  $\alpha=.05$ .<sup>25</sup> When identifying important predictors of child purchasing patterns, 3 children with missing data for the television service variable were excluded from the final analyses (n=117).

## RESULTS

One hundred twenty children participated in the study. Slightly more than half the children were female ( $n=66$  [55.0%]), more than 95% were white, and their ages ranged from 2 to 6 years (Table 3). One parent for each participating child completed the questionnaires. Most participating parents were the mothers (91.9%), and more than half (65.0%) reported that they and their partner had completed a college education. Most of the parents (70.1%) reported having cable/satellite television service at home; 21.3% had network service only (ie, NBC, CBS, and ABC); and less than 8.5% had no television in the home (Table 3).

### PARENT FOOD AND BEVERAGE PURCHASING

Parent self-reports of their food and beverage purchases suggested that they generally bought healthier products. Parents reported sometimes or always purchasing items such as pretzels (95.0%), whole-grain cereal (Cheerios; General Mills, Minneapolis, Minnesota) (85.8%), snack crackers (Goldfish; Pepperidge Farm, Inc, Norwalk, Connecticut) (85.0%), tomatoes (73.3%), peanut butter (72.5%), oatmeal (62.8%), and green beans (56.2%). Food and beverages that parents rarely or never purchased included candy (83.7%), soda (81.3%), chocolate-flavored cereal (Cocoa Puffs; General Mills) (80.9%), sweetened cereal with marshmallows (Lucky Charms; General Mills) (68.3%), French fries (71.7%), and potato chips (51.7%).

### CHILD FOOD AND BEVERAGE PURCHASING

Children selected a mean (SD) of 11.6 (5.9) of the 47 products from the store. No significant age or sex differences were noted in the number or the type of food and beverage purchases. Children purchased a mixture of healthier and less healthy products. Cake, soda, and candy were the most frequently purchased less healthy foods, whereas fresh fruit, bread, and pretzels were the top healthier foods purchased. Food and beverages infrequently purchased by the children included whole-grain cereal (5.0%), canned vegetables (6.6%), corn flakes (11.6%), potato chips (12.5%), canned fruit (15.0%), and milk (25.0%). Adjusting for the difference in the number of items available within product type, children chose soda 1.5 (95% confidence interval [CI], 1.0–1.9) times more often than milk, fresh fruit 5.5 (4.2–6.2) times more frequently than canned, and pretzels 3.2 (2.8–4.0) times more often than potato chips. Most of the children ( $n=85$  [70.8%]) at checkout had shopping baskets in the least healthy choices category. Only 13 children (10.8%) had shopping baskets consisting largely of healthier food and beverages (Table 2). On average, children in the group making the least healthy choices purchased about the same number of healthier and less healthy products (mean number of purchases, 5.9 and 5.6, respectively), whereas children in the group with the most healthy choices purchased more than 4 times as many healthier products compared with less healthy ones (mean number of purchases, 10.0 and 2.5, respectively).

### PREDICTORS OF CHILD FOOD AND BEVERAGE PURCHASING

Of the covariates examined as predictors of the children's purchasing behavior while they pretended to be adults, the parent food and beverage purchasing score was the only statistically significant ( $P=.02$ ) predictor of the healthfulness of children's total purchases (Table 3). Each of the remaining covariates of interest (child age, sex, parent education, child allowed to choose groceries, and television service in the home) was assessed for eligibility for entry into the model, given that the parent purchasing score variable was already included in the model. None of the other covariates were statistically significant, and they were therefore excluded from the final model. Because the data for 3 children missing the television variable were omitted, we refitted the model using all 120 children and found essentially no change from the original logistic regression results.

## COMMENT

To our knowledge, this is the first simulation study to examine food choices of preschool-aged children who were pretending to be adults. Our findings indicate that, even at this young age, children will select a mixture of healthier and less healthy foods and beverages when presented with a wide array of products. Although most of the children (70.8%) were classified as making the least healthy choices, their shopping carts, on average, contained about the same number of healthier and less healthy products. More than a quarter (29.2%) purchased at least twice as many healthier products as less healthy ones, which reflected a shopping basket better aligned with a balanced diet than those categorized as the least healthy choices.

The children's purchases included energy-dense, nutrient-poor items such as candy and cake, which we expected would be popular among children and which might be purchased for a fun evening with friends. However, children also purchased fruit, pretzels, and whole-grain cereals, which were more typical of what many adults buy. Our observation of the role play confirmed that the preschool-aged children selected healthier and less healthy food and beverages in a thoughtful nonrandom manner, which suggests that even children at very young ages exert some self-regulation over their food and beverage choices. We also believe that, based on quotations pertaining to alcohol or tobacco from the main study,<sup>21</sup> most children were pretending to be adults and their choices reflected what they would buy as an adult. However, some children would occasionally say, "I like this" rather than saying that their doll liked it, which indicates personal preference was also weighed during decision making. These observations are consistent with studies that have examined the food choice process with older children who recognize parental influence and demonstrate cognitive self-regulation when selecting foods, weighing their taste preferences against healthful choices their families would make.<sup>11,26-28</sup> Similar to the findings from studies of adolescents,<sup>26,28</sup> the young children in our study chose healthier and less healthy food products at approximately the same rate, appearing to weigh their preference for taste (eg, candy, soda, and cake) against what their parents typically purchase or would want them to eat (eg, milk, fruit, and bread).

