Parental Communication Style’s Impact on Children’s Attitudes Toward Obesity and Food Advertising

There have been numerous discussions about what factors influence children’s obesity level and their attitudes toward advertising. Among many possible factors, parental influence cannot be ignored, because children (7–12 years old) generally spend more time with their parents than with anybody else. This study investigates the possible influences of parental communication styles/patterns while watching TV with their children on their children’s obesity level (body mass index) as well as parental influence’s effect on children’s attitudes toward TV snack/fast-food ads. The results reveal that parental communication styles/patterns significantly influence children’s obesity level and their attitude toward TV snack/fast-food ads.

Childhood obesity has become a major concern in our society (Boynton-Jarrett et al. 2003; Harrison and Marske 2005; Henderson and Kelly 2005; Kaiser Family Foundation 2004). According to the Centers for Disease Control (2007), the rate of obesity among children between the ages of 6 and 11 in the United States has increased about five times compared with the rate in the 1970s. At present, about nine million children in the United States over six years of age are considered obese (Institute of Medicine of the National Academies 2005). In addition, obesity at a young age is generally linked to obesity later in life (Debby 2005; Pereira et al. 2005). Obese children have a 70% chance of becoming obese adults who are more vulnerable to several preventable diseases than adults who are within a normal weight range (USA Today 2005).

Under these circumstances, media reports and researchers have identified several factors that influence children’s unhealthy eating habits that generally lead to obesity: children’s innate preferences (Young 2003), siblings and peers (Benton 2004), adults’ behaviors (Harper and Sanders 1975), parental food preferences and beliefs (Campbell and Crawford 2001) and exposure to diverse media content including food advertising.
Children’s frequent exposure to TV snack/fast-food advertising and their positive attitudes toward the ads are important factors in developing unhealthy eating habits that could result in obesity (Boynton-Jarrett et al. 2003; Henderson and Kelly 2005).

Among many possible factors that influence children’s obesity level and their positive attitudes toward TV snack/fast-food advertising, several studies have suggested that parental characteristics need to be studied more, because the major caregivers of children are generally their parents (Alexander 1994; Allison and Schultz 2004; American Academy of Pediatrics [AAP] 2007a, 2007b). The related topics popularly covered in the literature include parental intervention in children’s food preferences (Benton 2004), parental role in children’s understanding of advertising messages (Bijmolt and Classen 1998), parental influence on children’s consumer socialization (Carlson and Grossbart 1988; Carlson and Tanner 2006; Robinson 1999; Young, Bruin, and Eagle 2003) and parental responsibility in mitigating the effects of TV advertising on their children (Buijzen and Valkenburg 2003).

This study explores the influences of parental styles of communication with children while watching TV on the children’s attitude toward TV snack/fast-food advertising and obesity level, which is measured by the body mass index (BMI). The parental communication styles are measured using (1) the typical time parents spend watching TV with their children, (2) the parents’ verbal interaction with their children while watching TV and (3) the level of parental control over children’s TV watching. To check if the children in this study understood TV advertising, they were asked some basic questions before they were asked about their attitudes toward TV snack/fast-food advertising.

CHILDHOOD OBESITY IN AMERICA

The rate of obesity among adults in the United States has been increasing during the last decades. A sedentary lifestyle and unhealthy eating habits are both frequently discussed as being among the main causes of childhood obesity in the United States (Hills, King, and Armstrong 2007). According to the AAP, the average child in the United States watches about four hours of television daily. If time spent in front of the television playing video games or watching DVDs is added, the total time spent sitting in front of the TV screen increases (AAP 2007a, 2007b). Regarding children’s unhealthy eating habits, heavy consumption of fast food has been identified as the most critical reason for the epidemic of childhood obesity (Pereira et al. 2005). Children’s fast-food
consumption has increased more than five times since 1970, with nearly one-third of the U.S. children ages 4–19 eating fast food daily (Bowman et al. 2004). Also, there are now over 280,000 fast-food restaurants across the country (Austin et al. 2005).

According to a study by Bowman et al. (2004) examining the relationship between fast-food consumption and obesity in 6,212 children between the ages of 4 and 19, approximately one-third of the survey participants (30.3%) consumed fast food on a typical day. Heavy consumption of fast food was prevalent among both genders, all racial/ethnic groups and all regions of the United States. The study also revealed that children’s and adolescents’ fast-food consumption had an adverse effect on their overall health in ways that could increase their risk for obesity. The same study also found that fast-food consumption was related to malnutrition. Children who ate fast food consumed more fat, more carbohydrates, more added sugar, more sugar-sweetened beverages and less fiber and fruit than children who did not eat fast food (Bowman et al. 2004). Many researchers and media reports have found that American children’s frequent exposure to snack/fast-food advertising is an important factor that causes childhood obesity (Bernhard 2007; Brownell 2003; Harrison and Marske 2005; Henderson and Kelly 2005; Institute of Medicine of the National Academies 2005).

