Fast Food f.a.c.t.s.

Food Advertising to Children and Teens Score

Evaluating Fast Food Nutrition and Marketing to Youth

YALE RUDD CENTER
FOR FOOD POLICY & OBESITY

Fast Food FACTS: Evaluating Fast Food Nutrition and Marketing to Youth

Authors:
Jennifer L. Harris, PhD, MBA
Marlene B. Schwartz, PhD
Kelly D. Brownell, PhD
Vishnudas Sarda, MBBS, MPH
Amy Ustjanauskas
Johanna Javadizadeh, MBA
Megan Weinberg, MA
Christina Munsell, MS
Sarah Speers
Eliana Bukofzer, MPH
Andrew Cheyne, MA
Priscilla Gonzalez
Jenia Reshetnyak, MS
Henry Agnew
Punam Ohri-Vachaspati, PhD

Rudd Center for Food Policy and Obesity
November, 2010

Revised December 3, 2010

Acknowledgements

We would like to thank the following people for their valuable assistance in collecting data:
Kelly Barrett
Hannah Byrnes-Enoch, MPH
Casey Carden
Ashley Firth, MA
Jay Imus
Sharon Kirkpatrick, PhD, MHSc
Sue Krebs-Smith, PhD, MPH, RD
Carly Litzenberger
Julie McComish
Catherine Montgomery
Kathryn O'Shaughnessy
Doug Ranshaus
Warren Sethachutkul
Hannah Sheehy
Kate Stearns
Jill Reedy, PhD, MPH, RD
Jackie Thompson
Shannon Vargo
Catherine Wright

We would also like to thank our steering committee and other advisors:
Frank Chaloupka, PhD
William H. Dietz, MD, PhD
Lori Dorfman, DrPH
Steve Fajen
Corinna Hawkes, PhD
Shiriki Kumanyika, PhD, MPH
Tim Lobstein, PhD
Susan T. Mayne, PhD
C. Tracy Orleans, PhD
Lisa M. Powell, PhD
Amelie Ramirez, DrPH
Mike Rayner, PhD
Mary Story, PhD, RD
Stephen Teret, JD, MPH
Ellen Wartella, PhD
James G. Webster, PhD
Jerome D. Williams, PhD

Thank you to our colleagues at the Rudd Center, especially Rebecca Oren, Andrea Wilson, Megan Orciari and Tricia Wynne. We thank Cavich Creative, LLC, Chris Lenz, and Marian Uhlman for their assistance in preparing the manuscript and website. Finally, we thank the leadership and staff at the Robert Wood Johnson Foundation, with special thanks to the Childhood Obesity Team.

Support for this project was provided by grants from the Robert Wood Johnson Foundation and the Rudd Foundation.

List of Tables

Ranking Tables

Appendix Tables

List of Figures

Why fast food?

The research is clear. Eating fast food harms young people's health. Children and adolescents who eat fast food consume more calories, fat, sugar, and sugar-sweetened beverages – and less fiber, milk, fruit, and vegetables – than peers who do not.[1-4] If they ate fast food only occasionally, this would not be problematic. But every day, one-third of American children and adolescents eat fast food,[5] and fast food contributes 16% to 17% of adolescents' total caloric intake.[6]

Fast food restaurants extensively market to young people.. In 2006, fast food restaurants spent approximately $300 million in marketing specifically designed to reach children and teens, and an estimated $360 million on toys distributed as premiums with children's meals.[7] In 2007, young people viewed more TV ads for fast food than any other food category: 2.9 fast food ads per day for the average child (6-11 years) and 4.1 per day for the average teen (12-17 years).[8] These marketing efforts are targeted even to preschoolers.[9] In addition, children's exposure to fast food TV advertising increased by 12% from 2003 to 2007 at the same time that advertisers for most other food product categories reduced their TV ads to children.[10]

The White House Task Force on Childhood Obesity has stated that restaurants "have an important role to play in creating a food marketing environment that supports, rather than undermines, the efforts of parents and other caregivers to encourage healthy eating among children and prevent obesity."[11] The fast food industry has responded to this and other calls for change.[12] Two of the largest fast food advertisers to children, McDonald's and Burger King, have joined the Children's Food and Beverage Advertising Initiative (CFBAI), pledging to advertise only "better-for-you" choices to children.[13] Most restaurants have also introduced more nutritious options for both children and adults to their menus.[14]

But critical questions remain: Do these actions have a positive impact? Or, does the sheer volume of fast food marketing eclipse any of these industry initiatives?

Fast Food FACTS

This report addresses the need for comprehensive, reliable, and current information about fast food marketing and how it affects young people. We focus our analyses on the twelve restaurants with the highest sales and advertising to youth in 2009 and document three components of their marketing plans:

- **Menu composition** provides nutrient content data and comparison of all menu items offered as of January 2010, including items on kids' meal, dollar/value, and healthy menus.
- **External advertising** includes data to measure advertising practices that reach customers outside the restaurant to *pull* them inside. We examine advertising spending, TV ads, internet marketing, social media, viral marketing, and signs outside restaurants. We use syndicated media data from The Nielsen Company (Nielsen), comScore Inc., and Arbitron Inc. When these data were not available, we commissioned or implemented our own studies to measure the extent that restaurants engaged in these practices. In addition, we conducted content analyses to assess the products, target audiences, messages, and techniques in the ads.
- **In-store marketing** presents data to assess marketing practices inside restaurants to *push* sales of individual menu items. This research includes an audit of more than 1,000 restaurants nationwide to measure in-store signs, pricing practices, and the products and messages promoted. We also conducted a study of restaurant sales practices at 250 restaurants to document the products encouraged at the point-of-sale when ordering kids' meals and combo meals.

To measure the **outcomes** of these marketing practices, we purchased market research data from The NPD Group's CREST service to quantify the types of products most often purchased. We also conducted a survey of parents of 2- to 11-year-olds to measure the frequency of their visits to fast food restaurants with their children, what menu items they buy, and why.

Results

Fast food marketing is relentless.

- The fast food industry spent more than $4.2 billion in 2009 on TV advertising, radio, magazines, outdoor advertising, and other media.
- The average preschooler (2-5 years) saw 2.8 TV ads for fast food *every day* in 2009; children (6-11 years) saw 3.5; and teens (12-17 years) saw 4.7.
- Young people's exposure to fast food TV ads has increased. Compared to 2003, preschoolers viewed 21% more fast food ads in 2009, children viewed 34% more, and teens viewed 39% more.
- McDonald's and Burger King have pledged to improve food marketing to children. However, both restaurants increased their volume of TV advertising from 2007 to 2009. Preschoolers saw 21% more ads for McDonald's and 9% more for Burger King, and children viewed 26% more ads for McDonald's and 10% more for Burger King.
- Although McDonald's and Burger King only showed their "better-for-you" foods in child-targeted marketing, their ads did not encourage consumption of these healthier choices. Instead, child-targeted ads focused on toy giveaways and building brand loyalty.
- Children saw more than just child-targeted ads. More than 60% of fast food ads viewed by preschoolers and children promoted fast food items other than kids' meals and promotions.

Youth-targeted marketing has spread to company websites and other digital media.

- McDonald's web-based marketing starts with children as young as 2 at Ronald.com.
- McDonald's and Burger King created sophisticated websites with 60 to 100 pages of advergames and virtual worlds to engage children (McWorld.com, HappyMeal.com, and ClubBK.com).
- McDonald's thirteen websites attracted 365,000 unique child visitors and 294,000 unique teen visitors on average each month in 2009.
- Nine restaurant Facebook pages had more than one million fans as of July 2010, and Starbucks boasted more than 11.3 million fans.
- Smartphone apps were available for eight fast food chains, providing another opportunity to reach young consumers anytime, anywhere.

Fast food marketing also targets teens and ethnic and minority youth – often with less healthy items.

- Taco Bell TV and radio advertising reached more teens than adults and Burger King advertised teen-targeted promotions. Dairy Queen, Sonic, and Domino's also reached teens disproportionately with ads for their desserts and snacks.
- Hispanic preschoolers saw 290 Spanish-language fast food TV ads in 2009 and McDonald's was responsible for one-quarter of young people's exposure to Spanish-language fast food advertising.
- African American children and teens saw at least 50% more fast food ads on TV than their white peers. That translated into twice as many calories viewed in fast food ads daily compared to white children.
- McDonald's and KFC specifically targeted African American youth with TV advertising, websites, and banner ads. African American teens viewed 75% more TV ads for McDonald's and KFC compared to white teens.

Fast food marketing works.

- Eighty-four percent of parents reported taking their child to a fast food restaurant at least once in the past week; 66% reported going to McDonald's.
- Forty-seven percent of parents who went to McDonald's reported that the main reason they went there was because their child likes it. This rate was significantly higher than the percent who reported that they took their child to Burger King, Subway, or Wendy's primarily because their child likes it (31%, 20%, 19%, respectively)
- Forty percent of parents reported that their child asks to go to McDonald's at least once a week; 15% of preschoolers ask to go every day.

Most restaurants do offer some healthful and lower-calorie choices on their regular and children's menus, but unhealthy options are the default inside the restaurants.

- Just 12 of 3,039 possible kids' meal combinations met nutrition criteria for preschoolers; 15 met nutrition criteria for older children.
- Just 17% of regular menu items qualified as healthful choices. Most of these items were low or no-calorie beverages (e.g., coffee and diet soft drinks). In contrast, 12% of lunch/dinner sides met nutrition criteria, and 5% or less of lunch/dinner main dishes and breakfast items met the criteria.
- Snacks and dessert items contained as many as 1,500 calories, which is five times more than the 200 to 300 calorie snack recommended by the American Dietetic Association for active teens.[15]
- The average restaurant had 15 signs promoting specific menu items, but just 4% promoted healthy menu items.
- When ordering a kids' meal, restaurant employees at McDonald's, Burger King, Wendy's, and Taco Bell automatically served french fries or another unhealthy side dish more than 84% of the time. A healthy beverage was offered less than 50% of the time.
- Subway offered apple slices or yogurt and low-fat plain milk or 100% juice with their kids' meals 60% of the time, making it the only fast food restaurant in our study to routinely provide healthy choices.

As a result,

- At McDonald's, Burger King and Wendy's, approximately two-thirds of parents who ordered a kids' meal for their child ordered french fries and one-third to one-half ordered a soft drink. In contrast, two-thirds ordered fruit or yogurt and juice or plain milk with a kids' meal at Subway.
- Parents of elementary school-age children were more likely to order a combo meal or dollar/value menu items for their child than a kids' meal.
- Teens between the ages of 13 and 18 ordered 800 to 1,100 calories in an average fast food visit. This age group ordered many of the highest-calorie, nutrient-poor items on fast food menus, including large and extra-large french fries and soft drinks and large-sized burgers.
- Teens were also more likely to visit a fast food restaurant for an afternoon or evening snack compared to any other age group; and they purchased the most desserts, breads and sweet breads.
- At least 30% of calories in menu items ordered by children and teens were from sugar and saturated fat. At most restaurants, young people ordered at least half of their maximum daily recommended sodium intake in just one fast food meal.

Recommendations

Young people must consume less of the calorie-dense, nutrient-poor foods served at fast food restaurants. Parents and schools can do more to teach children how to make healthy choices. Above all, fast food restaurants must drastically change their current marketing practices so that children and teens do not receive continuous encouragement to seek out food that will severely damage their health. In addition, when young people visit, the restaurants should do more to encourage the purchase of more healthful options.

Fast food restaurants must establish meaningful standards for child-targeted marketing that apply to all fast food restaurants—not just those who voluntarily participate in the CFBAI

- Restaurants must apply "better-for-you" standards to kids' meals served, not just items pictured in child-directed marketing.
- Restaurants must redefine "child-directed" marketing to include TV ads and other forms of marketing viewed by large numbers of children but not exclusively targeted to them.
- Child-targeted marketing must do more to persuade children to want the healthy options available, not just to encourage them to visit the restaurants.
- McDonald's must stop marketing directly to preschoolers.

Fast food restaurants must do more to develop and promote lower-calorie and more nutritious menu items

- The focus in all forms of marketing must be reversed to emphasize the healthier options instead of the high-calorie poor quality items now promoted most extensively.
- Restaurants must increase the relative number of low-calorie, more nutritious items on their menus.
- Popular items should be reformulated to decrease the saturated fat, sodium, and calories in the average entrée.
- Kids' meal options must be developed to meet the nutrition needs of both the preschoolers and older children who consume them.

Fast food restaurants must do more to push their lower-calorie and more nutritious menu items inside the restaurants when young people and parents make their final purchase decisions

- Healthier sides and beverages must be the default option when ordering kids' meals. Parents can request french fries and soft drinks if they want, but parents – not restaurants – should make that decision. McDonald's claims that it sells millions of Happy Meals. Simply making the healthy option the default could reduce children's consumption by billions of calories per year.
- The smallest size and most healthful version should be the default option for all menu items.
- Portion sizes (e.g., small, medium, and large) should be consistent for similar menu items across restaurants.

According to the data in this report, fast food restaurants spend billions of dollars in marketing every year to increase the number of times that customers visit their restaurants, encourage visits for new eating occasions and purchases of specific menu items (rarely the healthy options), and create lifelong, loyal customers. By creating more healthful items and marketing them more effectively, fast food restaurants could attract lifelong customers who will also live longer, healthier lives.

Restaurants "have an important role to play in creating a food marketing environment that supports, rather than undermines, the efforts of parents and other caregivers to encourage healthy eating among children and prevent obesity,"[1] according to the White House Task Force on Childhood Obesity.

The harmful effects of food marketing on child and adolescent health have been discussed widely in recent years. In 2006 the Institute of Medicine (IOM) released a report about children's food marketing beginning with two words, "marketing works."[2] In the same year, the World Health Organization (WHO) issued a report, noting that "…exposure to the commercial promotion of energy-dense, micronutrient-poor foods and beverages can adversely affect children's nutritional status."[3] Both the IOM and WHO reports highlighted the dire state of children's food marketing and called for sweeping changes. These reports called into question the assertion by food industry proponents that food marketing to children only affects brand preferences (e.g., purchases at McDonald's instead of Burger King) and does not increase total purchases of food categories such as fast food.[4] However, they left open the possibility that food companies might be persuaded by good will, public pressure, or the threat of government regulation to change their marketing practices.

Much has transpired since the release of the WHO and IOM reports. In the fast food industry, two of the largest fast food advertisers (McDonald's and Burger King) have joined the Children's Food and Beverage Advertising Initiative (CFBAI) and pledged to advertise only "better-for-you" choices to children;[5] the majority of restaurants have introduced more nutritious options to their menus for both children and adults;[6] and most fast food restaurants will soon be required by federal law to post calories for all items on their menu boards.[7] The critical question is whether industry promises will reverse the unhealthy defaults that exist in the current fast food marketing environment.[8]

Consumption of fast food is associated with a number of negative health consequences, most notably unhealthy diet that increases risk for obesity.[9 10] Fast food restaurants spend more than $660 million each year to market their products and brands to children and adolescents.[11] This report describes what is being marketed by these restaurants, who they are targeting and how they reach them, and what happens when young people visit fast food restaurants.

Aims and context

In 2008, the Rudd Center for Food Policy and Obesity at Yale University received a grant from the Robert Wood Johnson Foundation to study the amount and impact of food marketing directed at children and youth. The goal was to highlight both helpful and harmful industry practices by conducting objective, science-based evaluations of the marketing conducted by specific companies within different food categories, as well as the nutritional quality of the food products promoted. In 2009, we published the Cereal FACTS report that provided a comprehensive review of cereal marketing targeted to children and adolescents (www.CerealFacts.org). We now focus on the fast food industry.

Fast Food FACTS quantifies the nutritional quality of fast food restaurant menus and documents the full array of marketing practices used to promote these restaurants and their products to children and adolescents. The data presented in this report provide a means to evaluate current marketing practices and their impact, and offer a metric against which future changes can be monitored. We incorporate the same media measurement data used by advertisers to quantify exposure to TV, radio, and digital marketing. We also include market research data used to monitor competitors' product sales. In addition, we conducted our own quantitative and qualitative research to measure menu item nutritional quality; the messages and products presented in TV, internet and other forms of digital marketing; in-store marketing practices; and parent attitudes about fast food restaurants. When possible, we evaluated differences by target populations, focusing on children, adolescents, and African American and Hispanic youth. Although this analysis is the most extensive of its type ever undertaken, we could not evaluate every fast food restaurant. Therefore, we focused our data collection on twelve fast food restaurants, including the ten largest sellers and/or marketers of fast food to young people.

Why fast food?

During the last several decades, food patterns have shifted in the United States with Americans consuming a greater proportion of their total calories outside the home.[12 13] In 1994-96, 10% of young people's caloric intake came from fast food, a five-fold increase compared to twenty years earlier.[14] Data from the mid-1990s also showed that one third of young people (4-19 years) ate fast food every day.[15] Portion sizes offered by fast food restaurants also grew during this time period, with individual items from two to five times larger than they were when originally introduced.[16] More recent data from 2003-04 indicate that fast food now contributes 16% to 17% of adolescents' total caloric intake,[17] and each meal consumed in a fast food or other restaurant increases adolescents' daily intake by 108 calories.[18]

Given the considerable role fast food plays in young people's diets, the nutritional quality of menu items offered in fast food restaurants is a critical concern. A recent study of the nutrient quality of children's meals available at fast food restaurants found that only 3% met the nutrition standards set by the National School Lunch Program for foods served to children eight years of age and younger.[19] That study also found that less than one-third of these meals provided adequate calcium or iron and more than half exceeded recommended sodium

levels. Additionally, restaurants encourage over-consumption of these nutrient-poor foods by promoting combination meals that offer price savings for larger portion sizes and in-store signs that encourage unhealthy eating and overeating.[20]

There is reason to be concerned about the impact of fast food consumption on young people's overall nutrition and health. Young people who eat fast food consume more total fat, added sugars, and sugar-sweetened beverages, and less fiber, milk, and fruits and vegetables compared to children who do not eat fast food.[21-23] Greater consumption of fast food is also associated with higher energy intake overall and greater risk of future obesity.[24-26] Adults who visit fast food restaurants and reside in neighborhoods with a high density of fast food restaurants and low walkability have increased blood pressure over time.[27] Furthermore, African American youth, a population that faces some of the highest risks of obesity and obesity-related diseases, consume more fast food compared to white children of the same age.[28 29]

Marketing to young people

In light of increased consumption of fast food by young people and its negative influence on their diet and health, public health advocates and government officials have expressed concern about marketing that encourages young people to consume fast food. In 2006, fast food restaurants spent approximately $300 million in marketing specifically designed to reach young people, more than any food category except for carbonated beverages.[30] Fast food restaurants spent as much as marketers of juices, non-carbonated beverages and snack foods combined, and nearly two and a half times the amount spent for candy and frozen desserts. In addition, fast food marketers spent an estimated $360 million on toys distributed as premiums with children's meals. When added to their other marketing expenditures, spending on fast food marketing programs targeted to children and teens totaled $660 million. This amount is more than 200 times the $3 million communications budget for the "5 A Day" campaign, a joint venture with the National Cancer Institute (NCI) and the food industry, to encourage fruit and vegetable consumption.[31]

Approximately two-thirds of fast food marketing budgets was spent on traditional TV and radio advertising.[32] In 2007, fast food advertising comprised 22% of TV food ads viewed by children (ages 6 to 11 years) and 28% of those viewed by adolescents.[33] Children and adolescents viewed more ads for fast foods than for any other food category. The average U.S. child viewed 1,058 TV ads for fast food annually, or 2.9 ads *every* day, and adolescents viewed even more: almost 1,500 per year, or 4.1 per day. These marketing efforts begin as early as preschool: 66% of child-targeted advertising during preschool programming promoted fast food restaurants.[34] Fast food companies also spent considerable sums on youth-targeted radio advertising; cross-promotions, and other tie-ins with philanthropies and athletic sponsorships; product packaging and in-store marketing; and in-school and events marketing (see **Figure 1**).[35] Fast food brands also commonly use digital marketing techniques, including social media, in-game marketing, and viral media to increase the appeal of their products to young people.[36]

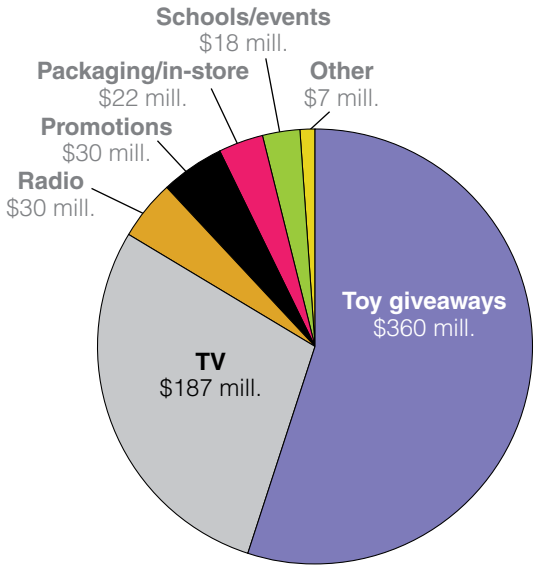


Figure 1: Spending by fast food restaurants on marketing directly targeted to children and adolescents

There is considerable evidence that exposure to marketing for fast food is even higher among African American and Hispanic youth.[38] African American youth view almost 50% more TV advertisements for fast food than do white children and adolescents.[39] Although differences in advertising exposure can be attributed in large part to the greater amount of time that African American and Hispanic youth spend watching television,[40] fast food restaurants appear to disproportionately target African Americans and Hispanics with their marketing efforts. For example, fast food ads appear more frequently during African American-targeted TV programming than during general audience programming.[41] Fast food advertisements are also prevalent on Spanish-language television networks, comprising nearly half of all ads.[42] Billboards for fast food restaurants appear significantly more often in low-income African American and Latino neighborhoods.[43] Fast food restaurants located in poorer African American neighborhoods also promote less-healthful foods and have more in-store advertisements compared to restaurants in more affluent, predominantly white neighborhoods.[44]

The 2010 report by the White House Task Force on Childhood Obesity explicitly addresses the potentially harmful effects of fast food marketing, noting the frequency with which children eat at fast food restaurants and calling on restaurants to "consider their portion sizes, improve children's menus, and make healthy options the default choice whenever possible."[45]

Recent restaurant industry initiatives to address childhood obesity

The restaurant industry has responded to concerns about the nutritional quality of their products and the volume of marketing targeted to young people. According to the National Restaurant Association, "two-thirds of quickserve operators offer more healthful choices for children than they did two years ago,"[46] and McDonald's says that, "any fair and objective review of our menu and the actions we've taken will demonstrate we've been responsible, we're committed to children's well-being, and we'll continue to do more."[47] The two largest fast food marketers to children, McDonald's and Burger King, joined the Children's Food and Beverage Initiative (CFBAI), an industry-sponsored program to "change the landscape of child-directed advertising."[48] As members of the CFBAI, these two restaurants have pledged to depict only "pledge-approved, better-for-you" products in their child-directed measured media (i.e., television, radio, third-party internet and print), company-owned websites and interactive games. These pledges were fully implemented by the beginning of 2009.

While the CFBAI represents an industry-led effort to reduce unhealthy marketing to children, numerous omissions and loopholes raise questions about the fast food industry's commitment to change the landscape of children's food advertising. For example, only McDonald's and Burger King had joined the initiative as of September 2010.[49] These two restaurants are the largest advertisers to children on television. However, other restaurants contribute more than half of the fast food ads children view.[50] Notably, Subway and YUM! Brands, whose restaurants include KFC, Taco Bell, and Pizza Hut, had not joined the CFBAI at the time of this report's publication. So in spite of reductions in children's exposure to McDonald's and Burger King advertising on television, children's exposure to all fast food TV advertising increased by 12% from 2003 to 2007.[51] This increase occurred at the same time that children's exposure to TV advertising for other product categories (including beverages, cereal, candy, and snacks) decreased.

Another significant limitation of the CFBAI is that it only addresses advertising to children younger than age 12. As discussed, adolescents view 40% more television advertising for fast food than children do,[52] and many young people of this age have the means to visit these restaurants on their own. A survey of middle and high school students found that 77% of boys and 72% of girls reported visiting a fast food restaurant in the past week,[53] and a more recent study indicated that 59% of adolescents (12-19 years) consumed fast food on at least one of the two previous days.[54]

Finally, the CFBAI does not address all forms of marketing to young people. For example, fast food restaurants spent $22 million on packaging and other marketing in the restaurant targeted to young people, as well as $9 million on marketing in schools. However, neither of these forms of marketing is covered by the CFBAI. The initiative also does not include the 91% of fast food restaurants' spending on philanthropic marketing programs (more than $10 million) which was reported as youth-targeted marketing expenditures. Similarly, the CFBAI does not address marketing programs that disproportionately appeal to young people if they are not the primary target audience. Examples include TV advertising on general audience programming with wide youth appeal, such as "American Idol" or "Glee," and branded games on company websites (known as advergames).