We found that the healthfulness of child purchases were significantly associated with the healthfulness of parent-reported food and beverage purchases, which provides further support for a parental role-model influence. Although many studies have demonstrated a strong positive correlation between parent and child intake of specific foods, including fruits and vegetables, milk, soda, snacks, and fast food,<sup>12,17-20,29-31</sup> the extent to which similarities in parent and child food intake are due to common food availability compared with food preferences and/or learned behavior is not fully understood. Parent role modeling of healthful food choices has been shown to positively affect child behavior regardless of the child's sex or ethnicity, suggesting that parents play an important role in determining their children's diets beyond just providing food at the table.<sup>32-34</sup> Similar to the study by Epstein and colleagues,<sup>35</sup> our study suggests that children begin to assimilate and mimic their parents' food choices at a very young age, even before they are able to fully appreciate the implications of these choices.

Given the potential influence that parent food choices have on children, and given that all children in our study accompanied their parents while grocery shopping, our findings suggest that the grocery store may be an important site for nutrition intervention and education aimed at children as well as parents. This is supported by Hofferth and Sandberg,<sup>36</sup> who found that the number of children who shop for groceries with their parents has risen dramatically during the past 2 decades, and by O'Dougherty et al,<sup>37</sup> who found that children actively participate in food selection while shopping with their parents. Effective point-of-purchase interventions could influence dietary behaviors by modifying food purchases, influencing parent role-modeling behavior, and teaching children about tasteful and healthy food choices. Ultimately, this could have a significant effect on children's food choices later in life.

The study included a convenience sample of 120 children and their parents, most of whom were white, educated, and from nonurban areas; this may limit the generalizability of our findings. Future research will need to include participants with more diverse socioeconomic, racial, and ethnic backgrounds. Although most of the associations between child and parent characteristics and children's food purchases did not reach statistical significance, the data suggest that older children and children who are allowed to choose groceries when shopping with their parents are more likely to select less healthy foods, and children whose parents both went to college are more likely to select healthier foods. Future research will need to examine these characteristics more closely to determine whether they are significant predictors of children's food choices and, if so, why.

Because the study was originally designed to measure child attitudes toward alcohol and tobacco, the number of food and beverage products in the store was not completely balanced, and the parent and child food and beverage choices were not parallel. The product list on the parent questionnaire included only pantry items from the play store; therefore, we did not have parent-reported purchasing frequency for perishable items such as fruits and vegetables. It is likely that this may have attenuated the relationship between parent and child purchasing behavior. The play store and the product list for parents were not exhaustive, so it is likely that we missed favorite food items; hence, we do not know whether this would have influenced the observed associations. Although we observed the children's food choices during the role-play, we relied solely on parent report of purchasing behavior, which may not be completely accurate. It is possible that parents overreported healthy choices and underreported purchasing of less healthy food products. Collecting grocery store receipts from the parents would be a more valid method to evaluate parent purchasing behavior.

The role-playing method has several advantages. It allowed us to quantitatively examine food choices of young preliterate children whom we could not feasibly survey or interview. It provides a setting in which researchers could modify the context of the shopping trip and/or the role of the child to determine whether that has any influence on food choice. We used only 1 scenario, instructing children to shop for a social evening while pretending to be an adult; therefore, our results might have differed if we had instructed children to shop for breakfast foods or groceries for the week or had asked them to role-play different ages (such as a teenager vs an adult). Future studies can maximize the potential of this method by manipulating the scenarios and the products in the store.

Nutrition interventions for children most often begin with school-aged children. This study suggests that preschool children are already forming food preferences and are attentive to food choices made by their parents. Our findings suggest that parent modeling of good dietary behavior goes beyond the home and may begin at the point of purchase. New and creative intervention efforts beyond the school setting may be helpful in shaping children's food preferences and eating behaviors while they are being formed early in life. Ultimately, this may be more effective in promoting healthy eating behaviors later in life.