TV SNACK/FAST-FOOD ADVERTISING AND CHILDHOOD OBESITY

For many companies, children are a significant consumer group to target. According to recent reports (Campaign for a Commercial-Free Childhood 2007; Kunkel 2001; Mercola 2004), the average child in the United States is exposed to about 40,000 TV commercials a year: candy, toys, cereal, soda and fast food are the major products advertised in these commercials. Children not only make food choices for themselves, but they also highly influence food choices for the entire family (McDermott et al. 2006). Children ages 14 and younger spend about $14 billion on food products a year (McNeal 1999). Furthermore, children influence 72% of the family’s food and beverage purchases (Brazil 1999).

High-fat, high-sugar and low-fiber foods are frequently advertised during children’s television programming (Kotz and Story 1994; Taras and Gage 1995). Harrison and Marske (2005) found that 83% of advertised foods aimed at young audiences are convenience/fast foods and sweets. They found very limited presentation of fruits, vegetables and dairy foods among the advertisements. Most foods advertised during the
time when children typically watch television (7:00 a.m. to 9:00 p.m.) exceeded recommended daily values (RDVs) for fat, saturated fat and sodium, while failing to provide RDVs for “healthy” attributes such as fiber and certain vitamins and minerals.

In addition, promotional events and related advertising campaigns have been major factors used to attract children. Advertising that uses cartoon characters and action figures creates strong incentives for children to go to fast-food restaurants (Mercola 2005). Mercola (2005) reported that children are amused by the toys and playgrounds that fast-food restaurants provide. Many food marketing campaigns targeting children use their favorite television or movie characters, such as SpongeBob, Scooby-Doo and the Teletubbies (Kendy 2003; Neeley and Schumann 2004).

The fast-food restaurant has become another medium for mass advertising. According to a recent study (Austin et al. 2005), 78% of elementary and secondary schools had at least one fast-food restaurant within 800 meters (about half a mile) of the campus. The average distance from an elementary or secondary school to a fast-food restaurant was 0.52 kilometers (0.32 miles) in the Chicago area. Apart from TV advertising, fast-food restaurants employ two primary advertising strategies. Without even entering a fast-food restaurant, children are exposed to outdoor advertisements and attractions, such as an outdoor play area (Austin et al. 2005). Once the children are inside the restaurant, they find it decorated with attractive advertisements, such as oversized animation movie characters.

**TV Snack/Fast-Food Ads and Parental Communication Styles**

For the past 20 years, there have been numerous studies dealing with the direct and indirect impact of parents on their children’s attitude toward advertising (Buijzen et al. 2008). Most studies have indicated that parents are very influential not only in what attitudes children have toward advertising but also in preventing undesired effects of advertising, such as children’s materialism and unhealthy eating habits (Buijzen, Walma van der Molen, and Sondij 2007; Story and French 2002). From the amount of time parents spend with their children (Yu and King 2009) to advertising mediation efforts (Buijzen, Walma van der Molen, and Sondij 2007), parents’ or major caregivers’ daily interaction with their children has been considered a critical factor influencing children’s relationship with advertising. Several studies, including Yu and King (2009), have argued that parental availability to their children is an important variable that influences what attitudes children have toward advertising.
Henderson and Kelly (2005) indicated that children of low-income and full-time employed parents generally had more positive attitudes toward TV snack/fast-food advertising. Some of the children from the households in which the parents are rarely available to their children believed that the snack/fast foods advertised on TV were healthier than other foods (Henderson and Kelly 2005).