These limitations to the CFBAI and other fast food industry actions have led public health advocates to question whether restaurant industry initiatives are intended to improve public health or merely deflect concerns about their products and marketing efforts. For example, McDonald's pledged to market only apple dippers and 1% low-fat white milk in their Happy Meal advertisements targeted to children. However, a recent examination by the Center for Science in the Public Interest found that 93% of the time shoppers were automatically given french fries when ordering a Happy Meal.[55] In addition, the National Restaurant Association lobbied extensively against a recent bill passed in Santa Clara County, California that requires fast food kids' meals that come with a toy to meet minimum nutrition standards.

Meanwhile, purchases of unhealthy options continue to be the norm at fast food restaurants. During 2008-2009, only 5% of children ordered fruit and 14% ordered plain milk or 100% juice at fast food restaurants.[56] Additionally, from 2005 to 2008, the ordering of kids' meals by children (under 13 years) declined by 11% while orders of typically higher-calorie items from dollar or value menus increased by 9%, according to The NPD Group (NPD), a market research firm that tracks product purchases at restaurants by age group.[57] Snack food purchases also increased during the same period. "Kids today want more choices and sophisticated fare," said an NPD spokesperson.

Given the damaging effects of fast food on young people's health, it is imperative that young people consume less of the calorie-dense nutrient-poor foods served at fast food restaurants. The food industry has pledged to offer healthier options for consumers who choose them and to improve their marketing practices targeted to children. They must also curb marketing practices that aggressively promote less healthful products to all young people and implement practices inside restaurants to encourage purchases of the more nutritious options on their menus.

On creating a transparent, open, and objective process

This report addresses the need for comprehensive, reliable, and current information about fast food marketing practices and how these practices affect young people's fast food purchases. It also examines the nutritional quality of current

fast food menus. The data presented in this report and our methods are described in detail. We use the best available syndicated marketing data and strategic studies to fill important gaps in knowledge. We developed the scope of the report and collected information for it based on detailed reviews of the literature and multiple discussions with experts in the field, including with the nutrition, marketing, and public health experts who serve on our advisory committee.

Despite our best efforts, we acknowledge that no piece of scientific work is perfect. We learned a great deal from developing the Cereal FACTS report and have incorporated feedback from that report to build upon and improve the research methods for Fast Food FACTS. In addition, we have revised the methods used to evaluate the nutritional quality of fast food menu items to take into account the complexity of the wide variety of menu items offered. We also developed new methods to evaluate forms of marketing used extensively by the fast food industry, including radio and social and mobile marketing. Finally, we incorporate data in this report to quantify and evaluate fast food purchases by and for young people.

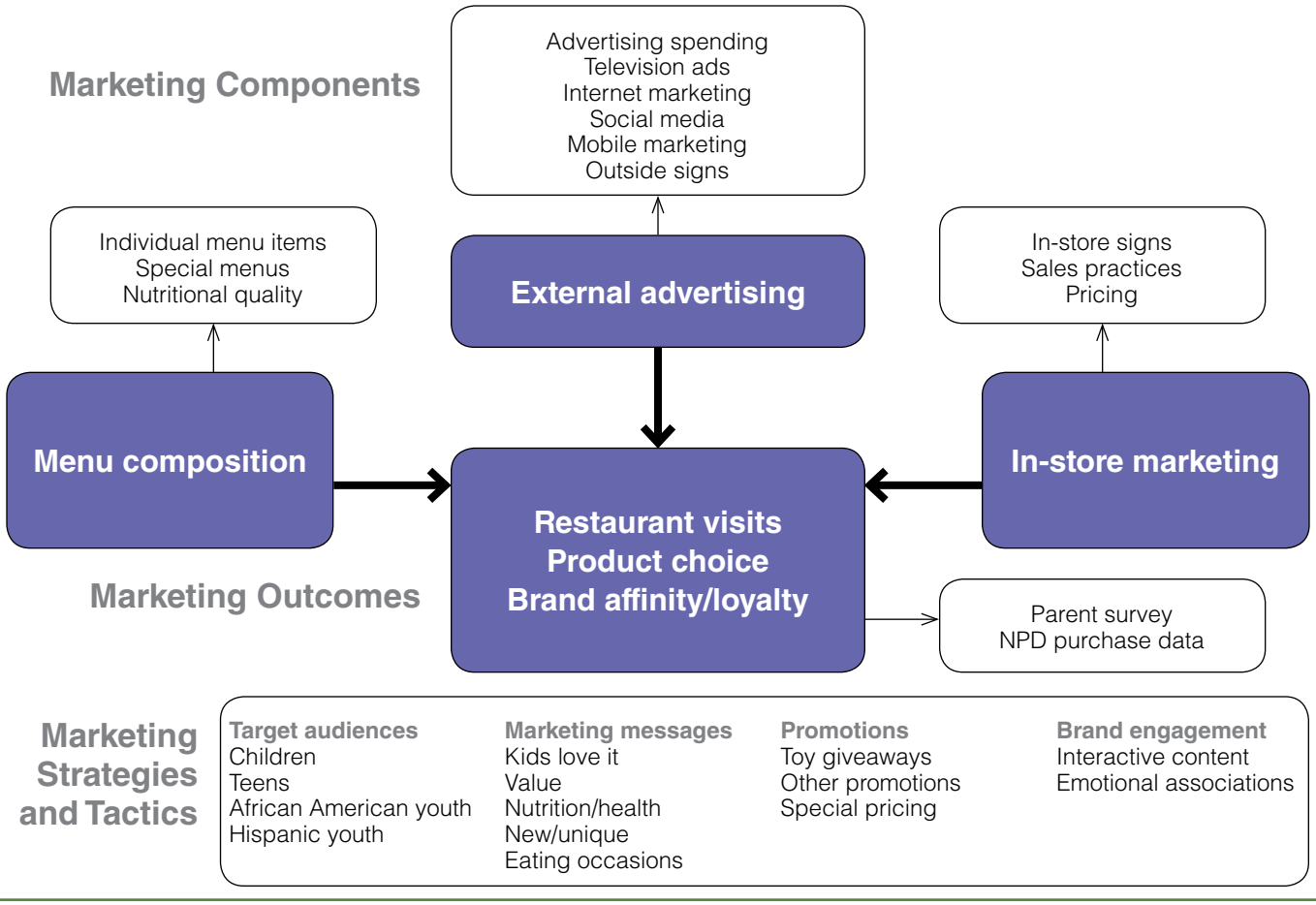
Although we provide a thorough evaluation of fast food marketing to young people, it is not possible to quantify all types of fast food marketing targeted to them and evaluate their impact. We invite further feedback from interested parties as we continue to refine our methods and update our data to make the information as valid and accurate as possible.

Fast Food FACTS report

In this report, we examine three elements of fast food marketing plans: specific marketing programs used to promote fast food products, marketing strategies used in these programs, and the impact of these marketing efforts on customer attitudes and behaviors (see **Figure 2**). We focus our analysis on the twelve restaurants with the highest sales and advertising to youth.

We quantify three major **marketing components** used by fast food restaurants in their marketing plans: **menu composition**, or the food products offered for sale at the restaurants; **external advertising**, comprised of marketing practices such as TV advertising and internet marketing designed to *pull* customers into the restaurants; and **in-store marketing**, or advertising and promotion that occurs within the restaurant, including signs, pricing, and sales practices, to push sales of individual menu items.

Figure 2. Model of fast food marketing components, strategies, and outcomes



We also examine **marketing strategies** used across the different marketing components. These include **targeted marketing** practices that appeal to different age groups, including preschool children, elementary school-age children, and adolescents, as well as marketing practices that disproportionately reach or appeal to African American and Hispanic youth. These minority populations face higher risks of obesity and obesity-related diseases and, therefore, the nutritional quality of foods targeted to these groups warrant close attention.[58 59]

We assess the **messages** commonly used by fast food restaurants to communicate the benefits of their products, including "kids love it," "good value," "healthy" or "low-calorie," "new" or "different," and good for specific eating occasions (e.g., snack, breakfast, late-night). We also evaluate **promotional tactics** frequently used by fast food restaurants, including toy giveaways with kids' meals, other tie-ins with entertainment companies and charities, and limited time offers for special pricing or food giveaways for specific menu items. In addition, we examine tactics that encourage **brand engagement**, or extended involvement with a restaurant brand, such as interactive content in internet and social media or tactics that encourage emotional associations with a restaurant.

Finally, we begin to quantify the **marketing outcomes** encouraged by these marketing practices. When fast food restaurants market their products, they not only encourage frequency of **restaurant visits**, they also influence consumers' **product choices**, or the menu items ordered during those restaurant visits. Particularly in the case of marketing to young people, these marketing practices may also create **brand loyalty and affinity**, or long-term preferences and positive feelings about the restaurants.

Research design

For each of the marketing components, we assess several specific marketing practices and strategies for the twelve restaurants in our analysis. When available, we also provide data for the fast food industry in total.

- **Menu composition** research provides nutrient content data on all regular items on restaurant menus as of January 15, 2010. We also characterize menu items by food category and special menus (i.e., kids' meals, dollar/value menus, and healthy menus) and evaluate the nutritional quality of individual menu items. Finally, we compare nutritional quality of food categories and special menus by restaurant.
- **External advertising** research includes both quantitative and qualitative data to measure advertising practices that reach consumers outside of the restaurant. These practices include spending on advertising media, TV advertising, internet marketing (including company-sponsored websites and advertising on third-party websites), social and viral media (including Facebook, Twitter, and YouTube), mobile marketing, and signs outside the restaurants. To quantify young people's exposure to these different forms of advertising, we used syndicated data from The Nielsen Company (Nielsen), comScore Inc., and Arbitron Inc. When this information was not available, we commissioned or implemented our own studies to measure the extent that individual restaurants engage in these practices. In addition, we conducted content analyses of the different forms of marketing to assess the products, target audiences, messages, and techniques presented in the advertisements.
- **In-store marketing** research presents quantitative and qualitative data to assess marketing practices inside the restaurants that encourage sales of specific products. We present results of an audit of signs located within the restaurants and at drive-thru lanes; a study of restaurant sales practices that documents products encouraged at the point-of-sale when ordering kids' meals and combo meals; and special pricing options promoted within the restaurants. We also conducted a content analysis of the products, target audiences, and other promotions presented on in-store signs.

To measure the **outcomes** of these practices, we purchased market research data from The NPD Group (NPD) that quantifies the types of food products purchased most often using their Consumer Reports on Eating Share Trends (CREST) data. We combined these numbers with our nutrient content data to evaluate the overall nutritional quality of products purchased by young people at the twelve restaurants in our analysis. We also conducted a survey of parents of 2- to 11-year-olds to understand how often they visit fast food restaurants with their children, what items they purchase for their children, and why.

This research is detailed in the following pages and organized into five sections:

- **Methods** details the data sources, procedures, and calculations used to collect and analyze the data;
- **Results** presents the detailed findings of each of these analyses;
- **Conclusion** summarizes the findings and discusses implications and recommendations for further improvements in fast food restaurant products and marketing practices;
- **Ranking Tables** compare the nutritional quality and marketing practices of different restaurants, and
- The **Appendices** provide the detailed data that are summarized in the Results.

We used a variety of data sources and methods to provide the most comprehensive and objective analysis possible of the United States fast food market. These data enabled us to thoroughly document and evaluate the menus and marketing practices of the nation's largest fast food restaurants.

Our methods included analyzing the nutritional quality of restaurant menu items; analyzing data on media exposure and spending from syndicated sources (i.e., The Nielsen Company, comScore Inc. and Arbitron Inc); conducting content analyses of TV advertisements, company websites, internet banner advertising, social and viral media, and mobile marketing applications; commissioning an audit of marketing practices inside fast food restaurants across the United States; evaluating syndicated data from The NPD Group, a market research company, documenting menu item purchases; and conducting a survey of parents about their fast food purchases for their children. We supplemented these analyses by collecting information from company websites, monitoring the business and consumer press, and visiting numerous fast food restaurants and calling their consumer helplines. Finally, we combined these data to evaluate the nutritional quality of fast food purchases by and for young people and the marketing environment that influences both healthy and unhealthy fast food consumption.

We did not have access to food industry proprietary documents, including privately commissioned market research, media, and marketing plans or other strategic documents. Therefore, we did not attempt to interpret fast food companies' goals or objectives for their marketing practices.

In this report, we document: 1) fast food restaurant menus and the nutritional quality of menu items; 2) the extent of children's and adolescents' exposure to the most common forms of fast food marketing, including exposure for African American and Hispanic youth; 3) the specific products promoted and marketing messages conveyed in traditional media, new media, and inside the restaurants; and 4) marketing outcomes, including restaurant visits, customer loyalty and the nutritional quality of the menu items purchased by customers.

Scope of the analysis

The Nielsen Company (Nielsen) identifies 187 restaurants in the Quick Serve Restaurant (QSR) category (Product Classification Code [PCC] = G330). We could not conduct a comprehensive analysis of such a large number of restaurants; therefore, we identified the restaurants with the highest sales revenues and greatest marketing exposure to examine in detail. We first obtained 2008 sales data for the 50 largest fast food restaurants in the United States using figures estimated for QSR Magazine.[1] We then assessed the amount of TV advertising viewed by children for these restaurants in 2008 and 2009 using gross ratings points (GRPs) from Nielsen. In addition to GRPs for companies classified as Quick Serve Restaurants by Nielsen, we also obtained data for Starbucks and Dunkin' Donuts, which are included in the QSR Restaurant Top 50, but are classified by Nielsen as coffee/donut retail shops (PCC = G716). We identified twelve restaurants for the comprehensive analysis that included the ten restaurants with the highest sales in 2008 and two additional restaurants that ranked in the top 10 for volume of TV advertising viewed by children in 2009. We also conducted a more limited analysis of the 20 restaurants with the highest sales in 2008.

The data reflect marketing practices used to promote fast food restaurants from January 1, 2008, through July 30, 2010. The majority of the analyses assess practices during the calendar year of 2009; specific time frames examined for each type of data are described in the Methods for each analysis. We chose this time frame because the Children's Food and Beverage Advertising Initiative (CFBAI) was scheduled to be fully implemented by January 1, 2009.[2] Food companies that joined the initiative pledged to improve product nutrition and advertising to children.

Fast food menu items and marketing practices change continuously. The information presented in this report does not include most new products or product reformulations, advertising campaigns, website redesigns, and other marketing programs introduced after January 2010.

Fast food menus and nutritional quality

We obtained lists of all menu items and corresponding nutrition information for the twelve restaurants in our comprehensive analysis from restaurant menus posted on company websites as of January 15, 2010. Fast food restaurants typically have extensive menus with numerous types of foods. To systematically evaluate these menus, we defined **food categories** to describe different types of menu items. We also identified **special menus**, consisting of individual menu items promoted together as a group within the full menu (e.g., a dollar/value menu or healthy menu). As restaurants varied widely in their reporting of nutrition information for individual menu items, we standardized all restaurant menus to include comparable information for items on all menus.

Food categories

All menu items were assigned to one of fifteen food categories according to whether it appeared on a special menu for children (i.e., kids' meal or menu) or the main menu, the eating occasion when the food is typically consumed (breakfast, lunch/dinner or snack), and whether it is typically consumed alone, as a main dish, or as part of a meal in addition to a main dish (i.e., sides). We also classified types of beverages

separately from food. We defined beverages as any item that could be consumed using a straw.

- Menu items offered in kids' meals were classified as a **kids' main dish**, **kids' side** or **kids' beverage**. Additional "children's" sized items on the menu, but not offered as part of a kids' meal, were also classified as kids' items.
- Items traditionally consumed in the morning were classified as **breakfast main dishes** and **breakfast sides** (e.g., egg dishes, pancakes and hash browns). Some restaurants serve breakfast items all day and others serve these items only in the morning. **Breakfast meals** contained more than one breakfast item served together as one menu item, such as a pancake platter with sausage.
- Items traditionally consumed as the main item in a lunch or dinner meal were classified as **lunch/dinner main dishes**. **Lunch/dinner meals** contained a main dish and side served together as one menu item, such as a chicken strip basket with french fries.
- **Lunch/dinner sides** and **side beverages** are items typically consumed in addition to a main dish at lunch or dinner. Common sides include french fries and fruit; common side beverages include soft drinks, milk and water.
- Menu items that could be consumed on their own at non-meal times or after a meal were classified as **snacks**, **snack beverages** and **sweet snacks**. Items classified as snacks typically contained the word "snack" in their name (e.g., McDonald's Snack Wraps or KFC Snackers); snack beverages included ice cream and other frozen beverages; and sweet snacks included all dessert items as well as sweet baked goods, such as donuts and muffins.
- Due to the number of options available on many of the restaurant menus, **coffee beverages** were also classified as a separate food category and include lattes, cappuccinos and mochas. Frozen coffee beverages (e.g., frappuccinos) were classified as snack beverages and plain coffee as a side beverage.

Special menus

In addition to individual menu items, many restaurants also promote a specific subset of items as a special menu. In addition to **kids' menus**, many restaurants also promote **dollar/value menus**, or groups of individual items offered at a special price (e.g., Dollar, 99¢ or $5 Footlong menus). Some restaurants also promote **healthy menus**, or groups of items designated as healthier in some way (e.g., low(er) in calories, low(er) fat, or diet). Additionally, a few restaurants have menus for special eating occasions (e.g., snack or late-night menus). Researchers identified all special menus presented on company websites as of March 2010. We did not categorize limited time pricing promotions for individual menu items as special menus. Combo meals or special combinations of individual items also were not categorized as special menus unless they were promoted on the company websites. This categorization was used to identify ongoing restaurant-wide special menus.

Menu standardization

Most of the twelve restaurants in our analyses reported total grams or ounces, calories, fat, saturated fat, trans fat, sugar, sodium, protein, and fiber per menu item or serving. Most restaurants also reported lists of ingredients for many of their menu items. The ingredient lists were needed to obtain the proportion of fruit/vegetable/nuts content for the NPI score, a measure of nutritional quality (see p. 17). When this information was not available on the website and the item appeared to contain unprocessed fruits, nuts, or vegetables, we contacted the restaurant customer service representatives to obtain ingredient lists. In a few instances, we could not determine the fruit/vegetable/nuts content from the ingredients list and purchased the individual menu items to weigh the different food components.

To standardize menu items across different chains, we made several adjustments to the items as reported by some restaurants. Appendix A **(Table A.1**) lists specific adjustments made to each restaurant's menu. Following are the general principles applied to all menus.

- **Only regular menu items are included.** If an item was listed as a regional or limited time item, it was not included unless the item was also promoted in both national television and on in-store signs.
- **Regular menu items and kids' menu items are listed separately.** If an item was only available on the kids' menu, it was not included in the regular menu analysis. Kids' items that were also available for sale on the regular menu (e.g., a regular hamburger or 16-ounce beverage) were included on both menus.
- **All sizes of all items are listed as separate menu items.** This includes drinks, sides, and sandwiches.
- **All individual menu items are listed separately.** If a restaurant sold a combination of items as a meal (e.g., a kids' meal or combo meal that contains a sandwich, side item, and a drink), those combinations were not included as individual menu "items" unless they were also listed on the restaurants' website menus as one item. Examples of meals listed as individual menu items include breakfast platters (e.g., pancakes and sausage) and chicken strip baskets that automatically come with french fries.
- **Menu items with multiple components that were listed separately on some menus are combined into one item.** Examples include salads with dressing and croutons and chicken nuggets with sauce. If the item had a default combination (i.e., specific extra items that were

automatically included with the main item), the default combination was used. If the item was typically offered with different choices (e.g., type of salad dressing or sauce), the item is reported as two separate items for both the healthiest and least nutritious options according to NPI score (e.g., chicken nuggets with barbecue sauce and chicken nuggets with ranch sauce). If the menus did not clearly indicate a default option, researchers contacted the restaurant customer service representatives to determine if they did have a default combination.

- **Menu items are presented in several different ways if consumers typically customize them by choosing individual ingredients** (e.g., deli sandwiches or pizzas). Any featured combinations were included as one menu item (e.g., "meat lovers'" or "Hawaiian" pizza). Additionally, the most and least nutritious combinations of ingredients according to NPI score are listed as two separate menu items. For example, a deli sandwich with whole-grain bread, no cheese, and no sauce, as well as the same sandwich with a high-fat bread, cheese, and mayonnaise are listed separately. Similarly, pizzas with different crust options are listed as separate menu items that include the most and least nutritious crusts.
- **Both the default and healthier options are listed as separate menu items if the restaurant provided an option on its menu to improve the overall nutritional quality of a specific item** (e.g., a sandwich without the usual mayonnaise or an egg dish made with egg whites).
- **A menu item is converted to a one-person portion size when listed as one item to be consumed by more than one person** (e.g., a large pizza or family-sized appetizer). If the restaurant provided a suggested number of people the item would serve, we divided the nutrition information by that number to calculate one portion. Items indicated as "family-sized" were divided by 4. For items that did not have a suggested number of servings, we used another menu item that was indicated as a one-person item to identify an appropriate per-person portion. For example, the size of a "personal pan pizza" was used to calculate a one-person portion size for larger pizzas.
- **A one-person portion size is calculated by combining menu items that were listed individually but are typically consumed in multiples** (e.g., chicken pieces). If the restaurant promoted meals containing multiple pieces of the same item, those meal suggestions were used to calculate a one-person portion of the menu item. If the items were typically sold in a family size or bucket, the criteria cited above were used to calculate the one-person portion.

NUTRITIONAL QUALITY

We also evaluated the nutritional quality of kids' meals and individual menu items on restaurant menus according to several criteria. The **Nutrient Profiling Index (NPI)** score provided an evaluation of the overall nutritional composition of individual menu items. The NPI score is based on the nutrition rating system established by Rayner and colleagues for the Food Standards Agency in the United Kingdom.[3] We also compared **total calories** and **total sodium** for kids' meals and menu items against standards established by the Institute of Medicine's (IOM) School Meal guidelines to identify reasonable portion sizes for children and adolescents.[4] Additionally, we calculated the **energy density** and the **sugar content**, **saturated fat content**, and **trans fat content** of menu items to highlight differences among individual nutrients within the NPI score. Lastly, we evaluated menu items according to other established criteria for nutritional quality. The following describes each of these criteria in more detail.

NPI score

The NPI score was calculated for each menu item. The score provides a measure of the overall nutritional quality of foods and beverages. It is adapted from the Nutrient Profiling model (NP) currently used by the U.K. Office of Communications (OFCOM) to identify nutritious foods that are appropriate to advertise to children on TV.[5] The model has also been approved by Food Standards Australia New Zealand to identify products that are permitted to use health claims in their marketing.[6] The NP model provides one score for a product based on total calories and proportion of both healthy and unhealthy nutrients and specific food groups, including saturated fat, sugar, fiber, protein, sodium, and unprocessed fruit, nut, and vegetable content. All menu items, including individual items in kids' meals, received individual NPI scores.

The NP model has several advantages over other nutrient profiling systems. University of Oxford nutrition researchers developed the model independently of food industry funding. Its development and scoring method is publicly documented and transparent. It has been validated to reflect the judgment of professional nutritionists.[7] The model also produces a continuous score that provides a relative evaluation of products, in contrast to threshold models that simply classify foods as "good" or "bad." In addition, the model includes only nutrients that are reasonable and well-justified based on existing nutrition science. In particular, the model does not award points for micronutrient fortification, thereby discouraging companies from adding vitamins and minerals to inherently unhealthy products. Fortification has occurred in some recently introduced products (e.g., Jelly Belly Sport jelly beans with carbohydrates, electrolytes, and vitamins B & C, or Diet Coke Plus with niacin, vitamins B6 & B12, zinc, and magnesium). A detailed description of the model design, scoring method, and benefits is available at www.cerealfacts.org.[8]

The interpretation of the original scores produced by the NP model are not intuitively obvious to the layperson because the model is reverse scored (i.e., a higher score indicates a

product of worse nutritional quality). The NP range extends from a high of +34 to a low of –15. In addition, a score of 3 points or lower identifies healthy foods that are allowed to be advertised to children in the United Kingdom. For the purpose of these analyses, we created an NP Index (NPI) score using the following formula: NPI score = (–2) * NP score + 70. For example, a relatively nutritious foods with an NP score of -3 would receive an NPI score of 76 (-2 * -3 + 70). This recalculation produces a score from 0 (poorest nutritional quality) to 100 (highest nutritional quality) that is easier to interpret and compare.

To identify menu items with a healthy nutrient composition, we used the cut-offs established by the U.K. OFCOM to identify healthy products.[9] Only food products with an NP score of 3 or lower and beverages with an NP score of 0 or lower are permitted to be advertised on children's TV programs in the United Kingdom or during programs with a disproportionate number of viewers under 16 years old. This score translates to a revised NPI score of 64 or higher for food products and 70 or higher for beverages.