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**Table 1**

Food and Beverage Products Categorized as Healthier and Less Healthy

Food/Beverage	Healthier Products			Less Healthy Products		
	No. of Items	Food/Beverage	No. of Items	Food/Beverage	No. of Items	
Animal crackers	1	Peaches, canned	1	Cake	3	
Apple juice <sup>a</sup>	2	Peanut butter	2	Chocolate candy bar <sup>b</sup>	6	
Bananas	1	Pretzels	4	Chocolate chip cookies <sup>c</sup>	2	
Cheese	1	Red apples	1	Chocolate-flavored cereal <sup>d</sup>	1	
Corn	1	Salad	1	Cola-flavored soda <sup>e</sup>	3	
Corn flakes	1	Sandwich bread	2	French fries	2	
Corn on the cob	1	Skim milk	2	Fruit-flavored candy <sup>f</sup>	6	
Fruit cocktail	1	Snack crackers <sup>g</sup>	2	Ice cream, box	1	
Green apples	1	Spaghetti	2	Ice cream, tub	4	
Green beans, canned	1	Puffed rice cereal <sup>h</sup>	1	Key lime pie	1	
Italian bread	1	Tomatoes, canned	1	Lemon-flavored soda <sup>i</sup>	1	
Juice/ <sup>j</sup>	1	Tomatoes	2	Popsicles, box	2	
Lettuce	2	Waffles	2	Potato chips <sup>k</sup>	1	
Mixed vegetables, canned	1	Watermelon	1	Peanut butter candy <sup>l</sup>	4	
Oatmeal <sup>m</sup>	1	Whole-grain cereal <sup>n</sup>	2	Sweetened cereal with marshmallows <sup>o</sup>	1	
Orange juice	2	Whole milk	1	<b>Total</b>	<b>38</b>	
		<b>Total</b>	<b>46</b>			

<sup>a</sup>Mott's juice (Mott's Inc, Rye Brook, New York).

<sup>b</sup>Milky Way (Mars, Incorporated, McLean, Virginia).

<sup>c</sup>Chip's Ahoy (Nabisco, East Hanover, New Jersey).

<sup>d</sup>Cocoa Puffs (General Mills).

<sup>e</sup>Pepsi-Cola (PepsiCo, Inc).

<sup>f</sup>Starburst (Mars, Incorporated).

<sup>g</sup> Goldfish (Pepperidge Farm, Inc, Norwalk, Connecticut).

<sup>h</sup> Rice Krispies (Kellogg Company, Battle Creek, Michigan).

<sup>i</sup> Mountain Dew (PepsiCo, Inc, Purchase, New York).

<sup>j</sup> Junior Juice (McCain Citrus, Chicago, Illinois).

<sup>k</sup> Lay's (Frito-Lay, Plano, Texas).

<sup>l</sup> Reese's Peanut Butter Cups (Hershey Company, Lancaster, Pennsylvania).

<sup>m</sup> Quaker Oats (Quaker Oats, Chicago).

<sup>n</sup> Cheerios (General Mills, Minneapolis, Minnesota).

<sup>o</sup> Lucky Charms (General Mills).

**Table 2**

Classification of the Healthfulness of Total Food Purchases Made by 120 Children

Classification	No. of Children	Mean (SD) No. of Products	
		Healthier Products	Less Healthy Products
Least healthy	85	5.9 (3.9)	5.6 (2.5)
Somewhat healthy	22	8.6 (4.8)	3.3 (2.2)
Most healthy	13	10.0 (4.4)	2.2 (1.7)

**Table 3**

Child Food and Beverage Total Purchases by Child and Parent Characteristics

Characteristic	No. of Children	Healthfulness of Child's Total Purchases, % <sup>d</sup>			P Value <sup>b</sup>
		Most Healthy	Somewhat Healthy	Least Healthy	
<b>Variable Included in Model</b>					
Parent purchasing score <sup>d</sup>					
Least healthy (.00 to .333)	6	0	0	100	.02
Somewhat healthy (.334 to .666)	25	4.0	12.0	84.0	
Most healthy (.667 to >.99)	86	14.0	20.9	65.1	
<b>Variables Excluded From Model</b>					
Child's age, y					
2	23	13.0	26.1	60.9	.19
3 or 4	51	13.7	17.7	68.6	
5 or 6	43	7.0	14.0	79.0	
Child's sex					
Male	53	15.1	11.3	73.6	.68
Female	64	7.8	23.4	68.8	
Parent education					
High school or job training	16	6.2	37.5	56.3	.19
College, 1 parent	25	16.0	20.0	64.0	
College, both parents	76	10.5	13.2	76.3	
Child allowed to choose groceries					
Rarely/never	23	13.0	26.1	60.9	.27
Sometimes/often	94	10.6	16.0	73.4	
Child television service in home					

Characteristic	No. of Children	Healthfulness of Child's Total Purchases, % <sup>a</sup>			P Value <sup>b</sup>
		Most Healthy	Somewhat Healthy	Least Healthy	
None	10	30.0	10.0	60.0	.16
Network only	25	4.0	12.0	84.0	
Cable/satellite	82	11.0	20.7	68.3	
<b>Total</b>	<b>117</b>	<b>11.1</b>	<b>18.0</b>	<b>70.9</b>	

<sup>a</sup>Classified according to the frequency with which they reported buying healthier and less healthy products.

<sup>b</sup>Based on analyses involving 117 children. *P* values of covariates excluded from the final model indicate the lack of significance of each of these excluded covariates as an important predictor, given that the one important predictor (parent purchasing score) is already in the model.