In addition to the amount of time parents spend watching TV with their children, parental advertising mediation also influences children’s attitude toward advertising (Buijzen, Walma van der Molen, and Sondij 2007). Researchers have indicated that children’s attitude toward advertising differs depending on the parental styles of advertising mediation, which can be categorized into the following three types. The first is active mediation (Bijmolt and Classen 1998), when parents deliberately comment on TV advertisements and make judgments about those advertisements based on their beliefs. Parents may also add an explanation about the real intent of the advertising to their children. The second type of mediation, restrictive mediation, is when parents control the advertisements that children view (Robinson, Saphir, and Kraemer 2001). This mediation is based on (1) the notion that children lack the cognitive abilities to resist commercial messages and (2) the belief that children accept messages found in advertising without reasonable thought. Therefore, parents who utilize this particular type of mediation believe that limiting children’s viewing time may be the only way to prevent the negative effects of advertising. Researchers do not agree about the real effects of these two types of mediation (Buijzen and Valkenburg 2005). Some researchers have concluded that active mediation is the most effective tool (e.g., Bijmolt and Classen 1998), whereas others consider restrictive mediation to be the only way to ensure beneficial effects for children (e.g., Wilman 1983).

The third type of advertising mediation, consumer-related communication style, is a somewhat broader perspective than the two mentioned above. This type of mediation addresses the effect of the general consumer-related family communication style on children’s responses to advertising (John 1999; Moschis 1985). Consumer-related communication style within the family unit is divided into two types: concept-orientation and socio-orientation. The concept-orientation approach is more liberal: family members, including children, conduct negotiations and share opinions and ideas freely. However, the socio-orientation approach puts more emphasis on obedience and harmony among family members, including children (Carlson and Grossbart 1988; Moschis and Moore 1979).
Although researchers have suggested other types of advertising mediation that can influence children’s attitude toward advertising (e.g., Nathanson 2001, 2002), the advertising mediation types are classified according to three factors: (1) amount of time the parents spend watching TV with their children (e.g., Bijmolt and Classen 1998), (2) interactions the parents have while watching TV with their children (e.g., Hoffner and Buchanon 2002) and (3) control the parents have over their children watching TV (e.g., Kevin and Bridget 2007).

Based on the mediation types above, we generate three hypotheses. These hypotheses assume that the three factors influence children’s attitude toward the TV snack/fast-food advertising.

H1: The amount of time parents spend watching TV with their children significantly influences children’s attitude toward TV snack/fast-food advertising.

H2: Parents’ level of verbal interactions with their children while watching TV significantly influences children’s attitude toward TV snack/fast-food advertising.

H3: Parental level of control over children’s TV viewing significantly influences children’s attitude toward TV snack/fast-food advertising.

LEVELS OF OBESITY AND PARENTAL COMMUNICATION STYLES

There are two obvious factors that cause children to have an unhealthy weight—unhealthy eating habits and nonactive lifestyles. However, there are diverse factors that cause unhealthy eating habits and lifestyles (Livingstone 2005). Among many factors (e.g., children’s innate preferences, siblings and peers, adults’ behaviors and exposure to diverse media content), parental characteristics are one of the crucial factors that influence children’s obesity level (Mercola 2004; Nemours Foundation 2007). It has been argued that parents could significantly affect children’s weight management by restricting the amount of fast food the children eat (Pereira et al. 2005), by offering them low-energy–dense foods (Benton 2004) and by encouraging children to have an active lifestyle (Yu and King 2009).

In addition, the studies argued that parental style of communication with children regarding their weight management could be important factors affecting their level of obesity (Gable and Lutz 2004). McGarvey et al. (2004) indicated that if the parents communicate with their children about weight management using the parents’ eating behaviors as
examples, then children’s eating habits might become healthy and thus, the children may not become obese.

Benton (2004) suggested three different parental communication approaches to influence their children’s obesity level. The first approach is for parents to offer rewards to encourage their children to take weight management seriously. The parents could explain what they want their children to eat and what lifestyle (active rather than sedentary) they want their children to adopt and offer rewards for their children’s improvements in these areas. The second approach is emotional communication at the kitchen table. Several studies have indicated that a negative, nonemotional atmosphere during meals makes children consume less nutritious foods and look for foods elsewhere, which contribute to childhood obesity (Koivisto, Fellenius, and Sjoden 1994). Therefore, providing an emotionally supportive atmosphere for children at the table will offer them a chance to eat healthier foods prepared by the parents instead of fast foods they get outside the home (Benton 2004). The third approach is for parents to avoid rule-based communication with children regarding their eating habits. Once children consider the parental rules to be unreasonable, they will seek to consume unhealthy foods outside parental supervision. In this case, communication between parents and children over nutrition and weight management is the most appropriate channel (Benton 2004).