Calorie and sodium upper limits

We also established maximum acceptable upper limits of calories and sodium for kids' meals and individual menu items and identified any menu items that exceeded these upper limits. Children's menu items were evaluated as part of a total meal that included all possible combinations of individual menu items available with a kids' meal (typically a main dish, side, and beverage). All other menu items were evaluated individually.

Table 1 provides the maximum acceptable levels of calories and sodium for a) kids' meals served to both preschool and elementary school-age children; b) lunch or dinner main dishes or meals; c) breakfast main dishes or meals; and d) sides, beverages, snack foods, and sweet snacks. These criteria are based on the recommendations for upper limits of calories and sodium for school meals served as part of the National School Lunch Program established by the Institute of Medicine (IOM) Committee on School Meals.[10]

On an average visit to a fast food restaurant, 36% of children under 6, 21% of children between 6 and 12, and 2% of children between 13 and 17 order kids' meals.[11] Because preschool-age children require fewer calories compared to older children, we established separate kids' meal criteria for elementary school-age and preschool-age children. We assumed that most adolescents would order from the restaurants' main menus, and therefore set the criteria for main menu items based on recommended calories and sodium for this age group.

- **Kids' meals for elementary school-age children.** The recommended maximum levels for lunch meals served to 5- to 10-year-olds specified in the IOM School Meals report were used to set the limits for elementary school-age children.[12]
- **Kids' meals for preschool-age children.** To calculate maximum acceptable calories and sodium for kids' meals served to preschool-age children, we used the same method reported in the IOM School Meals report. The USDA recommends that a moderately active 2- to 5-year-old child should consume 1,275 calories daily[13] and should not consume more than 1,700 mg of sodium.[14] Children consume on average 32% of their daily calories at lunch;[15] therefore, the maximum acceptable levels for kids' meals served to preschoolers are 410 calories and 544 mg of sodium.
- **Lunch/dinner main dishes and breakfast items on the regular menu.** To set limits for evaluating lunch/dinner and breakfast items for young people from 12 to 17 years, we averaged IOM recommendations for two age groups (11 to 13 and 14 to 18) for maximum amounts of calories and sodium for specific meals on the regular menu. No recommendations are available for individual meal items; therefore, we used recommended maximum amounts for meals to set limits for main dish lunch/dinner and breakfast items. Most visitors to fast food restaurants order 2.4 main dish items on average at an eating occasion.[16] As a result, these limits represent the most calories and sodium that any young person should consume from one main dish item, especially if he or she also orders a side and/or beverage.

Table 1. Maximum acceptable calories and sodium for kids' meals and individual menu items

	Maximum calories	Maximum sodium (mg)
Kids' meals		
Elementary school-age children (per meal)	650	636
Preschool-age children (per meal)	410	544
Regular menu items*		
Lunch or dinner main dishes (per individual item or meal)	700	720
Breakfast main dishes (per individual item or meal)	500	480
Sides, snacks and beverages (per individual item)	350	340

*Based on recommended upper limits for adolescents.

- **Individual items served as snacks, beverages, or sides.** The average daily level recommended for a moderately active 13- to 17-year-old is 2,300 calories;[17] and the recommended upper limit for sodium intake is 2,250 mg.[18] Because young people consume on average 30% of their daily calories through snacks,[19] and children consume on average two snacks per day,[20] the maximum acceptable levels for a snack, beverage, or side consumed in addition to a main dish item is 350 calories and 340 mg of sodium for adolescents.

Additional nutritional quality measures

To provide more detailed information about specific nutrients in each kids' meal or individual menu item, we also calculated the proportion of sugar by weight in each food or beverage and report grams of saturated fat and trans fat. The tentative nutrition standards proposed by the Interagency Working Group on Food Marketed to Children recommend that foods marketed to children must contain:[21]

- 1 g or less and less than 15% of calories from saturated fat
- 0 g of trans fat
- No more than 13 g of added sugars, or 26% of total grams of food by weight for foods with a portion size less than 50 g
- <200 mg of sodium per serving

Additionally, we calculated the energy density, or calories per gram, of all foods and the calories contributed from added sugar and saturated fat.

Menu comparisons

For each food category on each restaurant menu, we calculated the range of per-item values and medians for the following measures: NPI score; calories; sodium; calories from sugar; and calories from saturated fat. We also calculated the percentage of items that met the minimum NPI score and maximum total calories and total milligrams of sodium compared to the limits for the food category (as defined in Table 1), as well as items that met all three cut-offs. We calculated the same values for all items included in the restaurants' value and healthy menus.

To evaluate kids' meals, we calculated NPI scores for individual items and total calories and sodium for all possible combinations of main dish, side and beverage items. We then identified the combinations of kids' meal items that met any and all of the acceptable limits defined in **Table 1**. We also identified the best and worst kids' meal combinations as follows: For each restaurant, we selected the main dish, side and beverage with the highest and lowest NPI scores and combined them to create the three "best" and three "worst" kids' meal combinations for each restaurant. If more than one combination had the same NPI scores, we chose the combined items with the lowest calorie content. In addition, we provide estimated grams of added sugar for individual kids' meal menu items using restaurants' item ingredient lists and comparable products. If the product ingredient list contained only fruit, fruit juice, or plain fruit and no added sugars, we assumed that the item contained no added sugars. We calculated the added sugar in flavored milks by subtracting the sugar contained in the same size and fat content serving of plain milk.

Marketing practices

The analysis of fast food marketing practices documents marketing in traditional media, including TV and radio; in internet and other digital media, including restaurant websites, advertising on third-party websites, social and viral marketing, and mobile marketing; and within the restaurant, including indoor and outdoor signs, pricing and sales practices.

Fast food "product" classifications

Fast food restaurants promote a wide variety of "products" in their marketing communications, including individual menu items and special menus as well as third-party tie-ins, short-term promotions or the restaurant brand only. To create a systematic evaluation of fast food marketing, we first developed a typology to categorize the products sold by the restaurants. The typology was based on our documentation and content analyses of products and messages commonly presented in fast food marketing.

Product type refers to the main product featured in the marketing. Product types include **special menus**, including dollar/value and healthy menus; **meals**, consisting of a combination of product categories sold together as one meal (e.g., kids' meals, combo meals, or family meals); **time of day**, encouraging restaurant visits for a specific eating occasion (e.g., breakfast, snack, or late-night); **individual menu items** or **line of items** promoted together (e.g., coffee drinks or grilled chicken); and **branding only**, encouraging restaurant visits without promoting specific food products. In addition, we specified the **food category** when specific foods or beverages were promoted in the marketing.

Traditional media

To measure fast food restaurants' traditional media marketing practices we conducted several analyses using a variety of data sources, including: 1) licensed Nielsen data for spending in all measured media and exposure to TV advertising by age group and race, including Spanish-language advertising; 2) licensed Arbitron data to measure exposure to radio advertising by age group; and 3) conducted a content analysis of the messages and specific menu items promoted in TV advertising. These data provide an overview of traditional

media spending and youth exposure to advertising for fast food restaurants in 2008 and 2009, as well as a comprehensive picture of the traditional media marketing practices of the twelve restaurants in our full analysis for 2009.

Advertising spending and TV advertising exposure by restaurant

Nielsen tracks media spending on television, radio, magazine, newspaper, free standing insert (FSI) coupons, outdoor advertising and the internet. We licensed these data for 2008 and 2009 for all fast food restaurants, including the 187 companies in Nielsen's QSR classification code and Starbucks and Dunkin' Donuts. The data provide a measure of all fast food **advertising spending**.

To measure exposure to fast food TV advertising, we also licensed gross rating points (GRP) data from Nielsen for the same period and restaurants. GRPs measure the total audience delivered by a brand's media schedule. It is expressed as a percentage of the population that is exposed to each commercial over a specified period of time across all types of TV programming. They are the advertising industry's standard measure to assess audience exposure to advertising campaigns; and Nielsen is the most widely used source for these data.[22] GRPs, therefore, provide an objective outside assessment of advertising exposure. In addition, GRPs can be used to measure advertisements delivered to a specific audience, e.g., specific age groups and African Americans (also known as target rating points or TRPs). They provide a "per capita" measure to examine relative exposure among groups. For example, if a restaurant had 2,000 GRPs in 2009 for 2- to 11-year-olds and 1,000 GRPs for 25- to 49-year-olds, then we can conclude that children saw twice as many ads for that restaurant in 2009 as compared to adults.

The GRP measure differs from the measure used to evaluate food industry compliance with their CFBAI pledges. The pledges apply only to advertising in children's TV programming as defined by audience composition (i.e., programs in which at least 25% to 50% of the audience are under age 12); approximately half of all advertisements viewed by children under 12 years old occur during children's programming.[23] In contrast, GRPs measure children's total exposure to advertising during all types of TV programming. Therefore, evaluating GRPs will determine children's exposure to all TV advertising by participating companies, not only advertising that aired during children's programming.

In the TV advertising analyses, we obtained 2008 and 2009 GRP data by age group and race for all fast food restaurants. We first obtained total GRPs for the following age groups: 2-5 years, 6-11 years, 12-17 years, 18-24 years and 25-49 years. These data combine exposure to national (network, cable, and syndicated) and local (spot market) television. In addition, we identified national television GRPs for African Americans (2-11 years, 12-17 years, 18-24 years, and 25-49 years), as well as whites in the same age groups. Nielsen does not provide spot market GRPs for African Americans. Finally, we obtained GRPs for advertisements that aired on Spanish-language television for each age group. GRPs for Spanish-language television are calculated based on Nielsen's Hispanic audience estimates.

Nielsen calculates GRPs as the sum total of all advertising exposures for all individuals within a demographic group, including multiple exposures for individuals (i.e., gross impressions), divided by the size of the population times 100. For an audience not trained in advertising measurement, GRPs may be difficult to interpret. Therefore, we also use GRP data to calculate the following TV advertising measures:

Average advertising exposure. This measure is calculated by dividing total GRPs for a demographic group during a specific time period by 100. It provides a measure of ads viewed by the average individual in that demographic group during the time period measured. For example, if Nielsen reports 2,000 GRPs for 2- to 5-year-olds for a restaurant in 2008, we can conclude that the average 2- to 5-year-old viewed 20 ads for that restaurant in 2008.

Targeted GRP ratios. As GRPs provide a per capita measure of advertising exposure for specific demographic groups, we also used GRPs to measure relative exposure to advertising between demographic groups. We report the following targeted GRP ratios:

- Preschool child-to-adult targeted ratio = GRPs for 2-5 years/GRPs for 25-49 years
- Child-to-adult targeted ratio = GRPs for 6-11 years/GRPs for 25-49 years
- Teen-to-adult targeted ratio = GRPs for 12-17 years/GRPs for 25-49 years
- African-American-to-white child targeted ratio = GRPs for African American 2-11 years/GRPs for white 2-11 years (national GRPs only)
- African-American-to-white-teen targeted ratio = GRPs for African American 12-17 years/GRPs for white 12-17 years (national GRPs only).

A targeted ratio greater than 1.0 indicates that the average person in the group of interest (e.g., the child in the child-to-adult ratio) viewed more advertisements than the average person in the comparison group (the adult). A targeted ratio of less than 1.0 indicates that the person in the group of interest viewed fewer ads. For example, a child-to-adult targeted ratio of 2.0 indicates that children viewed twice as many ads as adults viewed.

To assess potential targeted marketing to specific age or racial groups, we compared differences among demographic groups in exposure to advertising for specific restaurants to those that would be expected given each group's average TV viewing time. If the targeted ratio was significantly greater

than the relative difference in the amount of TV viewed by each group, we can conclude that the advertiser may have designed a media plan to reach this specific demographic group more often than would naturally occur. The average weekly amount of time spent viewing television in 2009 was obtained from Nielsen Market Breaks for each age and demographic group in the analysis.

TV advertising exposure by product

In addition to the Nielsen GRP data at the restaurant level described above, we also obtained GRPs at the brand variant level for national advertising in 2009 for the twelve restaurants in our detailed analysis. Nielsen includes up to three specific menu items, promotions (e.g., KFC $4 Fill-up Box), and/or tie-ins (e.g., "SpongeBob SquarePants" toy) in their brand variant classification. Therefore, these data also provide exposure to television advertising that promotes specific menu items and promotions.

Based on the descriptions provided by Nielsen, we categorized all advertisements into **product types**. In some cases, Nielsen did not provide enough information to categorize the advertisements. For these advertisements, a researcher viewed copies of individual advertisements to determine the appropriate product type. For advertisements that could be classified as more than one product type, we prioritized in the following order:

- **Branding only.** The restaurant as a whole is the main point of the ad. Food may be pictured, but no specific food products are mentioned.
- **Promotion only.** A toy giveaway or other third-party tie-in is the main point of the ad. Food may be pictured, but no specific food products are mentioned.
- **Kids' meal.** Mentions a kids' meal, either with or without specific kids' meal menu items.
- **Dollar/value menu.** Mentions a value menu, dollar menu or other special pricing for a group of individual menu items, including mentions of the entire menu or specific items included on the value menu.
- **Healthy meal/menu.** Mentions a healthy menu, menu item, or healthy version of a meal.
- **Combo/family/value meal.** Mentions a meal (for one or more people) that includes more than one type of menu item.
- **Breakfast menu.** Mentions more than one individual breakfast item or a breakfast meal.
- **Late-night/snack menu.** Mentions items suggested to be consumed late at night or as a snack (either as part of a special menu or as indicated by the item name).
- **Individual menu items.** Any individual menu items or line of items, not classified as one of the above.
- **Unclear.** Specific product type could not be determined

TV advertising content analysis

To evaluate the messages and marketing techniques used in the TV advertisements, we conducted a content analysis of both English- and Spanish-language TV advertising for the twelve restaurants. Using the AdScope database from Kantar Media,[24] we obtained digital copies of all fast food advertisements from these companies that aired nationally in the United States from July 1, 2008, through December 31, 2009. Research assistants viewed each ad to remove duplicates, including 15-second shortened versions of 30-second ads. In addition, ads with the same creative execution but different promotions added to the end of the ad were catalogued as duplicates. The basic version of the ad (excluding the promotion) was retained for analysis. Distinct promotions were noted but not included in the final content analysis unless the promotion was present in all versions of the ad. Finally, ads which aired before October 1, 2008, were removed from the analysis, as these were less likely to have continued airing in 2009.

We used the coding manual developed for a previous research study to analyze cereal advertising as the basis for the coding manual for the present study.[25] Researchers first examined a sample of fast food advertisements to identify additional messages and marketing techniques that appeared in fast food ads but were not included in the previous manual.

Three coders were trained to review the advertisements and code them for all items in the manual. In four pre-test group sessions, the project manager and coders evaluated twelve fast food advertisements during each session. These ads were selected from fast food advertisements for the restaurants in our analysis that aired in 2010, immediately following the ads included in our content analysis. Following these sessions, the project manager revised and finalized the coding manual.

The final coding manual included eight main categories:

- **Identifying information**, such as restaurant name.
- **Main food** in the ad. Main food was selected by choosing the menu item depicted or mentioned most, and/or that played the most integral role in the ad. If multiple items were promoted equally, three items or fewer were listed individually and four or more items were coded as part of a menu/line of items.
- **Selling point**, or direct benefit of the product. Coders chose as many selling points as were present in the ad. These included: **new/improved** if the ad introduced a new product or an improvement in an old one; **value/cheap** if the ad highlighted the price of the product, such as "buy one get one free", "now for the low price of…" or "only 99

cents;" **health/nutrition** included claims about the nutrition, nutrients, or health outcomes of consuming the product; **quality food** if the ad used natural, fresh, real, quality, or similar words to describe the food; **comparison/unique** for claims that the product(s) were superior to that of the competition or suggestions that the restaurant and/or menu item were unique; **filling/lots of food** if the ad suggested that the food promoted was filling or satisfying and/or mentioned the large size of the food or portion; **convenience** if the ad promoted more than typical fast food convenience, such as using technology to simplify or expedite food purchasing (e.g. ordering online and mobile ordering applications); **low-fat/low-calorie** for suggestions that the product assists in weight loss and other claims about fat or calorie content; **helping the community or others** when the ad suggested helping the community, helping others, or portrayed any charitable benefit from purchasing the food; and **limited time special offers** for short-term price promotions, give-aways, and new products that "won't be here long."

- **Product associations**, or indirect benefits of the product suggested in the ad. Coders chose as many product associations as were present in the ad. These included: **physical activity** when the ad portrayed, suggested or encouraged physical activity in any way; **family bonding** or promoting family ties, love, spending time together, including separate from mealtimes; **fun/cool** claims, typically made implicitly by depicting enjoyable social occasions, excitement or adventure, standing out in a crowd, superiority, and pop-culture references; **humor** if the ad included comedic elements, obvious or subtle, irony or sarcasm; and **adults as negative or incompetent** if the ad belittled or poked fun at adult figures, parents or other authority figures.

- **Target audience**, or the type of person to which the ad appears to appeal most. These included: perceived age group targeted including **children**, **adults-only** (reserved for ads clearly targeting adults and no one else), **parents**, and **all other** for ads that could appeal to teens and/or adults; **gender** as identified by the person in the ad purchasing and/or consuming the food; **race** as identified by the person in the ad purchasing and/or consuming the food. If actors did not purchase or consume food in the ad, the gender and race of the main character(s) were coded.

- **Third party tie-ins**, **brand characters** and **spokespeople**. Third party tie-ins included appearances by: **celebrities**, including famous actors, athletes and musicians; **movies/TV shows/video games** when the ad featured any of these; **licensed characters** when a character from a TV, movie, or video game was featured in the ad as part of a special promotion (e.g., a "Shrek" toy in a kids' meal); **charity** when charitable organizations (e.g., the Girl Scouts) or donations to a charity were featured in the ad; **other entertainment** for ads that featured tie-ins with games (e.g., Monopoly), theme parks, or other types of entertainment (not already specified); **other sports** for ads that featured a team, sports organization or sporting event (e.g., NBA, Olympics); and **other food brands** when the ad featured a food brand not owned by the fast food restaurant (e.g., Doritos, Minute Maid). In addition, we coded **brand characters** for fictional characters or mascots associated specifically with the brand or intrinsic to the identity of the brand (e.g., Ronald McDonald), and **spokespeople** for individuals who regularly represent the brand in commercials (e.g., Jared from Subway)

- **Eating behaviors** that were portrayed or suggested (or not). These included: **family meals**, including depictions or suggestions of a family eating a meal together; **food consumed** to code whether or not food is shown being eaten; **place of consumption** to describe where the food was apparently consumed (i.e., in the restaurant, at a table, in front of the TV/computer, in the car, or other place); **time of consumption** to describe when the food was consumed (i.e., breakfast, lunch, dinner, late at night, anytime, snack, or unclear). Additionally, coders indicated whether food was the **primary focus** of the ad, defined as whether the food was shown up close in the ad more than 50% of the time.

- **Websites** referenced, either suggested or depicted on the screen. All references to websites were recorded, including reference to third-party sites.

Formal pilot testing was conducted using a sample of 40 ads from the final inventory. Krippendorf's *alpha*[26] was used to measure inter-rater reliability. As inter-rater reliability results were good, final reliability testing commenced. The final reliability sample included 126 ads, or 20% of the full sample. Each coder coded this same subset of ads. Krippendorf's Alpha values ranged from .33 (fair) to 1.00 (perfect) agreement with 62% of the items receiving substantial to almost perfect agreement (.61 or higher) and only 3% receiving values in the fair range of agreement (.21 to .40). Items with Alpha values lower than .60 were discussed and redefined for clarity prior to moving forward with the final coding. The remaining advertisements were randomly assigned to the three coders and final coding occurred over a three-week period.

Spanish-language advertisements. A native Spanish speaker who is fluent in English coded the Spanish-language ads. The Spanish-language coder used the same coding manual and completed the same training as the English-language coders and also coded a sample of 30 English-language ads used in the reliability test group. Reliability testing of the responses for the Spanish-language coder showed similar Krippendorf's *alpha* values as those of the English-language coders: a range of .33 to 1.00, with 49% of the items receiving substantial to almost perfect agreement and only 5% receiving values in the fair range of agreement (.21 to .40). As in the English-language analysis, items with Alpha values lower than .60 were discussed and clarified prior

to conducting the final Spanish-language coding. Coding occurred over three weeks.

Nutrient content of menu items in TV ads

To assess the nutrient content of menu items featured in TV ads, we combined the data obtained in the content analysis to identify the main food(s) depicted in the ads, the Nielsen data on national GRPs by age and ethnicity for these ads in 2009, and the nutrient content data obtained in the menu composition analysis.

We first obtained the following nutrition information for each main food featured in TV ads that aired nationally in 2009: total calories, sodium (mg), saturated fat (g), and total sugar (g). If the main food in the ad referred to more than one menu item in our menu composition analysis, we calculated the median values of the nutrient information for all applicable menu items. For example, if an ad featured all ice cream sundaes on the restaurant menu, we calculated the median calories, sodium, saturated fat and sugar for all sundaes in our menu composition analysis. Similarly, if the ad did not specify a size or variation of individual foods (e.g., different sauces served with chicken nuggets), we calculated median values for all variations of the menu item in our menu composition analysis. In a few instances, a main food featured on TV ads did not appear on the regular restaurant menus in January 2010 and therefore nutrition data were not available in our menu composition analysis. If the ad was supported by more than 25 GRPs in 2009, we contacted the restaurant to obtain nutrition information for those menu items.

If an ad referenced more than one main food, coders viewed the ad to determine whether it appeared to encourage consumption of more than one item or provided examples of different variations of the same type of food. Generally, if the ad prominently featured main foods from more than one food category (e.g., a main dish and a beverage, side or dessert), it was coded as encouraging consumption of items from each food category. However, if the ad depicted more than one version of foods from the same category (e.g., three sandwiches or three sweet snacks), it was coded as encouraging consumption of just one item.

To calculate the nutrient content of individual ads, we used different procedures according to whether the ad appeared to encourage consumption of one type of food (e.g., one of a variety of sandwiches) or more than one food (e.g., a sandwich and a side). If the ad encouraged consumption of one food, we averaged the nutrient information for all main foods presented. If the ad encouraged consumption of more than one food, we added the nutrient information for all main foods presented to obtain total calories, sodium, saturated fat and sugar. In a few instances, ads promoted more than one food category and more than one main food within the categories. For those ads, we averaged the nutrient information for main foods within each category and added the average of the food categories together.

We then used 2009 GRPs by age group and ethnicity for each ad to calculate the weighted average number of **total calories**, **sugar calories**, **saturated fat calories** and **sodium** per ad viewed by children, teens, adults, and African American youth on English-language TV and Hispanic youth on Spanish-language TV for each restaurant in our analysis. These measures provide a comparison of the nutrient content of foods featured in ads viewed by different demographic groups for different restaurants. We also multiplied the weighted average measures for each ad viewed by the average number of ads viewed per day for each restaurant and demographic group to provide total calories and sodium viewed in fast food TV ads daily.

Radio advertising exposure

To understand young people's exposure to radio advertising from the twelve fast food restaurants in our analysis, we purchased radio data from two media research firms: Arbitron and Nielsen. Arbitron is the country's leading provider of radio measurement services. The firm surveys a random sample of households in each of its 300 metropolitan areas (which generally correspond to the Metropolitan Statistical Areas defined by the United States Office of Management and Budget). For the majority of markets, survey participants fill out a paper diary, noting their listening habits over the course of seven days. Survey participants must be aged 12 years or older. In 2009, Arbitron processed over 1.1 million diaries for inclusion in its estimates.[27] We obtained a license from Arbitron that covers local spot radio advertising in 2009 for all 300 metropolitan areas.

While Arbitron provides listenership data for specific markets, stations, and formats, the firm does not track advertising activities of specific companies. To obtain data on individuals' exposure to radio advertising for the twelve restaurants in our analysis, we used Nielsen's Monitor-Plus AdViews system. Nielsen uses Arbitron's data and matches it to their own tracking of commercial units to provide radio advertising measurement for local spot radio.[28] In 2009, Nielsen monitored radio advertising in 39 markets and covered at least twenty stations in each market. These 39 markets represent 60% of the U.S. population, as estimated by Arbitron;[29] and 38 of these covered markets rank in the top 50 by population.

Through the AdViews system, we obtained **GRPs** and **impressions** (or total advertising exposure for all individuals combined) for each restaurant in each market. Furthermore, we broke out GRPs for the following age groups separately: 12-17 years; 18-24 years; and 25-49 years. AdViews does not provide radio data for children under 12 and does not break out African American listenership separately. To calculate the average exposure by age group for individuals in the 39 markets examined, we first excluded data from markets

with very low exposure, defined as any markets where the advertiser did not reach a minimum of 100 GRPs in any of the three defined age groups. We then calculated the **universal estimate (UE)** for each market and age group by dividing impressions by GRPs. The UE is a population estimate for each market. For each advertiser and age group, we added up these UEs to arrive at a total UE. We then added up all impressions for each advertiser and age group and divided it by the total UE. The resulting GRPs provide a snapshot of the level of marketing activity that each advertiser engages in across a significant number of major U.S. markets. We also report the number of major markets that make up these GRPs.