Based on the notions above, this study assumes that parental communication styles with children while watching TV will have a significant influence on children’s obesity level measured by the BMI. Some studies have indicated that the time children and parents spend watching TV together could be time for parents to educate their children about healthy nutrition, the negative effects of TV food advertising and ideal weight management (O’Dea 2005; Story and French 2002). Parental communication styles (the amount of time parents’ spend watching TV with their children, the parents’ verbal interaction with their children while watching TV and the level of parental control over children’s TV watching) are tested to see if they influence the children’s BMI.

H4: Amount of time parents spend watching TV with their children significantly influences children’s BMI.

H5: Parents’ level of verbal interaction with their children while they are watching TV significantly influences children’s BMI.

H6: Parental level of control over children regarding watching TV significantly influences the children’s BMI.
METHOD

Sampling and Survey

This dyad study recruited children between the ages of 7 and 12 and their parents. Research on the impact of advertising on children has generally focused on children between the ages of 7 and 12 (Halford et al. 2004; Hitchings and Moynihan 1998). Children under the age of 6 have more limited cognitive abilities for understanding the content of advertising than do older children (Mallalieu et al. 2005; Oates et al. 2003), and adolescents (ages 13–18) are typically considered in a developmentally different stage than younger children (Khatibi, Haque, and Ismail 2004). Children between the ages of 7 and 12 typically understand the content of advertising, and research has shown that advertising can influence their future actions (Oates et al. 2003). The food preferences of children in this age group are directly influenced by the advertising messages to which they are exposed (Zuppa, Morton, and Mehta, 2003).

The researcher recruited fathers as well as mothers because several recent studies (Marcus 2006; Pine, Wilson, and Nash 2007) have indicated that fathers are also major caregivers for children in terms of the time they spend with children as well as their involvement in children’s eating habits, nutrition, school life and media exposure (Brooks et al. 1998; Coontz 2005; Downs 2008). The researcher contacted three elementary schools in a Southern U.S. city regarding the participation of children and their parents in this survey and received permissions from the schools before starting the survey.

The paper-based surveys included sections for children and their parents and were distributed to the children first with the help of the schools. The children were asked to bring back the completed surveys to the school in a week after they and one of their parents filled out the survey. The first three pages of the survey were for the children to fill out. They were asked about basic demographic information (age and gender), weight/height (BMI) and their understanding of TV commercials; this was done because conducting advertising research would not be meaningful if most of the participating children did not understand the commercials (Oates et al. 2003). To assess their understanding of commercials, the children were asked three questions: “What are television commercials?” “What do television commercials want you to do?” and “Why do television stations broadcast commercials?” They were provided with five choices for each question (e.g., the choices for the first question were (1) funny messages, (2) messages for us to
take a break, (3) introduction to products, (4) promotion of products and (5) don’t know).

After they answered the three primary questions, they were asked about their attitude toward TV snack/fast-food advertising. In the next three pages, the survey asked for the parents’ basic information (i.e., gender, age and race), the average time spent with their children watching TV, verbal interaction with their children and control over their children regarding TV watching. The researcher visited each school after a week, picked up the surveys from the school offices and donated $1 per each completed survey to the schools.

The survey consent form included information that the survey was being conducted anonymously. In addition, to lessen the risk that participants would provide socially desirable responses instead of honest responses, the researcher wrote a letter to the parents asking them to provide honest answers based on their parental experiences. In addition, the survey instructions directed the parents to tell their children to provide honest answers. To deal with the social desirability issue regarding parental answers, Carlson and Grossbart (1988) used the anonymous principle and asked participants to answer a 19-item questionnaire; responses were placed on a social desirability scale (Crowne and Marlowe 1964). This study decided not to use the social desirability scale for the following reasons. First, unlike the previous study, this is a dyad survey in which the children and their parents participated at the same time. Second, the research by Carlson and Grossbart did not report any serious social desirability effects in the participants’ answers; their sample had similar demographics to this study (i.e., parents of elementary school children).

Questionnaire

To investigate the children’s attitude toward TV snack/fast-food advertising, the author used the scale from the study by Carlson and Grossbart (1988), modified slightly by replacing “TV commercials” with “TV snack/fast-food food commercials.” The author did not modify the scale further because the age range of the children surveyed in the two studies was similar (i.e., elementary school children). A total of seven statements were given to the children; they were asked to check one of four options for each statement. As several researchers including Carlson and Grossbart (1988) have suggested, the options for children were made easier for them to understand. “YES” in capital letters and large font was used for the “strongly agree” response, and “yes” in lowercase letters and smaller font was used for the “agree” response. “NO” in capital
letters and large font was used to indicate “strongly disagree,” and “no” in lowercase letters and smaller font was used for “disagree.”