Internet and other digital media

We analyzed content and exposure for youth-targeted marketing on the internet: restaurant (i.e., company-sponsored) websites, banner advertising on other (i.e., third-party) websites, and social media marketing. Additionally, we provide examples of mobile marketing conducted by fast food restaurants.

Restaurant websites

We located the main website for each restaurant in our analysis by typing the restaurant name into a search engine. We then explored the main pages for any secondary websites linked to that restaurant. For example, links on McDonalds.com connected to secondary sites, including McWorld.com, HappyMeal.com, Ronald.com, 365Black.com, MyInspirasian.com, MeEncanta.com, McDonaldsAllAmerican.com, RMHC.org, and Passport2Play.com. For the purposes of this analysis, a website is defined as all pages containing the same stem URL. For example, HappyMeal.com is the website of interest, and HappyMeal.com/#play is an example of a secondary page contained within the site.

We obtained data on exposure to these websites from the comScore Media Metrix Key Measures Report.[30] The company captures the internet behavior of a representative panel of about one million users in the United States.[31] It is the nation's largest existing internet audience measurement panel. The firm collects data at both the household and individual level using Session Assignment Technology, which can identify computer users without requiring them to log in. The company uses these panel data to extrapolate its findings to the total U.S. population. Companies participating with comScore can also have census tags placed on their web content and advertisements to further refine audience estimates. Using the comScore panel, we were able to identify which websites and advertisements individual users were exposed to and examine exposure for both children and adults in the same household. The Media Metrix database provides internet exposure data for any websites visited by at least 30 of their panel members in a given quarter.[32] Media Metrix also provides exposure information by visitor age and ethnicity for larger volume websites.

We first searched the comScore Media Metrix database to identify the fast food restaurant websites for which exposure data were available from January through December 2009. We collected the following data using the Media Metrix Key Measures Report for available fast food websites during this time period:

- **Total unique visitors.** The estimated number of different individuals who visited any website during the reporting period.
- **Total visits.** The total number of times that each unique visitor visited a website with at least a 30-minute break between times of access during the reporting period.
- **Average minutes per visit.** The average number of minutes spent on the website for each visit.
- **Average pages viewed per visitor.** The average number of pages viewed during a month by each person visiting the website (across all visits during the month).
- **Average visits per unique visitor.** The average number of visits to the website during the month per unique visitor.

In addition, when enough website traffic was recorded in a given quarter, we also collected these measures separately for children ages 2-11 years, 12-17 years, and all youth (2-17 years), and for African American youth ages 2-17 years. During the period examined, data were not available from comScore for Hispanic visitors. For each of the demographic groups with data, we also report a **composition index**, which measures the extent to which child (2-11 years), teen (12- 17 years) or youth (2-17 years) visitors to a website are over- or underrepresented compared to all visitors (over 2 years) and the extent to which African American 2- to 17-year-old visitors to a website are over- or underrepresented compared to all 2- to 17-year-old visitors.

For each website in our analysis, we report the following website exposure measures:

- **Average unique visitors per month** for all youth 2-11 years, 12-17 years, 2-17 years and African Americans 2-17 years. This measure was calculated by adding average total unique visitors per month, as reported quarterly by comScore, from January through December 2009 for each demographic group divided by the number of quarters for which these data were available for each website.
- **Average visits per month,**[33] **average pages per month**, and **average time spent per visit**[34] for each unique visitor. Average monthly numbers, as reported by comScore for each quarter, were divided by the number of quarters for which data were available for each website. The company only reports these data for the larger demographic groups. If separate data were not available for the specific demographic group, we used the information for the next largest demographic group. For example, if data were not available for 2- to 11-year-olds specifically, we report the

data for 2- to 17-year-olds or, in a few cases, all persons (ages older than 2).

- **Composition indices** were calculated for all youth 2-11 years, 12-17 years, 2-17 years and for African American youth 2-17 years. We first calculated the percentage of visitors from a particular demographic group visiting a website by averaging the number of monthly unique visitors to the website for that demographic group and dividing this number by the average monthly unique visitors to the total internet during the four quarters of 2009 for the same demographic group. Composition indices were then calculated by dividing the percentage of total internet visitors for each age group (2-11 years, 12-17 years, and 2-17 years) who visited that website by the percentage of all visitors (age 2+) to the total internet who visited the same website. African American composition indices were calculated by dividing the percentage of African Americans 2-17 years on the total internet who visited a particular website by the percentage of all youth 2-17 years on the total internet who visited the same website. This number was then multiplied by 100. Composition indices greater than 100 signify that the demographic group was overrepresented on a website in relation to the comparison group; and composition indices less than 100 signify that it was underrepresented. For example, if 40% of African Americans 2-17 years visited HappyMeal.com, but 20% of all youth 2-17 years visited HappyMeal.com, the African American composition index for HappyMeal.com would be 200. Therefore, the percentage of African American youth visitors to HappyMeal.com would be twice as high as the percentage of all youth visitors to HappyMeal.com; and African American youth would be overrepresented on HappyMeal.com.

Restaurant website content analysis

To systematically assess the techniques used to engage children on websites from the restaurants in our analysis, we first used the comScore data to identify the restaurant websites that children visited most frequently and for the longest periods of time. To identify sites focused only on children, we browsed through the pages of each site and categorized all sites based on whether they targeted children directly. Sites targeting children generally had cartoon content with animated characters, interactive games, music, and messages directed specifically at children. A site was not categorized as child-targeted if it predominantly had instructions for mothers, contained only recipes, had no games, had little to no graphical content, or a combination of these characteristics. If a site met the criteria for being child-targeted, but also had content directed towards parents, we included it. However, when child-targeted pages appeared on another primarily adult-targeted website, we did not identify the website as child-targeted. For example, although some pages on the McDonald's main site advertised the Happy Meal, it was not child-targeted overall.

In addition to the sites classified as child-targeted because of their content, we added sites that were among the top 10 fast food restaurant websites visited most often by 2- to 17-year-olds during February 2010, according to comScore's internet traffic data; all these websites belonged to one of the twelve restaurants in our analysis. The only adjustment we made to this list was to substitute Subway.com with SubwayFreshBuzz.com. While Subway.com had a significant number of visitors, only SubwayFreshBuzz.com appeared on Subway's TV advertising. In addition, comScore's "source/loss" data indicated that a substantial portion of traffic was redirected to SubwayFreshBuzz.com from the company's main site. Qualitative analysis confirmed that SubwayFreshBuzz.com appeared to be the company's consumer-oriented site while Subway.com was designed for information about the corporation.

Each website has only one homepage but can have many secondary pages. We excluded pages we assessed as irrelevant to the marketing of fast foods. These included corporate content; store locators; search functions; pages about the company or founder; non-U.S. company information; pages containing food allergy and sensitivity information; and privacy policies, terms of use, and official rules. In addition, when more than one page on a site contained very similar content, such as menu items or videos that all featured the same character and format, we only included the first page of the content and noted the number of instances of similar content.

During March and April 2010, three coders collected all pages on each website included in this study. They recorded a page as a video if it had movement, or if an activity on the page required clicking the mouse. They recorded it as a PDF if the page was static.

Coding procedure. We developed coding criteria for online marketing techniques based on categories described in previous analyses of children's websites,[35 36] digital marketing techniques,[37] and online advergames.[38 39] We also added questions based on our observations from an initial exploration of the websites, the codebook from the TV content analysis, and the codebook for an analogous content analysis of cereal websites.[40] On each site we coded the following five categories:

- **Engagement techniques** included (e.g., games, viral videos, Flash animation and music).
- **Featured third parties** (including charities, licensed characters, TV/movies and other entertainment), celebrities, brand spokespeople and spokes-characters.
- **Products** present including kids' meals, promotions, individual menu items and branding only.
- **Selling points** made directly about the restaurants and/or their products including value, health and nutrition claims, new/improved and weight loss.

- **Messages (or product associations)** that imply other benefits of the restaurants and/or their products including fun, cool, physical activity and humor.

Reliability assessment. Four coders tested the coding instrument on pages included in the study and refined the instrument to address discrepancies. They then coded additional pages from different websites included in the study and final clarifications were made to the coding instrument. The coders reassessed the content of all websites under consideration. We used Krippendorff's *alpha* intercoder reliability statistic to evaluate the coding of all child-targeted fast-food websites. The statistics on our assessment measures ranged between .7 and 1, indicating substantial to perfect agreement.. Coders resolved any uncertainty they had during coding by consensus discussions.

Banner advertising on third-party websites

Banner advertisements are purchased by companies to promote their products on other companies' websites. These banners, which are displayed along the border of a webpage, often invoke attention-grabbing Flash animation. They typically feature a particular menu item or line of items, or a special promotion such as the opportunity to win money or other prizes. An effective banner ad is one that induces a large proportion of viewers to click the ad and consequently be redirected to the advertiser's website.

Ad Metrix, another comScore product, monitors the same panel of users as comScore Media Metrix, but tracks any advertisements that are completely downloaded and viewable on a user's web browser. Ad Metrix, therefore, measures individual exposure to banner ads presented in rich media (SWF files) and traditional image-based ads (JPEG and GIF files). It does not capture text, video, or html-based ads. Ad Metrix also identifies the unique user viewing the advertisement, the third-party website on which the advertisement was viewed, and the company sponsoring the advertisement. In addition, Ad Metrix captures copies of the actual ads.

The Product Dictionary from comScore was used to determine the banner advertisements of interest. The company provided banner advertisement data for each restaurant in our analysis. For some restaurants, comScore also provided detailed data for specific menu items or promotions. For example, in the case of McDonald's, comScore provided exposure data for Chicken McNugget banner ads and HappyMeal.com banner ads in addition to data for all McDonald's banner ads combined. The company provides data for banner ads for any fast food restaurant, menu item or promotion in its dictionary that was viewed at least ten times by comScore panel members on the internet or on a specific publisher site.

Data for exposure to these banner ads were extracted from the comScore Ad Metrix Advertiser Report.[41] The company began reporting these data by product category for fast food restaurants in June 2009; therefore, we were able to obtain information for the ten months from June 2009 through March 2010. During this time period, Ad Metrix did not report demographic information about the individuals who were exposed to these advertisements. Consequently, we cannot differentiate between exposure by any specific age group, including children, adolescents or African Americans.

Measures available from comScore for each month include **total display ad views**, or the number of advertisements fully downloaded and viewed on publisher websites; **advertising exposed unique visitors**, or the number of different individuals exposed to advertisements on a publisher website; and **average frequency of ad views** per unique visitor by fast food advertiser. This information is available for the total internet and for individual publisher websites.

As we could not separate ads viewed by age group, we identified the websites on which the advertisements appeared that were disproportionately targeted to youth (i.e., youth websites). We defined a **youth website** as a website that met one of two conditions: 1) It was identified by comScore as an entertainment website for youth ages 2-17 years or as a teen community website during the period examined; or 2) the proportion of visitors ages 2-17 years to the website exceeded the total percentage of visitors to the internet aged 2-17 years during the time period examined. Because we are unable to differentiate between ads viewed by young people versus adults, we instead assume that advertising on youth websites will be viewed disproportionately by young people.

From the comScore data, we calculated the following measures for each fast food product (including websites, menu items and promotions) for which banner advertising was found. Total numbers were also calculated for all of a restaurant's products:

- **Average unique viewers per month**[42] was calculated by taking an average of the monthly unique viewers of a given product's advertisements from June 2009 through March 2010.
- **Average number of ads viewed per month** was calculated by taking an average of the average frequency of ad views by viewer for the fast food restaurant product each month from June 2009 through March 2010.
- **Percentage of ads viewed on youth websites** was calculated by dividing the fast food restaurant product's total display ad views that appeared on youth websites by their total display ad views that appeared on all websites from June 2009 through March 2010.
- **Total average ads viewed on youth websites per month** was calculated by dividing total display ad views on youth websites by the number of months for which data were available.

Banner advertising content analysis

We also analyzed the content of the banner ads that appeared on third-party websites. Using a comScore Ad Metrix Advertiser report, we obtained copies of all ads appearing between June 2009 and March 2010 that were produced by the twelve restaurants in our analysis. We organized the ads according to comScore's product category definitions. These categories are specific to each restaurant, and generally relate either to a particular menu item (for example "Happy Meal"), or to a specific website (such as Burger King's "ClubBK.com").

After ranking the ads according to number of exposed unique viewers, we selected all ads that met one of the following three criteria: 1) the ad was one of the twenty most often viewed ads for its respective company; 2) the ad was one of the ten most often viewed ads within any category related to children, teens, ethnic groups, or dollar/value menu products; or 3) the ad was one of the five most often viewed ads for any other product category. From this list we eliminated duplicate ads whose content exactly matched the content of an ad that was included in the analysis.

We used a modified version of the coding manual used for the TV ads, excluding sections that were not relevant to internet ads and adding new codes as appropriate for the medium. The modified coding manual included five categories from the TV coding manual, as well as a new category for **engagement techniques**:

- **Main product** or **promotion**.
- **Perceived target audience**, in particular age and ethnicity groups.
- **Selling points**.
- **Engagement techniques**. This category included questions about movement within the banner ad (e.g., static versus Flash animation) and interactive features of the ad. Examples of such features are an embedded poll or quiz, a link to order food online, a "rollover" that responds to movements of the viewer's mouse, a game within the ad or a link to a game, a code to unlock features at an advergaming site, a link to a video, and a link to a social networking site.

One research assistant was trained on the coding procedures in a series of practice sessions administered by experienced TV coders who had already established good inter-rater reliability. During each session, both the trainee and the experienced coders coded a sample of advertisements, and then discussed the results. The trainers identified any coding problems or inconsistencies in the trainee's coding and clarified areas of confusion. This process was repeated until the project manager determined that the new coder had a thorough understanding of the coding procedure, as evidenced by high percent agreement with experienced coders on the practice coding. The research assistant then coded all banner ads.

Social media

For the purposes of our study, we adopted Kaplan and Haenlein's definition of social media: "Social Media is a group of Internet-based applications that build on the ideological and technological foundations of Web 2.0, and that allow the creation and exchange of User Generated Content."[43]

We examined marketing activities that fast food restaurants engage in on three major social media websites: Facebook, Twitter, and YouTube. These three are the leading websites in their fields (social networking, micro blogging, and video sharing, respectively) and are used as marketing vehicles for the twelve companies in our analysis. Registration with all three sites is limited to persons aged 13 and older.

Facebook is the largest social networking site with more than 500 million users worldwide.[44] Members have their own pages where they can present information about themselves, post links to other sites, upload photos and videos, and write messages. Members connect with other members by becoming "friends," thereby incorporating them in their network.

Similarly, individual Facebook users can become a fan of a brand by clicking a "like" button on the brand's page. A thumbnail photo of that individual is then visible on the brand page in the "people who like this" section. Any time the brand modifies its page, for example by adding a feature or posting a comment, that activity shows up in the individual's "news feed," or personalized Facebook home page. Similarly, anytime the individual interacts with the brand page, this action shows up in the "news feeds" of all of his or her friends. The brand also shows up on the individual's Facebook page as something that he or she "likes."

A typical brand page consists of a number of tabs, each containing different content including messages from the brand and from fans of the brand, photos, videos, events, polls, quizzes, and applications.

Twitter is a micro blogging service that has more than 145 million registered users worldwide.[45] Twitter users publish 140-character messages, called "tweets," that are posted on their own profile pages. Users can "follow" each other. By doing so, an author subscribes to another author's tweets. These "followed" tweets then are published on the Twitter home pages of all of an author's "followers." Twitter users may also access the tweets of authors whom they follow through their mobile phones, with text messages, third-party Twitter applications, or Twitter's own mobile platform.

While Twitter does have a "promoted tweets" advertising platform that was launched in 2010 with Starbucks as an initial partner, we focused instead on the microblogging pages, as described above, which fast food restaurants can use, free of charge.

YouTube is a website that enables users to view, upload, and share videos. The fast food restaurants in our analysis have created customized channels on YouTube with playlists of videos available for viewing. While anyone can watch the videos without registering, registered users can "subscribe" to a channel and receive alerts anytime a new video is posted. YouTube accounted for nearly 40% of the 33.2 billion videos watched online during December 2009.[46]

Social media data collection. Because social media are so new, and marketing techniques employing them are still evolving, it is difficult to procure data to measure exposure and impact. Among advertisers that use social media, there is no clear consensus on the key metrics to use. Because user information is kept private, none of the sites provide demographic information about followers of a particular brand's page. Similarly, comScore does not provide demographic information for any of their measurements at the page level.

We identified and tracked fast food restaurant pages on each of the three social media sites over a 29-week period from December 22, 2009 to July 30, 2010, capturing information that is publicly available once a week. For Facebook, we tracked the number of **likes** for each fast food restaurant's page(s). For Twitter, we tracked the number of **followers** of each brand's Twitter page(s). And for YouTube, we recorded the following data: number of **subscribers**, and **upload views** (number of views for all uploaded videos).

We also conducted content analyses of each media. For Facebook and Twitter, we identified the specific products (special menus, meals, time of day, individual menu items, and lines of items) featured and links included in posts that directed users to external websites. We also identified all value promotions (including coupons, special limited-time price promotions, and any other posts that mentioned specific prices). Finally, we identified the engagement techniques employed by each media. For Facebook, these include tabs, photos, videos, polls, and profile pictures. For Twitter, these include contests specifically designed for Twitter users and customer service interactions.

The Facebook content analysis was performed using screen captures saved weekly while gathering the data for brand fans. We looked at pages from January through March 2010 that had at least 100,000 fans.

For Twitter, we created a program to download the most recent 3,000 tweets written by each fast food restaurant from Twitter's servers to analyze the content of tweets published in 2009. We limited our analysis to accounts that had a minimum of 1,000 followers. We recovered all 2009 tweets for all restaurants, with the exception of Dunkin' Donuts and Starbucks (the @ Starbucks account) due to their exceptionally high volume. We downloaded a sizable sample of over 1,941 of Starbucks' 2009 tweets (59% of the total 2009); however, we could only download Dunkin' Donuts' tweets from February 2010, so its tweets are excluded from the content analysis. Wendy's @ WendysRestaurant is also excluded from the content analysis because the program was unable to retrieve the restaurant's 2009 tweets.

To perform the content analysis for YouTube, we used the coding manual for the TV content analysis. We limited our analysis to all videos uploaded to YouTube by the fast food restaurants in 2009 that had a minimum of 5,000 views,

Furthermore, we measured the frequency with which restaurants engaged with individuals through social media by presenting the frequency of posts on Facebook from January 1, 2010 through March 31, 2010; the number of tweets per week in 2009; and the number of videos posted on YouTube in 2009.

Social media footprint. We also present a footprint of the social media activities of each restaurant, incorporating the quantitative data collected. We created a bubble chart that shows the relative size of each company's installed and engaged fan base as determined by the number of Facebook fans, Twitter followers, and 2009 upload views on YouTube.

Mobile marketing

We examined three methods used by restaurants to target cell phone users: banner ads on mobile web sites, smartphone applications, and text messaging.

- **Mobile banner ads:** These advertisements appear at the top or bottom of third-party mobile web pages. Similar to internet banner ads, they are graphic display ads (commonly accepted file types are GIF, Animated GIF, JPEG, and PNG) that click through to a page designated by the advertiser. Companies typically maintain mobile websites that can be accessed through cell phones and that are separate from their internet websites.
- **Smartphone applications:** These are operating system-specific (e.g. iPhone and Android) applications that may be downloaded to mobile phones. They act as stand-alone programs and may perform a number of different functions, including games, store locators, and ordering platforms.
- **Text messaging:** The Short Message Service (SMS) enables brief messages (160 characters or fewer) to be sent between mobile phones and other SMS-enabled devices. While the technology is primarily used to transmit messages between private parties, it can also be used to communicate with companies to make payments, make inquiries from a service provider such as Google or Fandango, and, most significantly for our purposes, to place orders with a restaurant.

Mobile banner ads. We purchased mobile advertising data from comScore. The firm's Ad Metrix Mobile product tracks banner ads on more than 1,000 mobile URLs. These sites include all sites linked to a mobile service provider's portal (effectively a carrier-specific home page for accessing the mobile internet). The company automatically collects

data from these defined portal websites every six hours, or approximately 120 times per month. Copies of the advertisements are captured and stored as a static image and classified four ways: by the company that owns the product being advertised, the division responsible for the product being advertised, the brand name of the product being advertised, and the product itself.

Another product from comScore, Mobile Metrix, determines the top mobile websites as ranked by number of unique visitors. In order to determine this number, comScore meters the phones of a panel of participants aged 18 years and older and automatically captures their activity. The observed population of metered phones only includes smartphone data from comScore panelists using RIM, Microsoft, Palm, Google, and Symbian platforms. **Smartphones** are cell phones that run operating systems and offer advanced capabilities with PC-like functionality such as the iPhone.

In our analysis, we used a comScore measure from Ad Metrix to describe mobile ad frequency: **ad index**. Ad index indicates relative share of presence of the advertisement on a given mobile website. This is established by comparing the frequency with which a particular advertisement appears on a mobile website as compared to all other advertisements on the same website. The ad index therefore acts as a benchmark: Any number above 100 indicates a greater observed presence than expected, while a number below 100 indicates the converse.

We also used comScore's Ad Metrix Mobile to identify fast food mobile website banner ads, the sites that they were advertised on, and the ad index for each restaurant advertiser on each website. We then removed duplicate ads with the same content but formatted as a different size and coded all unique banner ads using the coding manual developed for internet banner ads.

Smartphone applications. We purchased an iPhone which we used to download all applications available that were produced by the twelve restaurants in our analysis. Content analysis of these applications documents the features and capabilities of each, including ordering ability, store locators, nutrition information, games, and special offers.

The bi-annual iTunes Application Tracker report from comScore details the most popular, as defined by number downloaded, applications available for the iPhone and iPod Touch. The Tracker collects data for more than 5,000 iTunes applications through comScore's panel of two million persons. The product details application-specific information, such as projected total population and projected demographics of application users.

For fast food restaurant applications with enough activity, comScore collects data from its online panel of iTunes users to measure the population of 12- to 17-year-olds who have these applications installed on their phones. ComScore has not included individuals who have downloaded applications and then deleted them when calculating the number of projected users; this metric represents the installed user base only. We also report the percentage of all application users who are 12-17 years.

Text messaging. Text messaging is used by fast food restaurants as both an advertising medium and an ordering vehicle. In addition to using our iPhone to download applications, we also registered our phone number with fast food restaurants to receive text messages. We report which restaurants use text messaging as an ongoing part of their marketing efforts.

We identified restaurants that allow individuals to place orders through text messaging. Some fast food restaurants allow people to send a text message to a short code with the body of the message containing the details of their order. Alongside our report of which restaurants use text messaging regularly to advertise, we also indicate which restaurants have added SMS to their roster of ordering options.

To understand the ways in which teens access and use SMS services, we obtained data from comScore's MobiLens product. Every month, the company surveys mobile subscribers, aged 13 years and older, to recall their mobile content consumption during the previous month.

We use MobiLens to report the proportion of the teen population (13-17 years) who received SMS advertisements on their cell phones each month in 2009. We also report the proportion of the population who received SMS ads for food and for restaurants.

Marketing inside restaurants

We conducted a nationally representative audit of in-store marketing at the twelve fast food restaurants in our analysis to assess marketing messages at the point when consumers decide what menu items to purchase. The audit consisted of three main parts: 1) **restaurant signs audit**, which detailed menu items, messages and promotions on signs inside and outside the restaurants; 2) **pricing analysis** to appraise the cost of eight comparable items at each restaurant, and 3) **sales practices audit** to assess the default sides, drinks and sizes given when ordering a kids' meal and a combo meal.

We commissioned a market research firm to oversee and conduct the in-person restaurant audits. The research firm specializes in retail research conducted through a nationwide network of trained, experienced field personnel in major metropolitan areas. They maintain a comprehensive quality control program to ensure the collection of accurate data, which includes spot checking the original data and calculations, and restaurant rechecks when necessary. Field personnel audited signs and pricing in a representative sample of 1,050 fast food restaurants in 37 markets across the United States, including 100 different locations for each of the larger restaurants in our analysis (McDonald's, Burger

King, Subway, Wendy's, Starbucks, Taco Bell, Pizza Hut, Dunkin' Donuts, and KFC) and 50 locations for each of the smaller restaurants (Sonic, Domino's and Dairy Queen). Only restaurants that were free-standing and open year-round were included in the analysis.

Restaurant signs audit

The restaurant signs audit documented signs inside and outside the restaurant. Field personnel underwent training in audit procedures and received a comprehensive field form together with detailed instructions. Field forms were customized by restaurant and listed individual menu items compiled from each of the fast food restaurants' online menus. In addition, the form included space to record any signs that promoted the following menu types without mentioning specific menu items: **breakfast menu** for signs promoting availability of breakfast; **late-night menu**, which included signs referencing availability of a late-night menu or the restaurant having late hours; and **dollar/value menu**, which included mentions of availability of a dollar/value menu, combo meal or other value mention in the absence of specific menu items. Lastly, the field form provided space to write in any individual menu items present on signs that were not listed on the field form.

For each menu item and type, field personnel indicated the number of signs which appeared in each of four areas within the restaurant: 1) the **counter** area, which included all areas in front of, around and behind the counter inside the restaurant as well as anything in direct view of customers standing in line; 2) all **other indoor** areas, which included all areas inside the location other than the ordering/counter area; 3) the **drive-thru** area, which included signs located in the drive-thru lane from beginning to end and in the area immediately around the drive-thru menu board; and 4) the **other outdoor** areas, which included the parking lot, main marquee sign, roof, ground and anything posted in the restaurant windows facing to the outside.

In addition, field personnel recorded the number of signs with price or other promotions for each menu item and type. **Price promotions** included any special price featured with an item and free food giveaways, such as "Free fries with the purchase of a burger." **Other promotions** on signs included non-food giveaways, sweepstakes, celebrity endorsements, licensed characters, movie tie-ins and games advertised. Finally, field personnel indicated the number of signs for each menu item and type that included any of the following messages: **value**, which included signs that featured value or combo meals, an item or meal at a low or lower price, or the word "value;" **kids**, which included specific mention of a kids' meal menu item, toys or other mention of "kids" or "children;" and **health**, which included signs that referenced the healthiness of menu items with words such as "healthy," "low-fat," "diet," or "low-calorie" as well as any mention of a restaurant's healthy menu.

Field personnel received the names of the restaurants' healthy menus. In addition, field personnel recorded information about any other promotions present in the restaurant.

Nutritional quality of menu items on restaurant signs

To assess the nutritional quality of menu items featured on signs at the restaurants, we combined the data obtained in the audit of menu item signs at the restaurants and the nutritional quality data obtained in the menu composition analysis. For each menu item that appeared on restaurant signs, we obtained the following nutrition information: calories, sodium, saturated fat, sugar, and NPI score. For items offered in various sizes or different variations (e.g., different sauces served with chicken nuggets), we calculated median values for all variations of the menu item in our menu composition analysis. In a few instances, a menu item that appeared on restaurant signs in June 2010 did not appear on the regular restaurant menus in January 2010 and therefore nutrition data were not available in our menu composition analysis. If field personnel found more than five signs promoting that menu item, we contacted the restaurant to obtain nutrition information for those menu items.

We then used the number of times that each menu item appeared on signs at the restaurants to calculate the weighted average number of **total calories**, **sugar calories**, **saturated fat calories**, and **sodium** for menu items that appeared on signs at each restaurant in each location and all locations. We doubled the number of menu items that appeared at signs in Sonic, Domino's, and Dairy Queen restaurants as the audit examined 50 restaurants each for these companies, compared to 100 restaurants for the other companies. These measures provide a comparison of the nutritional quality of foods featured in signs at different restaurants and in different locations. Finally, we calculated the **percentage of healthy products on signs** by dividing the number of menu items with a healthy NPI score that appeared on signs by the total number of menu items that appeared on signs for each restaurant and location within the restaurants.

Pricing analysis

In all locations of the in-store marketing audit (excluding the pizza and coffee restaurants), field personnel recorded the price of eight individual menu items. Researchers provided field personnel with the eight menu items to be priced during the audit. These items were chosen to include similar items across restaurants in the following comparison categories (when available): 1) main dish salad with chicken; 2) healthier and less healthy versions of the restaurants' chicken sandwich; 3) the restaurant's healthiest, moderately unhealthy, and least healthy beef sandwich; and 4) the healthiest and least healthy side (for most restaurants this included a fried potato and a raw fruit or vegetable side such as apples or

side salad). Researchers determined the nutritional quality of the items to be priced according to NPI scores and total calories. Researchers chose items with similar serving sizes for comparison. For each item, we calculated the **average retail price** recorded across all restaurant locations.

Sales practices audit

The sales practices audit took place in 250 locations of the five largest restaurant chains: 50 each in McDonald's, Burger King, Wendy's, Subway and Taco Bell. The audit was conducted Monday through Friday during the week of June 14, 2010. Field personnel ordered two different pre-determined items at each restaurant: a kids' meal and a combo meal. They received detailed scripts of how to order each item. The scripts included different menu items to order at each restaurant, but otherwise were identical. Field personnel placed all orders at the counter inside the restaurant and did not identify the purpose of their order. After the order was completed, they recorded employee responses at a location outside the restaurant.

Field personnel first ordered a kids' meal without specifying a desired side or beverage. Similar kids' meals were ordered across restaurants: a hamburger kids' meal at McDonald's, Burger King and Wendy's; a crunchy beef taco meal at Taco Bell; and a roast beef sandwich meal at Subway. Field personnel recorded whether the employee automatically included a specific side and/or drink with the meal without asking any further questions (i.e., the **default** item) or if the employee inquired about the side and drink desired. If the employee asked whether the shopper wanted a particular side(s) or drink(s) (e.g., "Would you like fries or onion rings with that?"), the field personnel ordered the first side or beverage offered. If the employee asked an open-ended question about what side or beverage the shopper wanted, the field personnel asked, "What sides/drinks can I get?" and ordered the first side or beverage suggested. Researchers provided field personnel with information about the healthier side and drink options available at each restaurant; and field personnel recorded all healthy sides and drinks offered by the employee during the conversation. In addition, field personnel recorded any suggestions made by the employee to modify the order such as type of bread, condiments, ordering a larger size, or ordering additional items. Finally, field personnel recorded the type and size of side and beverage received as well as the size and price of the kids' meal.

After ordering the kids' meal, field personnel then ordered a combo meal without requesting a specific side, beverage, or size. Similar meals were ordered across restaurants: Quarter Pounder combo meal at McDonald's, Whopper value meal at Burger King, quarter pound single combo meal at Wendy's, crunchy taco combo meal at Taco Bell, and 6-inch roast beef combo meal at Subway. Field personnel recorded whether the employee automatically provided a specific size combo meal, side, and/or beverage as the default. If the employee asked about specific sizes, sides and/or beverages (e.g., "Would you like a small, medium or large?") field personnel ordered the first option suggested. If the employee asked an open-ended question about the desired size, side and/or beverage, field personnel inquired about the options available and ordered the first one offered. The field personnel recorded all sizes suggested by the employee and all healthy sides offered. Field personnel also recorded any suggestions made by the employee to upsize the combo meal and said "yes" to these suggestions. In addition, if the employee asked if the field personnel would like to modify the meal by adding or substituting menu items, condiments, or types of bread, these suggestions were recorded. Field personnel recorded the size and price of the combo meal received and the type and size of the side and beverage.

Marketing outcomes

To measure the outcomes of restaurants' marketing practices, we present data from two different sources: 1) a survey of parents of 2- to 11-year-olds to understand how often they visit fast food restaurants with their children, the menu items they purchase, and why; and 2) market research data purchased from The NPD Group's CREST service to quantify the types of prepared food and beverage products purchased most often.

Fast food restaurants visits

We surveyed parents of 2- to 11-year-old children to understand how often they purchase fast food for their children and which restaurants they frequent. We also asked what menu items they purchased for their children during their last visit and why they chose that fast food restaurant and those menu items. We examined differences between parents of preschool-age children (2-5 years) and elementary school-age children (6-11 years). We also looked at differences between white, African American, and Hispanic parents. We collected data on visits to the four largest fast food restaurants: McDonald's, Burger King, Subway and Wendy's. The survey was conducted on the internet from August 27 to September 2, 2010.

We recruited a national sample of 300 parents and augmented the sample to ensure it included at least 100 Hispanic parents and 100 African American parents. Survey Sampling International (SSI) distributed the survey to its panel of consumers who agree to participate in ongoing survey research.[47] SSI recruits its panel members through thousands of websites to obtain a representative sample of the online population. The company screens panelists to provide high-quality respondents and minimize fraud. To ensure more honest responses, panelists do not receive a direct reward for completing individual surveys. Instead, participants receive compensation for being active panelists. These rewards range from charitable donations and information to monetary and

point rewards for overall participation. All participants in this survey were anonymous, and the procedures were approved by Yale University's Human Subjects Committee..

Participants accessed the survey on the computer through an email link. The internet was used to distribute the survey because it provides access to a large, well-represented sample of the national population, including Hispanics and African Americans. Furthermore, internet surveys generally produce responses of equal or better quality compared to telephone surveys.[48]

Survey questions. After completing an informed consent form, participants first confirmed that they were the parent of at least one child (2-11 years). Parents then indicated whether they had purchased lunch or dinner from McDonald's, Burger King, Subway, or Wendy's for one or more of their children within the past week. Parents who answered "yes" continued to provide information about their most recent visit to one of the fast food restaurants. Those who had not visited one of these restaurants in the past week then answered questions about how often they usually buy fast food for their children from the twelve restaurants in our analysis and provided demographic information.

Parents who had purchased lunch or dinner from one of the four fast food restaurants in the past week for their children were then asked about their most recent visit, including on which day of the week the visit occurred, where the restaurant was located, how they ordered the food, where they consumed the food, and why they chose that restaurant. Respondents then provided information about the youngest child for whom they purchased food during that visit. They indicated if and why that child wanted to visit the restaurant and what type of menu they ordered for the child (i.e., kids' meal, dollar/value menu, combo meal or other). If they ordered from the kids' meal or the dollar/value menu, they were then shown a list of items available on each menu for the restaurant they visited and selected the items they ordered for their youngest child. They also indicated why they chose to order from that menu and why they chose each of the items they ordered. Respondents then answered the questions about frequency of fast food restaurant visits and demographic information.

Group comparisons. In addition to comparing survey responses by restaurant visited most recently, we also compared responses for parents of 2- to 5-year-olds versus 6- to 11-year-olds, and white, African American and Hispanic parents when sample size permitted. We used chi-square analyses and *Z*-tests for proportions to identify significant differences between restaurants and demographic groups.

Menu items purchased at fast food restaurants

To identify and evaluate the menu items ordered at fast food restaurants we obtained data from NPD, one of the world's largest privately owned market research companies.[49] NPD provides restaurant behavior data obtained through online surveys taken by panelists about their meals and snacks prepared away from home "yesterday."[50] NPD's panel consists of more than 1.8 million registered adults and teens who have agreed to participate in its surveys, and the panel is updated daily to add new recruits and exclude poor-quality respondents. The company recruits panelists using only opt-in sources (e.g., email, website banner ads, etc). Once they register, panelists must opt-in two more times, demonstrating their commitment, before they are added to the panel and receive surveys.

Every day, NPD receives approximately 2,000 surveys from panelists, including 1,900 adults and 100 teens (13- to 17-year-olds).[51] Parents report the behavior of their children under 13. Of all respondents, approximately 45% indicate purchasing a meal or snack (which could include a beverage-only occasion) the day before taking the survey.[52] NPD reports approximately 285,000 quick-serve restaurant visits annually (including orders at the restaurant and orders from other locations such as by phone or the internet), including 62,000 for children and teens.

Panelists provide the name and location of the restaurant they visited the previous day, and note the time of visit and how the food was obtained, such as by drive-thru, delivery, or carry-out.[53] They also answer questions about the food they purchased such as total price paid, promotions used, special menu, and meal type (e.g., combo meal, kids' meal or dollar/value menu), and whether the food items purchased were described as healthy.[54] For major chain restaurants, the survey then displays a current menu for the restaurant visited, and respondents select the items they purchased the previous day. A few specific questions about menu items are asked such as size of french fry orders and beverages, specific toppings on pizzas, and condiments on sandwiches.[55]

NPD projects the survey panel data to the U.S. population, using geographic and demographic targets from the U.S. Census Bureau.[56] The data are also calibrated according to individual restaurant sales and traffic data, to accurately represent each restaurant's presence within the industry.

We purchased NPD CREST menu item data for each restaurant in our analysis and for all major fast food restaurants combined. NPD defines a major fast food restaurant as one with at least 250 transactions in its sample during a given year. In 2009, 79 restaurants fell into this category. We report measures for the following demographic groups: Under 6 years, 6-12 years, under 13 years, 13-17 years, 18-24 years, 25-49 years, all respondents, African American under 18 years, Hispanic under 18 years, and Caucasian under 18 years.

Descriptive information about fast food orders by demographic group

We report the following measures by demographic group for all fast food restaurant orders during 2009:

- **Items per eater.** Average number of items ordered per visit per individual.
- **Time of day.** Percentage of visits during the following dayparts: morning meal, lunch, supper, and PM snack.
- **Where ordered/where eaten.** Percentage of visits where food was ordered at the restaurant, outside the restaurant, and by carry-out, drive-thru, and delivery.
- **Special meal type.** Percentage of visits that include combo meals, items from the dollar menu, kids' menu or other type of menu. We report this measure for all fast food restaurants and all fast food restaurants that serve hamburgers.

We provide the following measures for the two-year period from January 2008 through December 2009:

- **Beverage size.** Percentage of meals that included a beverage in one of the following sizes: can/bottle, small cup/glass, medium cup/glass, large cup/glass, extra large cup/glass, or in a box/pouch.
- **Total fry size.** Percentage of meals that included french fries from the dollar menu, from a kids' meal, small, medium, large, or extra large.

We also quantify the types of foods ordered by different demographic groups across all fast food restaurants. NPD classifies all restaurants' individual menu items by **food type**. For example, McDonald's Big Mac and Burger King's Whopper with cheese would both be classified as a "large cheeseburger." By categorizing food in this manner, types can be compared across restaurants. NPD calculates **menu importance** by demographic group for the food types most commonly ordered, which is defined as the percentage of meals or snacks ordered by the specific demographic group that included a specific food (or beverage) type. Only food types ordered by at least 50 panelists in the demographic group of interest are reported. We present these data for the two-year period from January 2008 through December 2009 for preschool-age children (under 6 years), children (6-12 years), teens (13-17 years), young adults (18-24 years), adults (25-49 years), and African American, Hispanic and white youth (under 18 years).

Nutritional quality of menu items purchased at the restaurants in our analysis

Finally, we used NPD's data on menu importance by food type to analyze the nutritional quality of the foods ordered by various demographic groups at each restaurant in our analysis. NPD provided a list of the specific menu items ordered by more than 25 individuals at each restaurant for each food type from January 2008 through December 2009. We then matched these menu items to the menu composition analysis for each restaurant to obtain their nutrient information. For food types that included more than one menu item at a restaurant, we calculated median calories, saturated fat, sugar, sodium, protein, fiber, and NPI score for each restaurant and food type.

We then multiplied these medians by menu importance for each food type, divided by 100, and added the resulting numbers to obtain a weighted average total content of each of these nutrients for foods purchased during fast food visits. We calculated these numbers by restaurant for the following demographic groups: preschool-age children (under 6 years), children (6-12 years), teens (13-17 years), young adults (18-24 years), adults (25-49 years), and white youth (2-17 years), African American youth, and Hispanic youth. For the children's age groups (under 6 and 6-12 years) we provide a "best case" version of the nutrition of foods consumed by using the nutrition information for foods on the children's menu whenever they were available.

Overview of fast food market

Fast food market	Definitions
Fast food restaurant	Fast food restaurants feature a common menu above the counter; they provide no wait staff; and customers typically pay before eating and choose and clear their own tables. These restaurants are also known as quick serve restaurants (QSRs).
Fast food segment	Main type of food sold at the restaurant, including burgers, sandwiches, snacks, Mexican food, and pizza.

Table 2 presents 2008 and 2009 sales data for the twenty largest fast food restaurants in the United States and highlights the twelve restaurants included in our full analysis. In addition to the ten restaurants with the highest sales in 2008 and 2009, we have also included Domino's and Dairy Queen in our analysis due to the large number of TV advertisements seen by children for these restaurants. In 2008, Domino's ranked ninth in the amount of TV advertising seen by children, Arby's ranked tenth and Dairy Queen ranked eleventh. In 2009, Arby's reduced its TV advertising by 40% and fell to thirteenth whereas Dairy Queen rose to tenth. Therefore, we have included Dairy Queen, but not Arby's, in the full analysis.

The top 20 fast food restaurants totaled $117 billion in sales in 2009, 85% of sales for the top 50 restaurants; and sales for the twelve restaurants in our full analysis totaled $98 billion representing 71% of sales. McDonald's led the market with $30 billion in sales, a 22% share of the top 50 restaurant sales. The next four, Subway, Burger King, Starbucks, and Wendy's, had $8 to $10 billion each in sales and 6% to 7% of the market. The three YUM! Brands restaurants in the top 20 (Taco Bell, Pizza Hut, and KFC) ranked sixth, seventh, and ninth individually. Together their sales totaled $16.7 billion, or 12% of the market, and placed YUM! Brands in second place behind McDonald's.

The restaurants in our analysis represent several different segments of the fast food market including burgers (McDonald's, Burger King, Wendy's, Sonic, and Dairy Queen), sandwiches (Subway), snacks (Starbucks and Dunkin' Donuts), Mexican food (Taco Bell), pizza (Pizza Hut and Domino's), and chicken (KFC).[4] The number of U.S. locations of these twelve restaurants totaled almost 100,000 and ranged from approximately 3,500 Sonic restaurants to almost 24,000 Subway restaurants. These twelve restaurants comprised 41% of locations for the top 50 restaurants.

Table 2: Sales of top 20 fast food restaurants

2008 sales ranking	Parent company	Restaurant	2008 sales (mill)[1]	2009 sales (mill)[2]	Number of U.S. locations[3]
1	McDonald's	McDonald's	$30,025	$31,000	13,980
2	Doctor's Associates	Subway	$9,600	$10,000	23,034
3	TPG Capital	Burger King	$9,348	$9,000	7,250
4	Starbucks Corporation	Starbucks	$8,750	$8,347	11,128
5	Wendy's Arby's Group	Wendy's	$8,013	$8,388	5,877
6	YUM! Brands	Taco Bell	$6,700	$6,800	5,604
7	YUM! Brands	Pizza Hut	$5,500	$5,000	7,566
8	Dunkin' Brands	Dunkin' Donuts	$5,500	$5,700	6,566
9	YUM! Brands	KFC	$5,200	$4,900	5,162
10	Sonic Corp.	Sonic	$3,811	$3,837	3,544
11	Wendy's Arby's Group	Arby's	$3,372	$3,229	3,596
12	Jack in the Box	Jack in the Box	$3,080	$3,072	2,212
13	Domino's Pizza	Domino's	$3,055	$3,031	4,937
14	Chick-fil-A	Chick-fil-A	$2,962	$3,217	1,480
15	Panera Bread	Panera Bread	$2,648	$2,797	1,304
16	Berkshire Hathaway	Dairy Queen	$2,519	$2,640	4,540
17	Papa John's	Papa John's	$2,034	$2,057	2,781
18	CKE Restaurants	Hardee's	$1,680	$1,660	1,905
19	Quizno's Corporation	Quizno's	$1,660	$1,777	4,203
20	AFC Enterprises	Popeye's	$1,593	$1,597	1,576
Twelve restaurants in our analysis			$98,021	$98,643	99,188
Top 20 restaurants			$117,050	$118,049	118,245
Top 50 restaurants			$137,411	$138,536	243,693

Source: *QSR News* (2009, 2010)

Fast food menu composition

In the following menu composition analysis, we first describe the range of individual menu items and special menus that were available on January 15, 2010 at the twelve restaurants. We then evaluate the nutritional quality of restaurants' regular menus, dollar/value menus, healthy menus, and kids' meals.

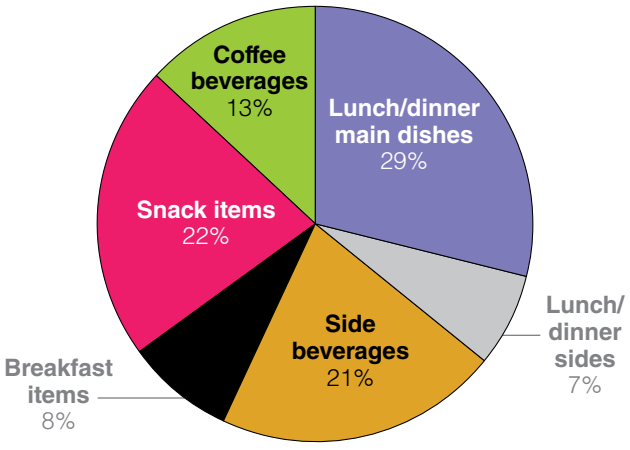
MENU ITEMS AND SPECIAL MENUS

Fast food menus	Definitions
Menu items	Each food or beverage item listed on restaurants' regular menus and posted on their websites on January 15, 2010. A menu item consists of all components of each food item even if they were listed separately on the menus, for example, salads with dressing and croutons or chicken nuggets with sauce. The size and flavor of each food or beverage was listed as a separate menu item, as were foods listed with different available options (e.g., egg sandwiches available with egg whites or regular eggs, a sandwich available with or without mayonnaise). Food items customized by the customer (e.g., pizzas and deli sandwiches) were listed as two menu items, including the most and least healthy versions. Foods sold as a family-sized item were converted to one-person portion sizes.
Lunch/dinner main dishes	Individual menu items and meals typically consumed for lunch or dinner.
Lunch/dinner sides	Menu items typically consumed together with a main dish for lunch or dinner.
Side beverages	Individual beverages typically consumed together with a main dish (e.g., soft drinks, juices, milk).
Breakfast items	Individual items (including main dishes and sides) and breakfast platters.
Snack item	Individual items suggested for late-night consumption or as a snack. Also includes sweet snacks (including desserts) and snack beverages (e.g., shakes and frozen beverages).
Coffee drink	Any specialty coffee drink, including cappuccinos, lattes, mochas, and flavored coffees (hot or iced). Plain coffee is categorized as a side beverage and frozen coffee drinks are categorized as snack beverages. Neither was included in this category.
Special menus	Subsets of items from the overall menu promoted for consumption at a certain time of day (e.g., breakfast, snack, late-night) or for a certain type of customer (e.g., kids, dieters), or offered at a special price (e.g., dollar menus, special value meals). We only evaluated menus on company websites in January 2010. Special menus offered for a limited amount of time or only available at some restaurant locations were not included in the analysis.

A total of 2,781 menu items were evaluated from the twelve restaurants in our analysis. The number of items per restaurant ranged from 123 (Taco Bell) to 388 (Sonic). On average, each restaurant offered 232 different menu items. Complete information about menu items offered by each restaurant in our analysis by food category is available at www.fastfoodmarketing.org/menuitems. Specific items offered on special menus and full nutrition information for items are also presented.

Due to the low volume of menu items in some food categories originally specified (e.g., meals and breakfast sides), we placed the items into six food categories: Lunch/dinner main dishes (including meals), lunch/dinner sides, breakfast items, snack items (including snack foods, sweet beverages and sweet snacks/desserts), and coffee beverages (see **Figure 3**). Among the twelve restaurants, lunch/dinner main dishes comprised the largest food category followed by snacks and side beverages. More than half the menu items were typically sold for lunch or dinner (57% including sides and beverages), followed by snacks (22%) and breakfast (21% including coffee drinks).

Figure 3. Proportion of menu items offered by food category for the twelve restaurants in our analysis



Source: Menu composition analysis (January 2010)

All restaurants offered side beverages and, with the exception of Starbucks, they offered lunch/dinner main dishes and sides on their menus (see **Table 3**). Eight offered breakfast items. McDonald's, Starbucks, and Dunkin' Donuts offered extensive coffee menus with 90 or more coffee drinks. All restaurants also offered some snack items, but two restaurants had extensive sweet snack menus. Dairy Queen offered the most sweet snacks (149 foods and 59 beverages), followed by Sonic (24 foods and 150 beverages).