Regarding the survey questionnaire for parents, they were asked about the amount of time they spend watching TV with their children. A survey with three questions used by several previous studies was used: “How much time did you spend watching television yesterday?” “How much time do you usually spend watching television every day?” and “On an average day, about how much time, if any, do you personally spend watching television?” (Morgan 1984; Richins 1987; Sirgy et al. 1998). Next, the parents were asked about their verbal interaction with their children while they are watching TV together. The author used the scaled employed in a study by Carlson, Laczniaik, and Walsh (2001) with slight modifications. The first person statements were changed to statements starting with “My child” because the original scale was developed for children. For example, “I ask my mom what things mean on TV” was modified to “While my child(ren) and I are watching TV together, my child(ren) asks me what things mean on TV.” The parents provided responses to five statements (Table 2). Another scale from the same research (Carlson, Laczniaik, and Walsh 2001) was used to investigate the parents’ perspectives about control over their children regarding TV watching. The parents were asked to respond to nine statements, including “My child(ren) has to do his/her/their homework before he/she/they can watch TV.” The author did not significantly modify the statements for the parents based on the assumption that the parents would be able to understand fully what each statement meant because the statements were originally developed for children.

RESULTS

The author received permissions from two elementary schools and distributed a total of 400 surveys (200 per school). In School A, 128 surveys (filled out by children and their parents) were returned; in School B, 119 were returned. However, the completed surveys that could be used for data analysis only totaled 224 (therefore, the response rate was 56%). Both schools enthusiastically supported the study to increase the response rate. As the surveys were filled out by children (between the ages of 7 and 12) and one of the parents, the final number of participants for this study was 448.

There was a balance in the gender of the children—there were 115 girls and 107 boys. In total, 2 of the 224 children did not indicate their gender. The most frequent ages of the children were 10 and 12 years
TABLE 1
Demographic Information of Children and Their Parents

<table>
<thead>
<tr>
<th>Children’s gender</th>
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<tbody>
<tr>
<td>Girl</td>
<td>115</td>
</tr>
<tr>
<td>Boy</td>
<td>107</td>
</tr>
<tr>
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<td>2</td>
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</tbody>
</table>

<table>
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<th>Children’s age</th>
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<td>31</td>
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<td>10</td>
<td>61</td>
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<tr>
<td>11</td>
<td>40</td>
</tr>
<tr>
<td>12</td>
<td>66</td>
</tr>
<tr>
<td>Not answered</td>
<td>4</td>
</tr>
</tbody>
</table>

| Children/total | 224   |

<table>
<thead>
<tr>
<th>Parents</th>
<th></th>
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<tr>
<td>Mother</td>
<td>175</td>
</tr>
<tr>
<td>Father</td>
<td>38</td>
</tr>
<tr>
<td>Not answered</td>
<td>11</td>
</tr>
</tbody>
</table>

| Parents/total | 224   |

<table>
<thead>
<tr>
<th>Parents’ ethnicity</th>
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</thead>
<tbody>
<tr>
<td>Caucasian/White</td>
<td>115</td>
</tr>
<tr>
<td>African American/Black</td>
<td>86</td>
</tr>
<tr>
<td>Asian</td>
<td>6</td>
</tr>
<tr>
<td>Native American</td>
<td>9</td>
</tr>
<tr>
<td>Hispanic</td>
<td>3</td>
</tr>
<tr>
<td>Not answered</td>
<td>5</td>
</tr>
</tbody>
</table>

| Parents/total | 224   |

old; these made up about 40% of all children participants. Regarding the ethnicity of the children’s parents, 115 were Caucasian/White, 86 were African American/Black, 3 were Asian and 9 were Native Americans. The detailed demographic information is presented in Table 1.

Children’s Understanding of TV Commercials

To the question “What are television commercials?” 88 children (40%) answered “Promotion of products,” which was the most popular answer. The next popular answer was “Introduction of products,” chosen by 73 children (32%). Only 13 children chose the answer “Funny messages” to the question (5.8%). In addition, there were 31 children who answered “Messages for us to take a break (14%).” The answer “Don’t know” was chosen by 17 children (7.7%). A chi-square goodness-of-fit test was performed in addition to conducting the simple frequency to check whether the frequency of the most popular answer was statistically significant. The results of the goodness-of-fit test showed
that the frequency of the children’s answer “Promotion of products” was significantly higher than other answers ($p < .05$).