Special menus

Special menus also varied across restaurants (see **Table 4**). Eight restaurants offered kids' meals. McDonald's segmented the category further with versions for "kids" and "big kids." In 2010, Burger King also introduced a kids' breakfast meal.[5] Except for KFC and Dairy Queen, the restaurants offered a toy or some other giveaway with their kids' meals. Three restaurants served breakfast all day (Starbucks, Dunkin' Donuts, and Sonic), and five offered special breakfast menus

Table 3. Number of menu items per restaurant

Restaurant	Lunch/dinner main dishes	Lunch/dinner sides	Side beverages	Breakfast items	Snack items	Coffee beverages	All items
McDonald's	44	6	33	30	33	113	259
Subway	140	23	51	43	9	0	266
Burger King	72	11	29	32	21	1	166
Starbucks	0	0	66	12	43	132	253
Wendy's	33	14	70	7	25	0	149
Taco Bell	76	3	40	0	4	0	123
Pizza Hut	123	64	12	0	3	0	202
Dunkin' Donuts	9	0	23	58	72	90	252
KFC	84	29	98	0	28	0	239
Sonic	51	26	112	13	162	24	388
Domino's	162	5	10	0	2	0	179
Dairy Queen	39	5	34	19	208	0	305
Twelve restaurants	833	186	578	214	610	360	2,781

Source: Menu composition analysis (January 2010)

Table 4: Special menus by restaurant

Restaurant	Breakfast	Kids' meal	Dollar/value menu	Healthy menu	Late-night/snack items
McDonald's	Morning	Happy Meal* Mighty Kids Meal*	Dollar Menu Breakfast Dollar Menu		Snack Wraps
Subway	Morning	Kids Fresh Fit Meal*	$5 Footlongs	Fresh Fit menu	
Burger King	Morning	BK Kids Meal*	BK Value Menu Breakfast Value Menu		Late-night menu
Starbucks	All day			Delicious Drinks under 200 calories Favorite Foods under 350 calories	
Wendy's	Morning	Wendy's Kids' Meal*	Super Value Menu		
Taco Bell		Taco Bell Kids' Meal*	Why pay more! Value Menu	Drive-thru Diet menu Fresco menu	4th meal**
Pizza Hut			Big Eat Tiny Price-Menu	Fit 'n Delicious Pizzas	
Dunkin' Donuts	All day			DDSmart menu	
KFC		Kids Laptop Meal	Value menu	395 Calorie Combo	KFC Snacker
Sonic	All day	Wacky Pack Kids' Meal*	Everyday Value Menu	Balanced Choices	
Domino's				Lighter Options	
Dairy Queen	Morning	DQ Kids' Meal	Sweet Deals menu		

*Includes toy or other giveaway
**Most menu items are available in Taco Bell's late-night menu
Source: Menu composition analysis

in the morning. Nine restaurants offered some type of dollar/value menu nationally that included specific items available at a low price (typically around $1). McDonald's and Burger King also offered a special breakfast value menu. Seven restaurants promoted a healthy menu with lower-calorie options; and KFC promoted one lower-calorie meal option. A few restaurants also promoted menus for late-night (Burger King and Taco Bell) and all-day snacks (McDonald's and KFC).

Nutritional quality of all menu items

Nutritional quality analysis	Definitions
Nutrient Profile Index (NPI) score	Measure of overall nutritional quality that considers positive and negative nutrients in foods. Scores range from 0 (very poor) to 100 (excellent). This scoring system is based on one developed by researchers in the United Kingdom for the Office of Communications (OFCOM) guidelines prohibiting junk food advertising to children. The United Kingdom allows TV advertising to children only for food products with a score of 64 or higher and beverages with a score of 70 or higher. In this report, we use these scores to identify foods and beverages with a healthy nutrient composition.
Calorie limits	Based on the Institute of Medicine (IOM) Committee on School Meals guidelines, calories per item should not exceed 700 for lunch/dinner main dishes, 500 for breakfast main dishes, and 350 for sides, snack items, and beverages.[6] These guidelines are based on the calorie requirements for a moderately active 13- to 17-year-old.
Sodium limits	Based on the IOM Committee on School Meals guidelines, sodium milligrams per item should not exceed 720 for lunch/dinner main dishes, 480 for breakfast main dishes, and 340 for sides, snack items, and beverages.[7]

Table 5 presents NPI score, calories, and sodium for all menu items by food category and **Figure 4** summarizes the results of the analysis of menu items for healthy nutrient composition (measured by NPI score), maximum calories, and maximum sodium. **Ranking Tables 1** and **2** present median NPI scores, calories, and sodium content by food category and restaurant and ranks the restaurants according to the percentage of items that met all nutrition criteria.

Side and coffee beverages were the healthiest menu items with median NPI scores of 68 and the lowest calories and sodium. Fewer than 20% of these beverages exceeded the maximum calories, and just 2% exceeded maximum sodium levels. In addition, 46% of coffee beverages and 39% of side beverages achieved an NPI score of 70 or higher – the minimum for an overall healthy beverage. However, these categories also included diet and no-calorie drinks, which influenced median levels, as well as beverages with up to 880 calories and 849 mg of sodium. Overall, 45% of coffee beverages and 38% of side beverages met all three nutrition criteria.

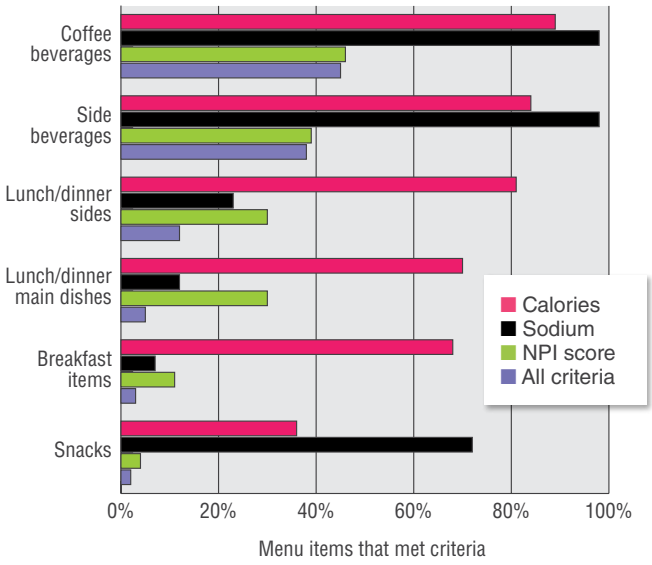
In all other food categories, few menu items met all three nutrition criteria. Lunch/dinner sides tended to have the healthiest nutrition profiles of the food items; and 81% did not exceed maximum calorie limits. Lunch/dinner main dishes and sides also provided some overall healthy options with NPI scores as high as 84. However, the median NPI score for both categories was just 48 and one-third met the minimum NPI score of 64; some main dishes had more than 1,600 calories and some sides as many as 790. The sodium levels in these products were also extremely high. More than half the lunch/dinner main dish and side combinations exceeded 2,130 mg of sodium, which is close to the recommended upper limit for sodium intake for adolescents for an entire day (2,250 mg). As a result, 12% of lunch/dinner sides and 5% of lunch/dinner main dishes met all three nutrition criteria.

Table 5. Nutrient content of menu items by food category

	NPI score		Calories		Sodium	
	Median	Range	Median	Range	Median	Range
Side beverages	68	58-78	160	0-880	50	0-840
Coffee beverages	68	40-74	190	0-780	110	0-440
Snack beverages	60	44-74	540	110-1,390	200	0-780
Lunch/dinner main dishes	48	30-80	587	80-1,640	1,420	230-5,520
Lunch/dinner sides	48	24-86	244	20-790	710	0-2,080
Snack foods	46	14-82	390	40-1,530	280	10-990
Breakfast	44	20-78	430	35-1,370	1,060	105-3,790

Source: Menu composition analysis (January 2010)

Figure 4. Percentage of menu items by food category that met minimum NPI score, maximum calorie and sodium limits, and all three nutrition criteria



Source: Menu composition analysis (January 2010)

Compared to other beverages, snack beverages scored a somewhat lower median NPI score of 60 and had far more calories with a median of 540 and a maximum of 1,390. These products contributed significantly more calories than should be consumed outside of a main meal. More than half of all snack foods also exceeded the maximum calories for snacks. Approximately 96% of snack items were sweet snacks and snack beverages and therefore had high levels of sugar. In addition, 64% exceeded the maximum 350 calories. Just 4% of snacks (including foods and beverages) had a healthy NPI score and 2% met the three criteria.

However, the worst nutrient content belonged to the breakfast items, which had a per item median NPI score of 44 and median sodium content of 1,060 mg. In total, 11% had a healthy NPI score of 64 or higher and 3% met the three nutrition criteria. High saturated fat and sodium content generally contributed to the poor nutritional quality of breakfast items.

Differences by restaurant

Table 6 presents NPI score, calories, and sodium for all menu items by restaurant. NPI scores for beverages varied little among restaurants. However, overall nutrient quality of food items differed greatly. Subway and Taco Bell items had the highest median NPI score per item and reasonable median calories. However, Subway items had high sodium levels. One menu item alone (12" The Feast sandwich with Parmesan Oregano Bread, American cheese and mayonnaise) contained 5,520 mg of sodium. Wendy's had the third highest median NPI score for foods (52), followed by KFC, Sonic, Domino's, McDonald's, Burger King, and Dairy Queen, all with median NPI scores of 46 to 49. The two coffee restaurants (Dunkin' Donuts and Starbucks) had the lowest NPI scores due to the higher proportion of breakfast and snack items on their menus. The pizza restaurants (Domino's and Pizza Hut) had the highest median sodium levels and were among the highest in median calories.

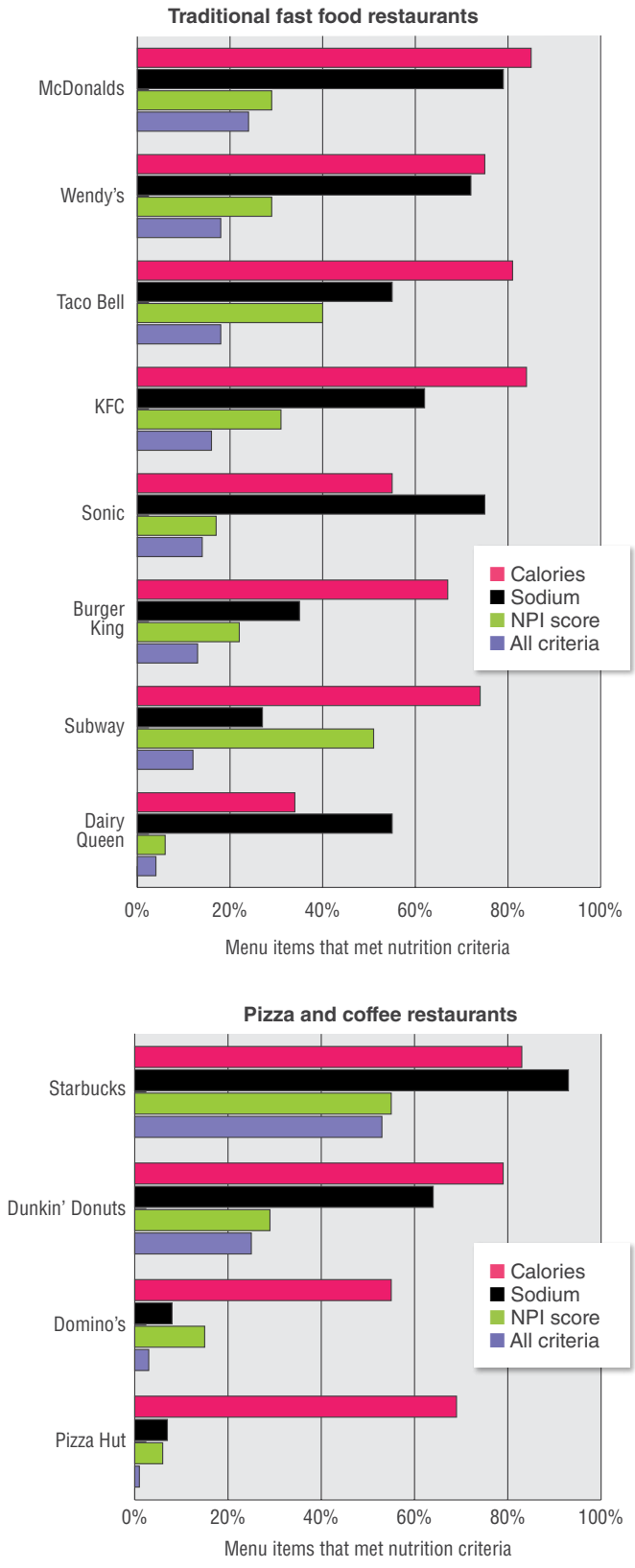
The traditional fast food restaurants had similar nutrition profiles (see **Figure 5**). Among these restaurants, McDonald's menu items had the best overall nutritional quality. Still, just 24% of its menu items met all three nutrition criteria. Dairy Queen had the worst: 4% met all criteria. Between 12% and 18% of menu items for the remaining traditional fast food restaurants met all criteria. Subway achieved the highest percentage of menu items with a healthy NPI score (51%). However, 73% of its menu items exceeded the maximum sodium criteria. Dairy Queen also

Table 6. Nutrient content of menu items by restaurant

	NPI score (foods)		NPI score (beverages)		Calories		Sodium	
Restaurant	**Median**	**Range**	**Median**	**Range**	**Median**	**Range**	**Median**	**Range**
Subway	64	18-78	68	66-76	415	0-1,420	1,170	0-5,520
Taco Bell	64	38-80	66	66-70	340	0-1,000	650	0-2,310
Wendy's	52	24-80	66	44-72	460	0-1,330	220	0-3,150
KFC	49	18-86	66	66-70	260	0-1,040	290	0-3,120
Sonic	48	24-82	66	56-76	340	0-1,110	110	0-2,310
Domino's	48	22-70	66	66-70	690	0-1,120	1,547	40-2,720
McDonald's	46	18-74	68	40-78	235	0-1,370	140	0-2,335
Burger King	46	24-74	68	54-76	400	0-1,310	765	0-2,350
Dairy Queen	46	20-82	62	56-72	570	0-1,640	310	0-3,690
Pizza Hut	42	28-78	66	66-70	560	0-1,590	1,448	40-4,090
Dunkin' Donuts	40	14-72	68	58-72	235	0-860	160	0-3,790
Starbucks	36	20-72	70	64-74	230	0-550	120	0-1,140

Source: Menu composition analysis (January 2010)

Figure 5. Percentage of menu items by restaurant that met minimum NPI score, maximum calorie and sodium limits, and all three nutrition criteria



Source: Menu composition analysis (January 2010)

stood out as the traditional fast food restaurant with the highest calories and worst overall nutrition scores: 34% of its items met the maximum calorie limits and 6% had a healthy NPI score.

The coffee and pizza restaurants differed considerably from the traditional fast food restaurants. Starbucks and Dunkin' Donuts offered the most menu items that met all three nutrition criteria (53% and 25%, respectively). Starbucks also had the most menu items that met the healthy NPI score cut-off (55%) and the maximum sodium limits (93%). Domino's and Pizza Hut had the fewest items that met all three criteria (3% and 1%, respectively). In addition, just 15% of Domino's menu items and 6% of Pizza Hut's had healthy NPI scores, and 7% to 8% of the items on their menus met maximum sodium limits.

Sizes of soft drinks and french fries

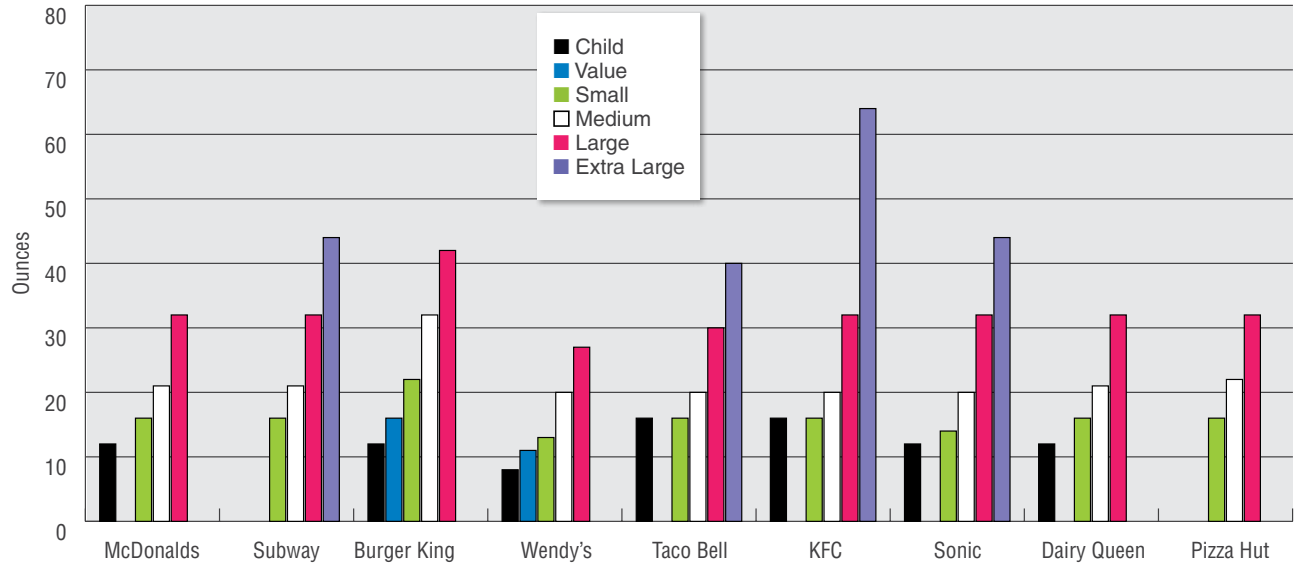
Soft drinks and french fries were the two most frequently ordered items at fast food restaurants in 2008 and 2009: 43% of youth (ages 6-17) and 29% of preschoolers (under 6 years) ordered soft drinks during their visit; and 30% of children under 12 years and 20% of teens (ages 13-17) ordered french fries.[8] However, we found wide variation in the sizes of soft drinks and french fries offered at the different restaurants.

Figure 6 illustrates the size variation of soft drinks available at each restaurant that sold fountain soft drinks (i.e., those dispensed from a machine, not in cans or bottles). Restaurants offered up to six different soft drink sizes, ranging from Wendy's child-sized beverage (8 oz.) to KFC's Mega Jug (64 oz.). All restaurants offered a small (average 16.3 oz.), medium (average 21.5 oz.), and large (average 31.5 oz.) size. In addition, four restaurants (Subway, Taco Bell, KFC, and Sonic) offered an extra large size (average 48 oz).

"Medium" soft drinks at fast food restaurants

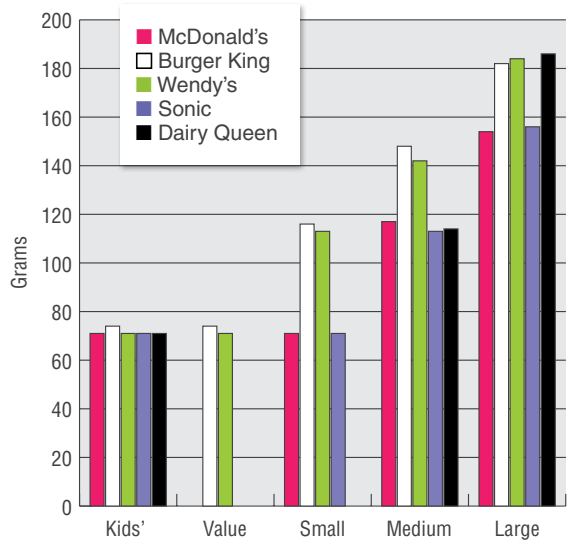
"Extra large" soft drinks

Figure 6. Soft drink sizes by restaurant



Source: Menu composition analysis (January 2010)

Figure 7: French fries sizes by restaurant



Source: Menu composition analysis (January 2010)

The child-sized beverage was typically the smallest size offered (average 12.6 oz.). Five restaurants offered a child size that was smaller than their small beverages. The child-sized Taco Bell and KFC beverages were the same size as their small beverage (16 oz. each). Two restaurants (Burger King and Wendy's) also offered a value-sized beverage (average 13.7 oz.) that was smaller than their small beverage. In total, 85% of the soft drink sizes offered were larger than a 12 oz. soft drink can. Only Wendy's offered a soft drink size smaller than 12 oz. that was not labeled a "child-sized" drink. However, Wendy's was also the only restaurant that provided nutrition information for its fountain beverages that included room for ice in the cup (i.e., the cup size was larger than the ounces of soft drink indicated for that size). Therefore, customers in Wendy's restaurants with self-service soda machines could fill their cup with more soda than was specified in Wendy's nutrition tables.

Restaurants also offered numerous sizes of french fries (see **Figure 7**). Again, the child-sized fries were always the smallest size available. However, four of the five restaurants with child-sized french fries also served the same size on their regular menu. The smallest regular menu size was labeled either a value (Burger King and Wendy's) or small (McDonald's and Sonic) size. Regardless of its label, the approximately 110 gram portion was the smallest size available with the restaurants' combo meals. The largest portions were offered by Burger King, Wendy's and Dairy Queen (more than 180 grams).

Changes in sizes since 2002. In 2007, Young and Nestle[9] examined sizes of french fries and soft drinks offered by McDonald's, Burger King and Wendy's. They found that in spite of requests from health authorities to reduce portion sizes, only McDonald's responded by eliminating its super-sized beverages and french fries during the time from 2002 to 2006. Burger King made no changes, but Wendy's renamed its sizes and even increased the size of its largest soft drink. Wendy's 142 grams medium-sized french fries became "small," its "Biggie" 32 oz. soft drink became a "medium," and its 190 grams "Great Biggie" french fries became a "large". It also added a 42 oz. "large" soft drink that was larger than its former "Biggie" size.

Table 7 compares the sizes of soft drinks and french fries that Young and Nestle found in 2002 and 2006 to the sizes we found in 2010. Since 2006, McDonald's made only one small

Burger King "small" and McDonald's "medium" french fries

"Medium" french fries vary by restaurant

change to its portion sizes and names: The medium soft drink increased by 1 oz. (to 22 oz.). Burger King, however, followed Wendy's previous strategy of renaming, but not changing, the size of different options. Burger King changed its "small" sized soft drinks and french fries to a "value" size without changing the actual portion offered. In addition, it's "medium" became a "small," "large" became a "medium," and "king" became a "large." Wendy's also changed some names as well as some portion sizes. The reported portion sizes of all Wendy's soft drinks have been reduced; however, the size of its cups has not changed and Wendy's now reports their portion sizes "with ice." Therefore, it is not clear whether the portion sizes have changed; adding ice to soft drinks is not a new practice. However, Wendy's has reduced the portion sizes on all its french fries by 3% (large size) to 22% (kids' size).

Table 7. Changes in sizes of soft drinks and french fries*

	2002[10]		2006[11]		2010	
Soft drinks	**Name**	**Fl. oz.**	**Name**	**Fl. oz.**	**Name**	**Fl. oz.**
McDonald's	Child	12	Child	12	Child	12
	Small	16	Small	16	Small	16
	Medium	21	Medium	21	Medium	**22**
	Large	32	Large	32	Large	32
	Supersize	42				
Burger King	Kiddie	12	Kiddie	12	Kiddie	12
	Small	16	Small	16	**Value**	16
	Medium	21	Medium	21	**Small**	21
	Large	32	Large	32	**Medium**	32
	King	42	King	42	**Large**	42
Wendy's	Kid	12	Kid	12	Kid	**8**
	Small	16			**Value**	**11**
	Medium	20	**Small**	20	Small	**13**
	Biggie	32	**Medium**	32	Medium	**20**
			Large	**42**	Large	**27**
	2002[10]		**2006[11]**		**2010**	
French fries	**Name**	**Grams**	**Name**	**Grams**	**Name**	**Grams**
McDonald's	Small	68	Small	68	Small	**71**
	Medium	150	Medium	**113**	Medium	**117**
	Large	179	Large	**170**	Large	**154**
	Supersize	201				
Burger King	Small	74	Small	74	**Value**	74
	Medium	116	Medium	116	**Small**	116
	Large	162	Large	147	**Medium**	147
	King	196	King	181	**Large**	181
Wendy's	Kids'	91	Kids'	91	Kids'	**71**
	Medium	142	**Small**	142	Small	**113**
	Biggie	159	**Medium**	159	Medium	**142**
	Great Biggie	190	**Large**	190	Large	**184**

*Bold indicates a change from the previous year
Source: Young & Nestle (2007) and menu composition analysis (January 2010)

Dollar/value menus

Dollar/value menus	Definition
Dollar/value menus	Individual menu items promoted together as a group within the full menu offered at a special price (e.g., Dollar, 99-cent, or $5 Footlong menus)

Nine restaurants offered some form of dollar or value menu (see **Table 8**). Most restaurants' dollar/value menus featured a limited number of smaller items for a low price (typically $1). However, Subway and Pizza Hut had the opposite value menu strategy; they offered larger items for a discounted price. Three-quarters of all items on dollar/value menus were items typically consumed at lunch or dinner and one-quarter were snack items (see **Figure 8**). Breakfast items comprised 5% of dollar/value menu items.