The second question for children was “What do television commercials want you to do?” The most popular answer was “Buy the products,” which was chosen by 152 children (68.5%). The second most popular answer was “Check out the products at the stores” (35 children, 15.7%). Only 10 children answered “Decide which commercial is good and which is poor,” which was the least common answer among children (4.5%). There were 11 children who answered “Don’t know.” Again, the results of the goodness-of-fit test revealed that the frequency of the children’s answer “Check out the products at the stores” was significantly higher than other answers ($p < .05$).

Regarding the question “Why do television stations broadcast commercials?” 149 children (67%) chose the answer “Make money.” The next most popular answer was “Don’t know” (14%). The frequencies of the other answers were all less than 10%. For example, the answers “Help the audience” and “Care for the public” were chosen by only 11 children (4.9%). Based on the results from another goodness-of-fit test, it was found that the frequency of the answer “Make money” was significantly higher than other answers ($p < .05$).

Children’s Attitudes and Parental Communication Styles While Watching TV

H1, H2 and H3 were addressed using hierarchical regression analysis. As indicated in Table 2, the amount of time parents spend with their children watching TV, parents’ level of verbal interaction with their children while they are watching TV together and parental level of control over children in terms of watching TV were subjected to a stepwise regression to predict the children’s attitudes toward TV snack/fast-food advertising. As shown in Table 2, the three variables were significantly negative (or positive in the case of verbal interaction of parents with their children while they are watching TV together) predictors of the children’s attitudes toward TV snack/fast-food advertising. Regarding the amount of time parents’ spend watching TV with their children, children’s attitude toward TV snack/fast-food advertising was predicted to be negative. This relationship was consistent in the regression model 1, 2 and 3 ($p < .05$). Therefore, the first hypothesis, “The amount of time parents spend watching TV with their children significantly influences children’s attitude toward TV snack/fast-food advertising,” was supported.
TABLE 2
Hierarchical Regression for Examining the Relationships Between Children’s Attitude Toward TV Food Advertising and Parental Communication Style

<table>
<thead>
<tr>
<th>Dependent variable: Children’s attitude toward TV food advertising</th>
<th>β</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model 1 Parental hours of TV watching with their children/effect</td>
<td>−.156*</td>
</tr>
<tr>
<td>Adjusted $R^2$</td>
<td>.019</td>
</tr>
<tr>
<td>df = 1, MS = 41.365, $F = 4.867$, $P = .029$</td>
<td></td>
</tr>
<tr>
<td>Model 2 Parental hours of TV watching with their children/effect</td>
<td>−.155*</td>
</tr>
<tr>
<td>Parents’ verbal interaction with their children during watching TV/effect</td>
<td>.090</td>
</tr>
<tr>
<td>Adjusted $R^2$</td>
<td>.022</td>
</tr>
<tr>
<td>df = 1, MS = 27.616, $F = 3.260$, $P = .041$</td>
<td></td>
</tr>
<tr>
<td>Model 3 Parental hours of TV watching with their children/effect</td>
<td>−.146*</td>
</tr>
<tr>
<td>Parents’ verbal interaction with their children during watching TV/effect</td>
<td>.177*</td>
</tr>
<tr>
<td>Parental control over children regarding TV watching/effect</td>
<td></td>
</tr>
<tr>
<td>Adjusted $R^2$</td>
<td>−.176*</td>
</tr>
<tr>
<td>df = 1, MS = 31.771, $F = 3.824$, $P = .011$</td>
<td>.041</td>
</tr>
</tbody>
</table>

*P ≤ .05.

The second variable, the level of verbal interaction parents have with their children while they are watching TV together, was found to have a significantly positive relationship with the children’s attitude toward TV snack/fast-food advertising. This positive relationship was consistent in the regression Models 2 and 3 as well. Based on the result indicated, the second hypothesis, “Parents’ level of verbal interaction with their children while they are watching TV together influences children’s attitude toward TV snack/fast-food advertising,” was supported.

The last independent variable, parental level of control over children in terms of their TV watching, was also found to significantly predict the children’s attitudes toward TV snack/fast-food advertising. Regarding the direction, a negative relationship was found through the regression Model 3. Therefore, the hypothesis “Parental level of control over children regarding their TV watching significantly influences children’s attitude toward TV snack/fast-food advertising” was supported. The regression models explained the variance—24% (Model 1), 32% (Model 2) and 56% (Model 3).

Obesity Levels and Parental Communication Styles While Watching TV

As shown in Table 3, the amount of time parents spend watching TV with their children was a significant negative predictor of the children’s obesity level (BMI) ($p < .05$), and the relationship held strong even when the second block of predictor variables was introduced.
TABLE 3
Hierarchical Regression for Examining the Relationships Between Children’s Attitude Toward TV Children’s Food Advertising and Parental Communication Style

<table>
<thead>
<tr>
<th>Model</th>
<th>Dependent variable: Children's obesity (BMI)</th>
<th>β</th>
<th>Adjusted R²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model 1</td>
<td>Parental hours of TV watching with their children/effect</td>
<td>−.141*</td>
<td>.014</td>
</tr>
<tr>
<td></td>
<td>df = 1, MS = 1897.260, F = 3.641, P = .050</td>
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<td></td>
</tr>
<tr>
<td>Model 2</td>
<td>Parental hours of TV watching with their children/effect</td>
<td>−.139*</td>
<td>.168*</td>
</tr>
<tr>
<td></td>
<td>Parental’s verbal interaction with their children during watching TV/effect</td>
<td>.038</td>
<td></td>
</tr>
<tr>
<td></td>
<td>df = 1, MS = 2306.732, F = 4.533, P = .012</td>
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<td></td>
</tr>
<tr>
<td>Model 3</td>
<td>Parental hours of TV watching with their children/effect</td>
<td>−.137</td>
<td>.182*</td>
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<td>Parental’s verbal interaction with their children during watching TV/effect</td>
<td>.033</td>
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<td></td>
<td>Parental control over children regarding TV watching/effect</td>
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<tr>
<td></td>
<td>df = 1, MS = 1559.041, F = 3.049, P = .030</td>
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*p ≤ .05.*

Therefore, the hypothesis “Amount of time parents spend watching TV with their children significantly influences children’s BMI” was supported. Next, the parents’ level of verbal interaction with their children while watching TV was also a significant predictor of the dependent variable (children’s BMI). The variable had a positive relationship with the children’s obesity level. Therefore, based on the result, the hypothesis “Parents’ level of verbal interaction with their children while they are watching TV together significantly influences children’s BMI” was supported.

However, regarding the parents’ level of interaction with their children while they are watching TV together, the variable was not a significant predictor of the children’s level of obesity. Therefore, the hypothesis “Parental level of control over children regarding watching TV significantly influences children’s BMI” was not supported.

DISCUSSION

The Importance of Parental Mediation

This study’s results show that the factors related to parental communication with their children while watching TV significantly influences the children’s attitude toward TV snack/fast-food advertising. It was found that all three independent variables tested in this study (the amount of time parents spend with their children while watching TV, the parents’ level of interaction with their children while watching TV together and the parental level of control over children regarding their
watching TV) were significant predictors of the children’s attitude toward TV snack/fast-food advertising. The more time parents spend with their children watching TV, the more frequently their children have negative attitudes toward TV snack/fast-food advertising. When it comes to the parents’ verbal interaction, when parents have more interactions with their children while watching TV, the children have a more positive attitude toward TV snack/fast-food advertising. Finally, the children of parents who have more control over TV watching had more negative attitudes toward advertising. Therefore, the importance of the parental communication and mediation process was made clear in terms of what kinds of attitudes the children have toward TV snack/fast-food advertising, which has been considered one of the major factors that influence children’s health (Austin et al. 2005; Halford et al. 2004; Hitchings and Moynihan 1998).

There have been several studies dealing with the importance of parental mediation concerning children’s attitudes toward advertising (Livingstone and Helsper 2006; Rozendaal and Buijzen 2007). Parents’ regularly talking about advertising with their children could play an important role in making children’s attitude toward advertising more balanced (Carlson and Grossbart 1988). Including this research, several studies have indicated that parental mediation of advertising could be more effective if the parents mediate while they are in front of the television with their children (Nathanson 1999). This enables the parents to have more opportunities to discuss the meaning of commercials with their children (Oates et al. 2003), the actual intent of advertising (Hoffner and Buchanon 2002), better choices about products (Carlson, Laczniak, and Walsh 2001) and health issues (Carlson and Tanner 2006; Yu and King 2009).

The quality of the discussion between parents and children about TV advertising needs to be considered (John 1999). Parents should make time with their children in front of the television meaningful by instructing them about the possible negative effects of advertising (Desmond et al. 1985). If parents spend time watching television with their children without strategic advertising mediation (e.g., indicating the actual purpose of TV snack/fast-food advertising and the possible effect of over-consumption of fast foods), the children may uncritically accept the messages (Caroli et al. 2004). This experience might result in children having a more positive attitude toward advertising (Chan and McNeal 2004). Therefore, the parental role does not end merely with sitting silent in front of the TV with their children. Parents need to be effective critics of the content of TV snack/fast-food advertising and
other programs to prevent their children from being mesmerized by the visual techniques and catchy messages of the advertising (Buijzen and Valkenburg 2003).