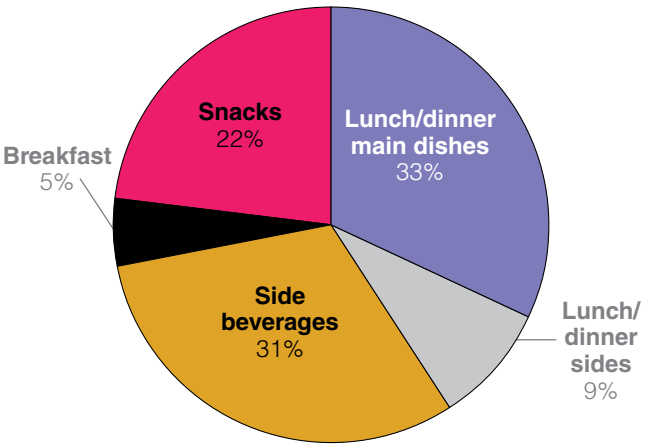
Dollar/value menu items comprised approximately 10% of the menu items offered by the nine restaurants with a dollar/value menu, averaging 23 items per restaurant. Taco Bell had the fewest dollar/value menu items (11) and Sonic and Dairy Queen had the most (49 and 31, respectively) (see **Table 8**). Lunch/dinner main dishes were available on all nine restaurants' dollar/value menus, and lunch/dinner sides on seven. Snack items were also available on six dollar/value menus. The only food category which was not available on any dollar/value menu was coffee beverages.

Table 9 lists the median NPI score, calories, and sodium for each restaurant's dollar/value menu. With the exception of Pizza Hut, all restaurants did offer at least one option with a healthy NPI score on their dollar/value menus, including side salads (Dairy Queen, KFC and Burger King); low-fat chicken sandwiches (KFC, McDonald's, and Subway); and fruit (fresh banana at Sonic and Fruit 'n Yogurt Parfait at McDonald's).

When compared to items on their regular menus, the dollar/value menu items at McDonald's, Burger King, Wendy's, Taco Bell, Sonic and Dairy Queen had lower average serving sizes and calories; although only Sonic and Dairy Queen dollar/value menu items had a higher average NPI score for overall nutritional quality.[12] Subway and Pizza Hut dollar/value menu items, however, had substantially higher calories and sodium (more than 80% higher) as compared to their overall menu.

Overall, 20% of dollar/value menu items met all three nutrition criteria, as compared to 17% of all restaurant menu items; 28% of items qualified as healthy according to NPI score, and just 15% exceeded maximum calorie levels. More than 24% of dollar/value menu items at Burger King, Sonic, McDonald's, and Wendy's met all three criteria, and 90% or more did not exceed maximum calorie levels (see **Figure 9**). Although nearly all of Taco Bell, Dairy Queen, and KFC dollar/value menu items did not exceed the maximum calorie limits, these restaurants' items were less likely to meet the maximum sodium and overall nutritional quality criteria. Therefore, approximately 10% of their dollar/value menu items met all three criteria. None of Subway's or Pizza Hut's dollar/value menu items met all three criteria. All their items exceeded the maximum sodium levels and 81% of Subway's items exceeded the maximum calories.

Figure 8. Proportion of dollar/value menu items offered by food category



Source: Menu composition analysis, January 2010

Table 8. Number of menu items available on dollar/value menus

Restaurant	Item price	Lunch/dinner main dishes	Lunch/dinner sides	Side beverages	Breakfast items	Snack items	All items
McDonald's	$1	2	3	8	4	4	21
Subway	$5 (footlong)	16	0	0	0	0	16
Burger King	$1	2	4	6	5	1	18
Wendy's	99¢	8	1	11	0	0	20
Taco Bell	89¢ - 99¢	9	0	0	0	2	11
Pizza Hut	$10 (3-toppings pizza)	17	2	0	0	0	19
KFC	99¢ - $1.99	5	3	0	0	12	20
Sonic	$1.00+	3	2	29	1	14	49
Dairy Queen	2 for $3, 3 for $4, 4 for $5	4	4	10	0	13	31
Twelve restaurants		66	19	64	10	46	205

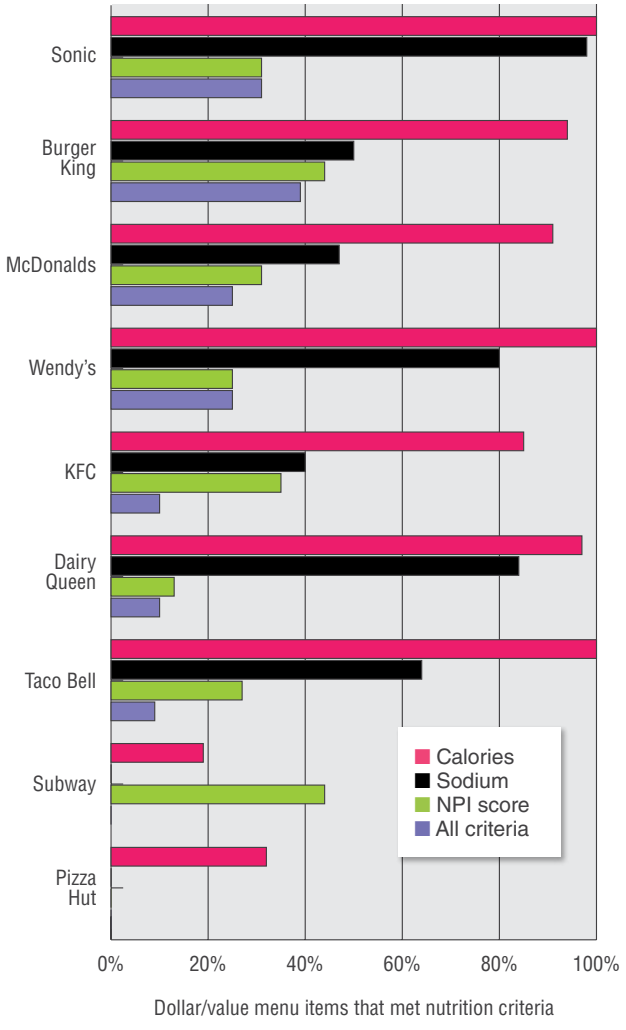
Source: Menu composition analysis (January 2010)

Table 9. Nutrient content of menu items available on dollar/value menus

	NPI score (foods)		NPI score (beverages)		Calories		Sodium	
Restaurant	**Median**	**Range**	**Median**	**Range**	**Median**	**Range**	**Median**	**Range**
Subway	59	38-60			960	460-1,400	2,515	830-4,240
Dairy Queen	56	40-80	67	66-70	240	0-400	105	10-920
Sonic	54	40-64	66	64-76	150	0-420	30	0-790
Taco Bell	52	38-72			260	170-550	640	200-1,640
KFC	50	18-78			280	20-520	520	120-1,060
Burger King	44	24-70	70	70-76	255	5-490	393	5-1,090
Wendy's	44	38-64	66	66-70	120	0-390	28	0-880
Pizza Hut	44	32-62			1,050	245-1,590	2,300	695-4,090
McDonald's	40	24-70	70	66-70	275	0-430	375	0-1,080

Source: Menu composition analysis (January 2010)

Figure 9. Percentage of dollar/value menu items that met minimum NPI score, maximum calorie and sodium limits, and all three nutrition criteria



Source: Menu composition analysis (January 2010)

Healthy menus

Healthy menus	Definition
Healthy menu	Groups of items from the main menu designated by the restaurant as healthier in some way, including low(er) in calories, low(er) fat, and diet.

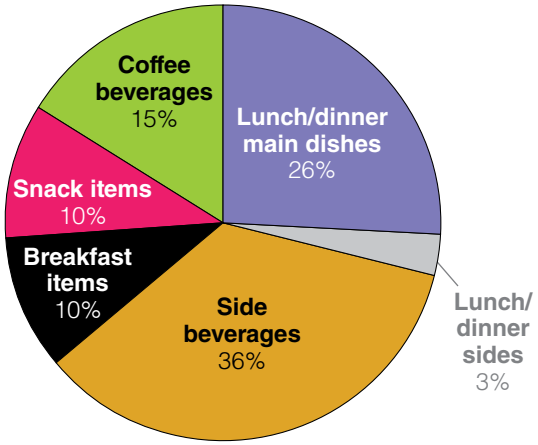
Approximately 7% of menu items were designated as healthy options by the eight restaurants that offered a healthy menu. Two-thirds of all items on the healthy menu were items typically consumed at lunch or dinner and 25% were breakfast items or coffee beverages (see **Figure 10**). Snacks comprised 10% of healthy menu items.

Restaurants' healthy menus averaged 43 items (see **Table 10**). Four restaurants had ten or fewer items on their healthy menus (Pizza Hut, Taco Bell, KFC, and Domino's), while the other four restaurants each offered 29 to 52 items. Six of the restaurants offered lunch/dinner main dishes on their healthy menus, four offered side beverages, and the remaining food categories were offered by two to four of the restaurants.

Table 11 presents NPI scores, calories, and sodium by restaurant for all items on the healthy menu. Menu items on restaurants' healthy menus were generally of acceptable nutritional quality, especially when compared to the items on their regular menus. With the exception of the pizza restaurants, the median calories for items on healthy menus did not exceed 300; and all restaurants' healthy menu items had fewer average calories than their regular menu items. In addition, median NPI score for restaurants' healthy menu items exceeded the median score for their other regular menu items. With the exception of Subway and KFC, these differences were all statistically significant. However, median milligrams of sodium for items on restaurants' healthy menus were comparable or even somewhat higher than sodium levels for all their menu items.

Overall, 96% of items on healthy menus did not exceed the maximum calorie criteria and 68% met maximum sodium levels

Figure 10. Proportion of healthy menu items offered by menu category



Source: Menu composition analysis (January 2010)

and minimum NPI scores. With the exception of Pizza Hut and Domino's, at least one-third of the restaurants' healthy menu items met all three nutrition criteria (see **Figure 11**). The figure was higher for Dunkin' Donuts (65%) and Sonic (73%). All of Domino's and Pizza Hut's items exceeded the maximum sodium limits and therefore did not meet all three nutrition criteria.

Regular menu overview

As is apparent from the large number of menu items offered at fast food restaurants, the blurring of traditional food categories across different types of restaurants, and the continual introduction of new products, fast food restaurant menus are an important marketing tool in this very competitive market. Traditional fast food restaurants now offer extensive coffee, breakfast, and snack menus. The majority of restaurants also offer dollar/value menus with individual items priced around one dollar or discounts on larger items.

However, just 17% of menu items met all three nutrition criteria. Calorie and sodium limits were achieved more often (69% and 54%, respectively), but only 27% met healthy NPI scores. Nutritional quality varied widely by food category and restaurant. Breakfast items and snacks had the worst nutritional quality, whereas coffee and side beverages had the best. At most restaurants, sodium levels for some lunch/dinner main dishes and sides were extremely high, ranging from 230 mg. to 5,520 mg. In addition, many snack foods and beverages had extremely high calories. Snack items had as many as 1,500 calories, the calories that most teens should consume in *two* meals. Pizza restaurants and Dairy Queen had the worst overall quality of the restaurants analyzed; and Starbucks, Dunkin' Donuts, and McDonald's had the

Table 10. Number of menu items available on healthy menus

Restaurant	Lunch/dinner main dishes	Lunch/dinner sides	Side beverages	Breakfast items	Snack items	Coffee beverages	All items
Subway	16	3	10	0	0	0	29
Starbucks	0	0	6	7	13	10	36
Taco Bell	7	0	0	0	0	0	7
Pizza Hut	6	0	0	0	0	0	6
Dunkin' Donuts	0	0	12	13	1	20	46
KFC	8	0	0	0	0	0	8
Sonic	4	2	40	0	6	0	52
Domino's	10	0	0	0	0	0	10
Twelve restaurants	51	5	68	20	20	30	194

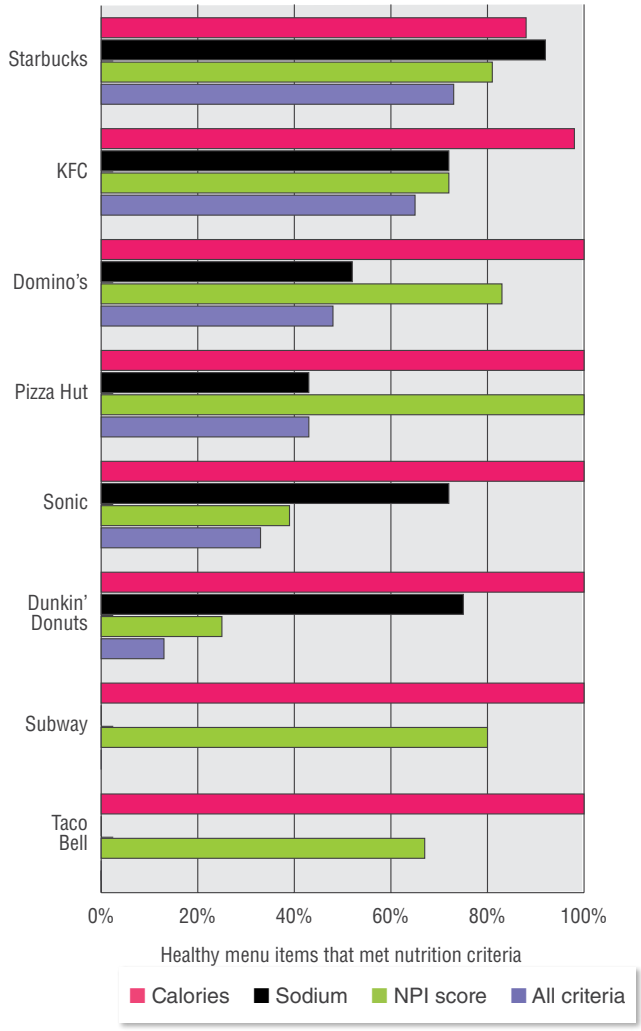
Source: Menu composition analysis (January 2010)

Table 11. Nutrient content of menu items available on healthy menus

	NPI score (foods)		NPI score (beverages)		Calories		Sodium	
Restaurant	Median	Range	Median	Range	Median	Range	Median	Range
Subway	70	50-76	70	70-72	300	0-540	910	0-1,690
Taco Bell	68	64-74			180	150-340	740	350-1,410
Sonic	68	64-82	70	60-76	10	0-670	25	0-1,513
Pizza Hut	64	60-68			427	400-480	1,480	1,067-1,893
Domino's	64	50-66			541	480-640	1,252	867-1,520
KFC	60	46-68			175	80-480	505	230-1,200
Dunkin' Donuts	54	36-72	70	66-72	80	0-500	75	0-1,180
Starbucks	42	28-72	70	66-72	210	0-350	125	0-1,140

Source: Menu composition analysis (January 2010)

Figure 11. Percentage of healthy menu items that met minimum NPI score, maximum calorie and sodium limits, and all three nutrition criteria.



Source: Menu composition analysis (January 2010)

best. However, these restaurants all had a high proportion of coffee beverages on their menus, which skewed their results positively. Unfortunately, coffee beverages are not menu items that should be encouraged for child and teen consumption.

The sizing of soft drinks and french fries (the most commonly ordered items) is confusing and differs greatly among restaurants. Burger King and Wendy's practice of providing larger portions than offered by their competitors for the same size name (e.g., medium and large) likely encourages greater consumption of french fries and/or soft drinks at these restaurants. In addition, four restaurants offered soft drinks sized 40 oz. or more (Subway, Burger King, Taco Bell, KFC and Sonic); the equivalent of five or more servings of soft drink.

With the exception of Subway and Pizza Hut, dollar/value menu items tended to be lower in calories and some restaurants' dollar/value menus were higher in overall nutritional quality. Therefore, ordering from the dollar/value menu would be a good strategy for adolescents and adults at some restaurants, including Burger King, Sonic, McDonald's, and Wendy's. Healthy menus also tended to feature menu items with the best overall nutritional quality, and most healthy menu items were lower in calories. However, healthy menu options at Subway and the pizza restaurants were high in sodium and most of the coffee restaurants' healthy options did not have high NPI scores.

KIDS' MEALS NUTRITIONAL QUALITY

Kids' meals	Definitions
Kids' meal	A menu of items specifically designed for children. Kids' meals typically contain a main dish, side, and beverage. Many also come with a toy or other giveaway.
Kids' meal combinations	Possible combinations of main dishes, sides and beverages that can be ordered in one kids' meal.
Calorie limits	Maximum acceptable calories for kids' meals are based on the Institute of Medicine (IOM) Committee on School Meals guidelines.[13] Kids' meals served to elementary school-age children should not exceed 650 calories and those served to preschool-age children should not exceed 410.
Sodium limits	Based on the IOM Committee on School Meals guidelines,[14] kids' meals served to elementary school-age children should not exceed 636 mg of sodium and those served to preschool-age children should not exceed 544 mg.

Eight of the restaurants in our analysis offered kids' meals: McDonald's, Subway, Burger King, Wendy's, Taco Bell, KFC, Sonic, and Dairy Queen. Appendix A (**Table A.2**) lists all kids' meal items with nutrient information. We included each version of a menu item as a separate item: for example, chicken nuggets with the most and least healthy sauce options; three separate flavors of KFC chicken; and two versions of each Subway sandwich, one with wheat bread and vegetables only and one with white bread and cheese.

Most kids' meals included a main dish, side, and beverage. The KFC kids' meal also came with a string cheese "snack," and Dairy Queen's kids' meal included an ice cream cone or other novelty ice cream. **Table 12** lists the number of kids' meal options available. This number varied greatly; for

example, KFC offered only popcorn chicken and a drumstick (in three flavors) as a main dish, whereas Burger King and McDonald's each offered seven different main dish options. Taco Bell offered one side option (cinnamon twists), but KFC had ten options. Similarly, Subway offered just two drink options (100% juice and low-fat milk) but Sonic offered 37, including juice, milk, soft drinks, and slushes (frozen ice beverages with syrup). We did not include any diet drinks that contained artificial sweeteners in the kids' meal choices although they were generally available. A total of 3,039 kids' meal combinations were available at these eight restaurants, ranging from 32 combinations at Subway to 875 at Sonic and 880 at Dairy Queen.

The nutritional quality of menu items offered with kids' meals from the different restaurants varied widely (see **Table 13**). As measured by NPI score, Subway's options had the highest overall quality: All its kids' sandwiches, sides, and beverages scored higher than the minimum NPI score to be classified as healthy. In contrast, only one of Dairy Queen's items qualified as healthy (applesauce). Total calories for the entire kids' meals ranged from 155 (KFC's Kids' Laptop Meal with a grilled chicken drumstick, green beans, string cheese and iced tea) to 973 for a DQ Kids' Meal with a cheeseburger, french fries, sugar-sweetened soft drink, and Dilly ice cream bar. The sodium in all kids' meals was generally high. The median sodium content for McDonald's Mighty Kids' meals, KFC, and DQ kids' meals were all greater than 1,000 mg.

Figure 12 presents the proportion of kids' meal combinations that met the maximum criteria for calories and sodium, and minimum NPI score for overall nutritional quality. Just 15 of the 3,039 possible kids' meal combinations (0.5%) met all three nutrition criteria for elementary school-age children and 12 (0.4%) met the criteria for preschool-age children. Subway had the best overall quality meals: 28% of its kids' meal combinations met all three criteria for elementary school-age children and 19% met them for preschool-age children. Burger King was the only other restaurant that had a kids' meal option that met all three criteria: macaroni and cheese, apple fries, and plain fat-free milk or apple juice. One-third or fewer of restaurants' kids' meal combinations stayed below the maximum sodium criteria of 636 mg for elementary school-age children. None of McDonald's Mighty Kids' meals, or DQ Kids' meals met the sodium limits. The majority of kids' meal combinations did not exceed the 650-calorie maximum for elementary school-age children; however, only Subway had more than 25% of kids' meal combinations that fell below the 410 calorie limit for preschool-age children. Because of the ice cream snack, only one DQ Kids' meal combination was below 650 calories (at 647).

Table 12. Number of menu items and combinations available for kids' meals

Restaurant	Main dishes	Sides	Beverages	Other	Total combinations
McDonald's Happy Meal	4	3	9	0	108
McDonald's Mighty Kids Meal	3	3	9	0	81
Subway Kids' Fresh Fit Meal	8	2	2	0	32
BK Kids' Meal	9	5	12	0	138
Wendy's Kids' Meal	5	2	12	0	120
Taco Bell Kids' Meal	5	1	9	0	45
KFC Kids' Laptop Meal	4	10	19	1	760
Sonic Wacky Pack Kids' Meal	5	5	37	0	875
DQ Kids' Meal	5	2	8	11	880

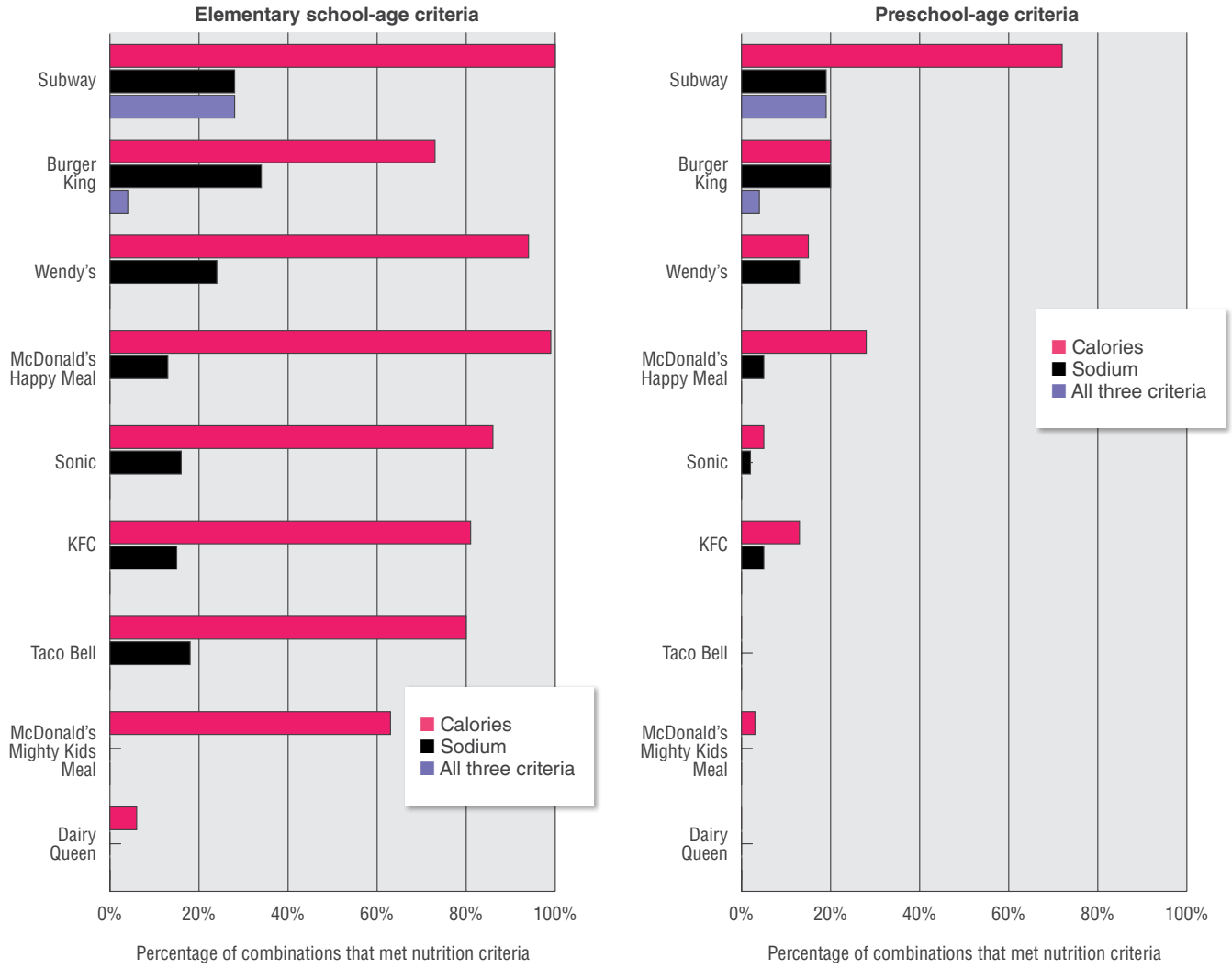
Source: Menu composition analysis (January 2010)

Table 13. Summary nutritional quality information for kids' meal combinations

	% with healthy NPI scores			Calories		Sodium	
Restaurant	Main dishes	Sides	Beverages	Median	Range	Median	Range
McDonald's Happy Meal	0%	100%	44%	465	275-700	755	520-1,060
McDonald's Mighty Kids Meal	0%	100%	56%	595	365-840	1,030	855-1,460
Subway Kids' Fresh Fit Meal	100%	100%	100%	383	285-470	763	295-1,120
BK Kids' Meal	11%	60%	50%	548	285-950	755	340-1,480
Wendy's Kids' Meal	0%	100%	8%	520	360-730	723	515-1,050
Taco Bell Kids' Meal	40%	0%	0%	580	500-780	880	570-1,680
KFC Kids' Laptop Meal	0%	50%	5%	550	155-820	1,120	425-2,210
Sonic Wacky Pack Kids' Meal	0%	60%	17%	560	250-760	825	530-1,490
DQ Kids' Meal	0%	50%	0%	784	593-973	1,175	778-1,615

Source: Menu composition analysis (January 2010)

Figure 12. Proportion of kids' meal combinations that met maximum calories and sodium and all nutrition criteria for elementary and preschool-age children



Source: Menu composition analysis (January 2010)

Best and worst kids' meal choices

Although few available kids' meal combinations offered a high-quality nutritious meal for children, better and worse options were available at most restaurants. **Ranking Table 3** lists the best and worst kids' meal combinations available for each age group at the restaurants in our analysis. The best combinations listed all met the calorie limits for preschool and/or elementary school-age children. Most restaurants, with the exception of Taco Bell and Dairy Queen, had at least one option that met the preschool calorie criteria. Few combinations met the recommended sodium limits, but those that did are indicated in the table. In addition, we included on the best option list some meals that were better than most available even though they did not meet the NPI criteria for overall nutritional quality.