This study indicates the need for parental control over children’s TV watching so they develop reasonable attitudes toward TV snack/fast-food advertising. The more parents control their children’s TV watching, the more children have a negative attitude toward TV snack/fast-food advertising. Parental control over TV watching could provide children with the opportunities to think more seriously about the advertising’s potential negative impact on them (Preston 2005).

Parental Involvement for the Reduction of Childhood Obesity

Regarding the relationships between children’s level of obesity (BMI) and parental communication styles, the amount of time parents spend watching TV with their children and the parents’ verbal interaction were significant predictors of obesity levels. The children of parents who spend more time watching TV with their children have lower BMI, which means a lower level of obesity. However, the parents’ level of verbal interaction with their children while watching TV had a positive relationship with the children’s obesity level.

There have been several studies indicating that parental roles are a significant factor in children’s obesity level; these roles include managing what kind of eating habits their children have (Benton 2004) and how much the children are active in their daily lives (McGarvey et al. 2004). This study provides useful information about how the parents can help with their children’s weight management by becoming involved in their children’s relationship with media content to which they are exposed. If parents can spend time together with their children when the children watch television, the parents could not only explain why it is necessary to avoid the advertised food products to maintain a healthy weight but also instruct them about how advertisements can have negative consequences on consuming snack/fast-food products. Parents can be involved in what children think about the advertised food products and how they view commercialized images, which have been found to be one of the major factors in children’s obesity (Hills, King, and Armstrong 2007).

The positive relationship found in this study between the parents’ level of interaction with their children while watching TV and the children’s obesity levels could indicate that parents need to be careful not to waste the time they spend with their children in front of the TV. The verbal interaction parents have with their children will be useless in terms of
the children’s health or weight management if the parents do not pro-
vide education to their children while they watch TV (Robertson 1979;
Signorielli and Staples 1997). Parents should play a role in instructing
and commenting on several issues regarding nutrition, snack/fast-food
advertising and childhood obesity. Otherwise, children will not have
the opportunity to think about obesity and the serious effect advertis-
ing has on their weight and lifestyle. In conclusion, parental mediation
is a key factor that influences children’s attitude toward TV snack/fast-
food advertising and childhood obesity. However, the mediation should
be strategic and educational for children so that it has an effect on their
eating habits and lifestyle.

Although this study concluded that parental communication styles are
important in influencing children’s attitudes toward TV snack/fast-food
advertising and their level of obesity, there is a clear need for testing
other variables regarding this issue. In addition to parental factors, there
could be several other factors that should be tested in terms children’s
advertising attitudes and their weight management. For example, studies
have argued that the influence of environmental factors, such as peers,
teachers and even the community (Buijzen and Valkenburg 2003, 2005),
could affect childhood obesity. Using the ecological theory of child
development (Brofenbrenner 1979, 2001), some researchers have indi-
cated that almost all types of childhood development, including attitudes
toward advertising (Yu and King 2009) and health (Buijzen and Valken-
burg 2003), should be understood by examining multiple environmental
factors. These researchers have suggested examining not only direct envi-
ronmental factors influencing children (e.g., peer groups, school life and
nutrition) but also broader environmental factors, such as parents’ edu-
cation, income and regulation of TV programs and advertising (Buijzen
and Valkenburg 2005).

This study obtained its data from children and their parents, including
information about the children’s weight and height, which were used to
calculate BMI, and their attitudes toward TV snack/fast-food advertising.
Therefore, this study relied mainly on parents’ opinions about the
issues, instead of the children’s perspectives. Owing to the difficulty
of using children as survey participants, many studies have used
adult participants for studies about children’s health and the effect of
advertising on children (Yu and King 2008). Although most studies have
surveyed caregivers of children (Dietz and Gortmaker 1985; Galst and
White 1976; Livingstone and Helsper 2006), different results could be
yielded if researchers used children’s perspectives on health/obesity and
advertising.
REFERENCES


Marcus, Dave. 2006. When Every Day Is Father’s Day: A Growing Number of Men Have Taken on More Than Just an Active Role in Their Children’s Lives; Many Dads Are Raising Their Kids by Themselves. *Newsday*, June 18.