Main dishes. Subway sandwiches and Burger King's macaroni and cheese offered the best overall nutritional quality of main dish options. However, when combined with a healthy side and beverage, kids' meals with these main dishes provided 300 to 350 calories which might be too few calories for older, more active children. Most other restaurants offered main dish items with approximately 250 to 300 calories that would be appropriate for preschool or elementary school-age children. However, due to their high sodium and/or saturated fat content, these meals did not meet the criteria for overall nutritional quality. The larger-sized items offered at McDonald's and Burger King (double cheeseburgers and six-piece chicken nuggets) contained 350 to 460 calories alone, which neared the maximum recommended limits. When combined with a larger soft drink (as Burger King provides) and french fries, they exceeded recommended limits for older children by almost 200 calories. For chicken nuggets, ranch dipping sauces were the

worst choice as they contained the most fat and lowest NPI scores of the sauces. Barbecue, honey mustard, and sweet and sour sauces contained less fat and fewer calories, but they were also predominantly composed of sugar.

Sides. With the exception of Taco Bell, all restaurants offered at least one healthy side with their kids' meals, generally a fruit. KFC also offered non-fried vegetables. McDonald's, Burger King, and Sonic provided caramel dipping sauce with their side of apples; but this sauce provided unnecessary added sugar and calories. Subway was the only restaurant that did not offer a form of fried potatoes with their kids' meals. However, as noted before, the nutritional quality of french fries offered by the different restaurants varied significantly. McDonald's and Wendy's fries received a good NPI score for overall nutritional quality and contained less saturated fat and sodium than other restaurants' fries. However, they also contained more than 200 calories which, when combined with a main dish and beverage, caused the meal to exceed recommended calorie limits.

Beverages. All restaurants, except KFC, Taco Bell, and Dairy Queen, offered plain low-fat or fat-free milk or 100% juice with their kids' meals. Subway alone offered only these healthy options. The other restaurants also provided a soft drink option (both sugar-sweetened and diet). Soft drinks provided with kids' meals ranged from 8 oz. (Wendy's) to 16 oz. (Taco Bell, KFC, and Burger King with its double cheeseburger and six-piece nuggets).[15] With the exception of Subway, restaurants that offered plain milk also provided chocolate milk as an option. In addition, Wendy's offered Frosty's (a frozen ice cream beverage) and Sonic offered Slushes (frozen ice beverages with syrup) as a kids' meal beverage. None of the restaurants offered bottled water with their kids' meals.

Kids' meals overview

At McDonald's, Subway, Burger King, Wendy's, and Sonic it was possible to select a kids' meal that contained a healthy side and beverage and met recommended calorie limits for preschool and elementary school-age children. However, with the exception of Subway and one option at Burger King, main dishes offered with kids' meals did not qualify as nutritious options that should be served to children regularly. In addition, again with the exception of Subway, kids' meals at these restaurants all included nutritionally poor side and drink options and several high-calorie main dish items. Taco Bell, KFC, and Dairy Queen did not provide healthy drink options with their kids' meals, and Taco Bell did not provide a healthy side of fruit or vegetables.

Fast food marketing practices

To understand the scope and potential impact of fast food marketing practices, we examined young people's exposure to traditional media, internet marketing, social media and mobile marketing, and marketing within restaurants, including the products, messages, and techniques presented in each.

TRADITIONAL MEDIA

Advertising spending

Traditional Media	Definition
Advertising spending	Amount spent on measured media, including television, magazines, radio, newspapers, freestanding insert coupons, and outdoor advertising. Data were licensed from The Nielsen Company.

Table 14 presents advertising spending by fast food restaurants. In 2009, 189 different fast food restaurants spent $4.2 billion in advertising across all measured media, a 2% increase from 2008. This spending was highly concentrated: The top 20 restaurants accounted for $3.8 billion, or 91% of total spending; and the twelve restaurants in our analysis spent $3.2 billion, or 76% of all fast food advertising spending.

Ranking Table 4 presents advertising spending for the top 20 fast food restaurants. McDonald's far outspent all other restaurants at almost $900 million, or 21% of the total (see **Figure 13**). Subway followed with $424 million in total spending; and five additional restaurants (Wendy's, Burger King, KFC, Taco Bell, and Pizza Hut) spent more than $200 million each. The three YUM! Brands restaurants in the top 20 (KFC, Taco Bell, and Pizza Hut) spent a combined $734 million, just 18% less than McDonald's budget and 72% more than Subway's. In spite of its position as fourth in fast food sales, Starbucks spent only $28 million in measured media.

Compared to 2008, eight of the twelve restaurants increased their media spending in 2009. Domino's had the largest percentage increase (+36%), but McDonald's had the greatest absolute increase. From 2008 to 2009, McDonald's increased its media spending by $100 million, or 13%. Sonic and Dunkin' Donuts also increased their spending by 12% and 10%, respectively. Pizza Hut had the greatest decline (-16%).

TV advertising accounted for 86% of total media spending by fast food restaurants: $3.6 billion in 2009, including $217 million in Spanish-language advertising (see **Table 14**). The twelve restaurants in our analysis purchased 75% of all fast food TV advertising. McDonald's bought the most TV media ($698 million, or 19% of all TV spending), followed by Subway ($374 million, or 10%). Radio and outdoor advertising were the next most frequently purchased media, but far behind television. In 2008, fast food restaurants spent $214 million on radio advertising, representing 5% of all advertising spending. McDonald's purchased 30% of all radio media, followed by Subway, Wendy's, and Burger King. Together, these four restaurants accounted for 60% of radio advertising. Fast food restaurants also spent $156 million on outdoor advertising (e.g., billboards, transit signs), or 4% of fast food advertising spending. Spending on outdoor advertising was even more concentrated among the top 4 restaurants, which spent 64% of the total. McDonald's alone purchased 47% of all outdoor media.

Advertising spending overview

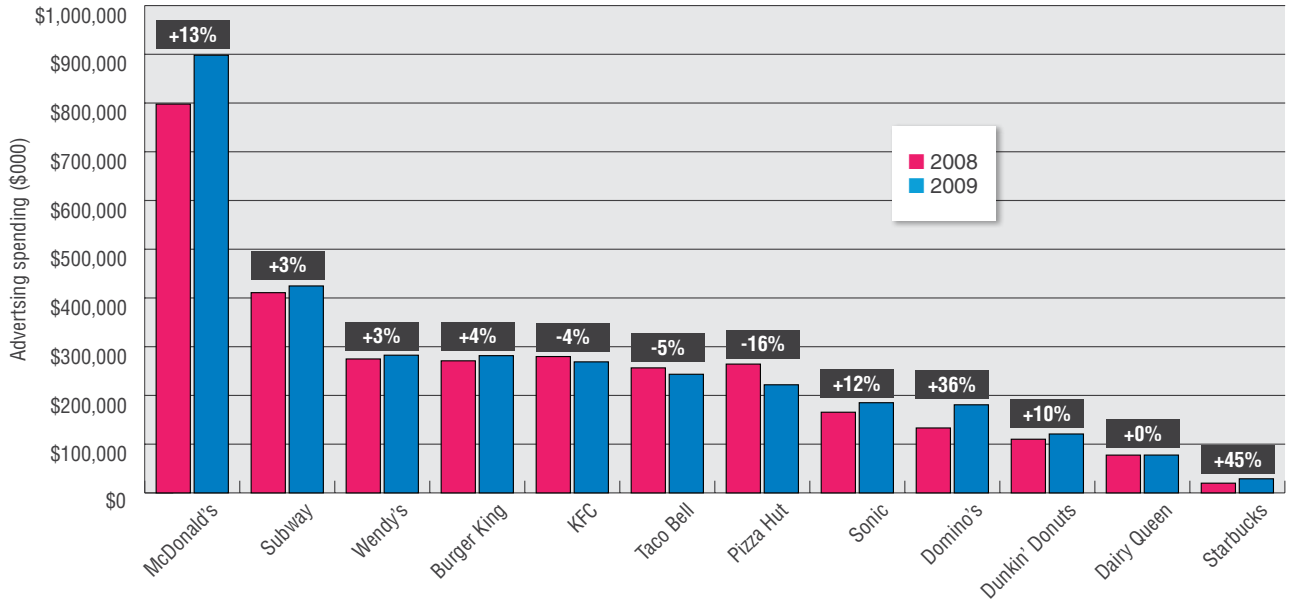
McDonald's dominates fast food advertising spending across all media with a budget of almost $1 billion. In fact, McDonald's spent more on radio and outdoor advertising alone ($138 million in total) than eleven of the top 20 fast food restaurants spent on all advertising combined. Subway had the second highest media expenditures in 2009 with an impressive budget totaling less than half of McDonald's ($425 million). Burger King and Wendy's both spent almost $300 million in 2009; and the remaining restaurants spent less than $200 million. Starbucks' media spending was notable; just $29 million to support sales of $8.3 billion. Compared to other restaurants, McDonald's also spent the lowest proportion of its total budget on TV advertising (78%) compared to 89% of all top 20 restaurants' budgets. Fast food restaurant advertising spending increased by 2% in 2009 compared to 2008; however, the twelve restaurants in our analysis increased spending by 5% overall, and McDonald's spending alone increased by $100 million.

Table 14. Total advertising spending by fast food restaurants

	Total spending ($000)			2009 spending by medium ($000)			
	2008	2009	% change	All TV advertising	Radio	Outdoor	Spanish-language TV
Twelve restaurants	$3,061,465	$3,214,299	5%	$2,738,684	$168,084	$115,581	$200,355
Top 20 restaurants	$3,716,890	$3,820,715	3%	$3,297,050	$184,263	$132,474	$217,331
All fast food restaurants	$4,145,005	$4,217,710	2%	$3,636,501	$213,692	$155,922	$217,331

Source: The Nielsen Company

Figure 13. Advertising spending in 2008 and 2009 by restaurant



Source: The Nielsen Company

TV advertising exposure

TV advertising exposure	Definitions
Gross ratings points (GRPs)	Measure of the per capita number of TV advertisements viewed by a specific demographic group over a period of time across all types of programming. GRPs for specific demographic groups are also known as target rating points (TRPs). Data were licensed from Nielsen.
Average advertising exposure	GRPs divided by 100. Provides a measure of the number of ads viewed by the average individual in the demographic groups of interest during the time period measured.
Targeted ratio: Preschoolers to adults	GRPs for 2- to 5-year-olds divided by GRPs for 25- to 49-year-olds. Provides a measure of relative exposure for preschool-age children versus adults.
Targeted ratio: Children to adults	GRPs for 6- to 11-year-olds divided by GRPs for 25- to 49-year-olds. Provides a measure of relative exposure of elementary school-age children to adults.
Targeted ratio: Teens to adults	GRPs for 12- to 17-year-olds divided by GRPs for 25- to 49-year-olds. Provides a measure of relative exposure of adolescents to adults.

Table 15 presents average exposure to fast food TV advertising for preschoolers, children, and teens in 2008 and 2009, and **Table 16** presents exposure for young adults (18-24 years) and adults. The average U.S. preschooler viewed 2.8 TV ads for fast food restaurants *every day* in 2009; the average child viewed 3.5 fast food ads every day; and the average teen viewed 4.7 every day. The average young adult viewed 5.0 fast food ads every day, only 6% more than the average teen. Adults viewed the most fast food ads: 5.7 ads in total every day. By comparison, preschoolers viewed approximately one-

Table 15. Fast food restaurant TV advertising exposure for youth: Ads viewed in 2008 and 2009

	Preschoolers 2-5 years			Children 6-11 years			Teens 12-17 years		
	2008	2009	% change	2008	2009	% change	2008	2009	% change
Twelve restaurants	806	865	7%	997	1,079	8%	1,356	1,404	4%
Top 20 restaurants	899	948	6%	1,117	1,187	6%	1,551	1,599	13%
All fast food restaurants	979	1,021	4%	1,208	1,272	5%	1,696	1,723	2%

Source: The Nielsen Company

Table 16. Fast food restaurant TV advertising exposure for adults: Ads viewed

	Young adults 18-24 years			Adults 25-49 years		
	2008	2009	% change	2008	2009	% change
Twelve restaurants	1,392	1,463	5%	1,435	1,592	11%
Top 20 restaurants	1,640	1,687	3%	1,731	1,865	8%
All fast food restaurants	1,820	1,841	1%	1,979	2,095	6%

Source: The Nielsen Company

half that many, children viewed 61%, and teens viewed 82%. These numbers are comparable to the differences in overall TV viewing among these age groups. On average, adults watch 4:35 hours of TV every day; children (2-11 years) watch 25% less (3:27 hours); and teens watch 24% less (3:20 hours).[16]

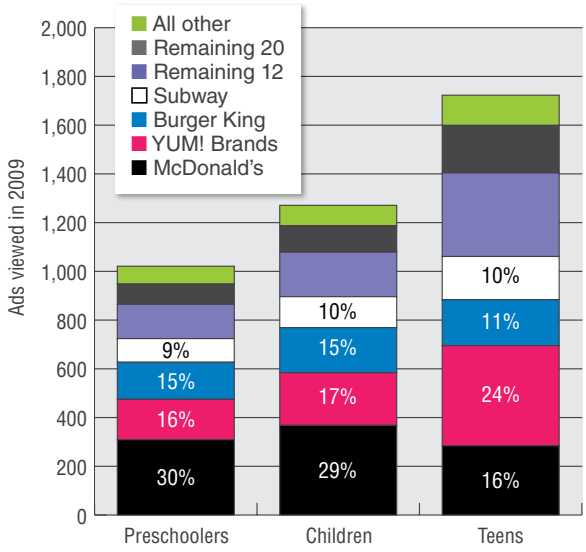
TV ad exposure comparison by restaurant

For all age groups, exposure was concentrated among the top 20 fast food restaurants. These restaurants accounted for approximately 90% of all youth, young adult and adult advertising exposure. In 2009, the twelve restaurants in our analysis produced 85% of all preschool and child exposure to fast food advertising, and 81% of teen exposure. Appendix B **(Table B.1)** presents all exposure data by demographic group for the restaurants in our analysis.

Ranking Tables 5 and **6** present 2009 exposure to TV advertising for the top 20 restaurants for preschoolers, children, and teens. McDonald's was the most frequent advertiser to all age groups: The average child viewed one McDonald's ad on television every day in 2009, preschoolers viewed .85 McDonald's ads every day, and teens viewed .78 ads. Burger King was the second most frequently advertised restaurant, with the average child and teen viewing one Burger King ad every two days and preschoolers viewing one every 2.4 days. Subway followed; the average preschooler viewed 1.9 Subway ads per week, the average child viewed 2.4 per week, and the average teen viewed 3.4 per week (one every two days). The three YUM! Brands restaurants in our analysis, KFC, Pizza Hut, and Taco Bell, placed fourth, fifth, and sixth, respectively, in advertising exposure for all age groups. However, when combined, these three restaurants were responsible for more ads viewed by all three age groups than Burger King. Teens viewed even more YUM! Brands ads (1.1 per day) than McDonald's ads (see **Figure 14**).

Ranking Tables 5 and **6** also present targeted ratios for youth exposure to restaurant advertising compared to adult exposure. Children were exposed to more McDonald's and Burger King ads than adults were (25% and 9% more, respectively). Preschoolers viewed 5% more McDonald's ads and just 11% fewer Burger King ads compared to adults. McDonald's, Burger King, and Taco Bell also appear to be targeting teens. Teens viewed 11% more Burger King ads and 4% more Taco Bell ads as compared to adults; in contrast, teens viewed 4% fewer McDonald's ads.

Figure 14. Youth TV advertising exposure by restaurant in 2009



Source: The Nielsen Company

Changes in fast food advertising exposure

Across all age groups, exposure to fast food advertising increased in 2009 from 2008. Total preschool and child exposure increased by 4% to 5%; teen and young adult exposure increased by 1% to 2%; and adult exposure increased by 6%. The twelve restaurants in our analysis also had higher than average rates of increase in advertising exposure for all age groups with a combined increase of 7% or more for preschoolers, children, and adults (see **Tables 15 and 16**).

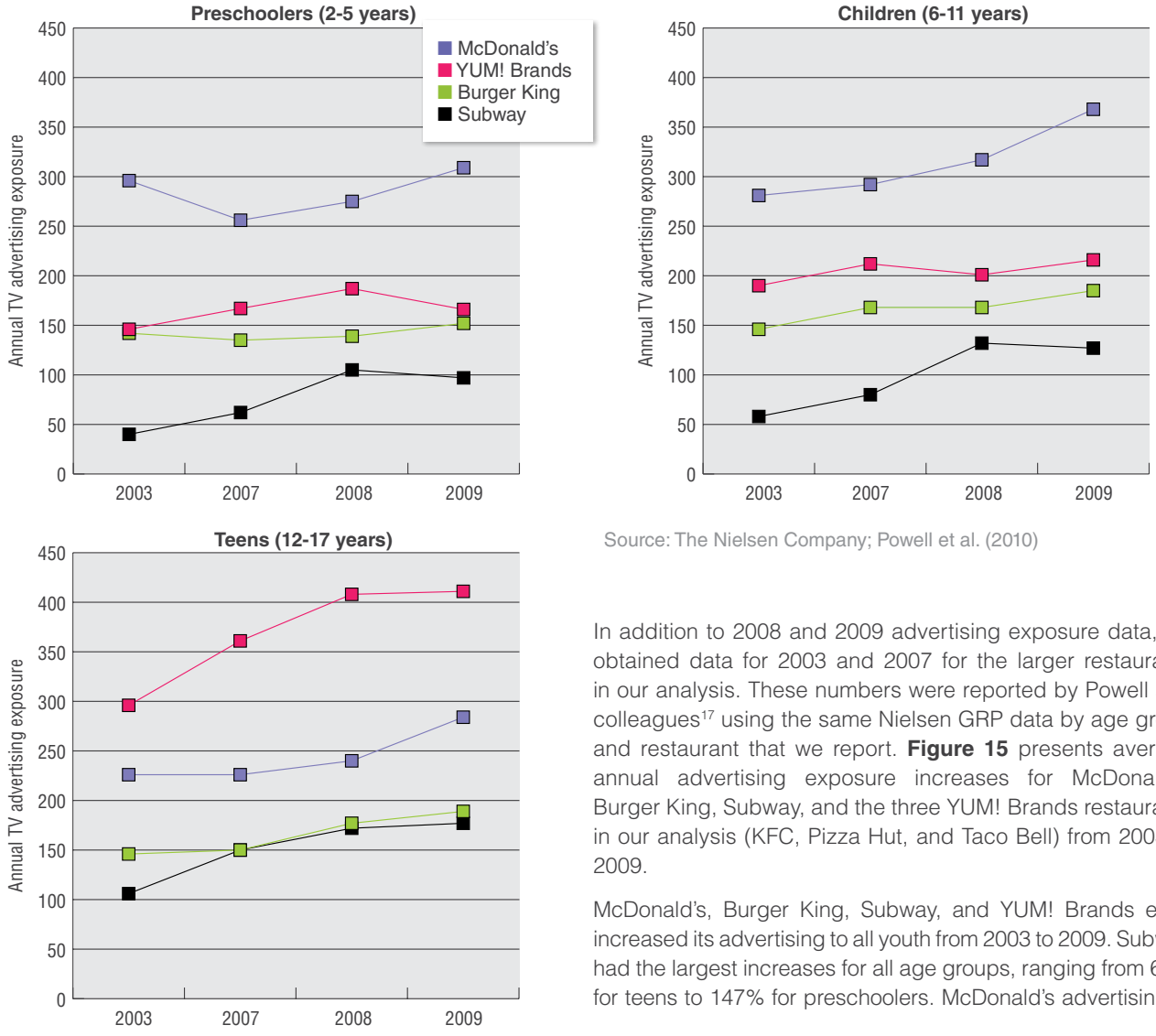
Changes in advertising exposure varied widely across the twelve restaurants in our analysis (see **Table 17**). Six restaurants increased their TV advertising to children, teens, and adults: Domino's, KFC, Taco Bell, McDonald's, Burger King, and Sonic. Of these six, Domino's, KFC, and Taco Bell increased advertising to children at a higher rate than their advertising to adults, whereas McDonald's and Burger King had a lower rate of increase for children. Only Dairy Queen and Pizza Hut reduced their advertising to all age groups. Dunkin' Donuts, Subway, and Wendy's were notable for reducing their TV advertising to children and teens while increasing advertising to adults.

Table 17. Change in TV advertising exposure from 2008 to 2009 by restaurant and age group

	Ads viewed by children			Ads viewed by teens			Ads viewed by adults		
Restaurant	**2008**	**2009**	**% change**	**2008**	**2009**	**% change**	**2008**	**2009**	**% change**
Domino's	28	46	62%	59	85	44%	69	96	40%
KFC	63	78	23%	120	146	21%	164	189	15%
Taco Bell	56	69	23%	130	140	8%	127	135	6%
McDonald's	317	368	16%	240	284	18%	234	295	26%
Burger King	168	185	10%	177	189	7%	146	170	17%
Sonic	34	37	9%	69	68	-1%	80	84	5%
Dunkin' Donuts	15	15	-3%	34	28	-18%	41	53	29%
Subway	132	127	-3%	172	177	3%	189	210	11%
Dairy Queen	31	27	-14%	60	48	-20%	61	56	-8%
Pizza Hut	82	69	-16%	158	125	-21%	192	164	-15%
Wendy's	70	58	-17%	137	113	-18%	131	137	4%
Starbucks	0	1	778%	0	1	1034%	0	3	720%

Source: The Nielsen Company

Figure 15. Increase in average annual advertising exposure by age group: 2003 to 2009



Source: The Nielsen Company; Powell et al. (2010)

In addition to 2008 and 2009 advertising exposure data, we obtained data for 2003 and 2007 for the larger restaurants in our analysis. These numbers were reported by Powell and colleagues[17] using the same Nielsen GRP data by age group and restaurant that we report. **Figure 15** presents average annual advertising exposure increases for McDonald's, Burger King, Subway, and the three YUM! Brands restaurants in our analysis (KFC, Pizza Hut, and Taco Bell) from 2003 to 2009.

McDonald's, Burger King, Subway, and YUM! Brands each increased its advertising to all youth from 2003 to 2009. Subway had the largest increases for all age groups, ranging from 67% for teens to 147% for preschoolers. McDonald's advertising to

preschoolers declined from 2003 to 2007, but increased by 21% from 2007 to 2009. Exposure to McDonald's advertising also increased by 26% for children and teens from 2007 to 2009. In 2009, the average child viewed 87 more ads for McDonald's than they viewed in 2003. Burger King advertising to children and teens exhibited a steadier rise from 2003 to 2009, including a 10% increase from 2007 to 2009 for children (6-11 years). While preschoolers' exposure to Burger King ads also increased during this period, the increase was relatively low (7%). YUM! Brands had its greatest increase in advertising to youth prior to 2007, with increases of 14% to preschoolers and children and 39% to teens from 2003. Since then, YUM! Brands advertising to preschoolers and children has leveled off, but its advertising to teens has continued to increase.

TV ad exposure by product category

Product categories	Definitions
Kids' meal	Individual items and meals offered on a special menu for "kids." Meals typically include a main dish, side, and beverage, and most come with a toy giveaway.
Value/combo meal	A menu of specially priced items (e.g., dollar menu), individual items promoted as part of a value menu, and combo meals (including family and value meals) that include more than one food category purchased together for a special price (e.g., a main dish, side, and beverage). Dollar/value menus include individual items offered for lunch/dinner, breakfast, and snacks.
Menu item food categories	Type of menu item, including lunch/dinner main dishes, lunch/dinner sides, and snacks; items promoted specifically for breakfast (main dish, sides, and combos) or kids (main dish, sides, and beverages); and beverages (side beverages, coffee beverages, and snack beverages).
Healthy option	A healthy menu, menu items, or healthy version of a meal. Typically promoted as an item low in fat and/or calories.
Promotion only	Advertisement mentions only a promotion and does not mention a specific food. Food may be pictured in the ad.
Branding only	Advertisement only mentions the restaurant and does not mention a specific food or promotion. Food may be pictured in the ad.

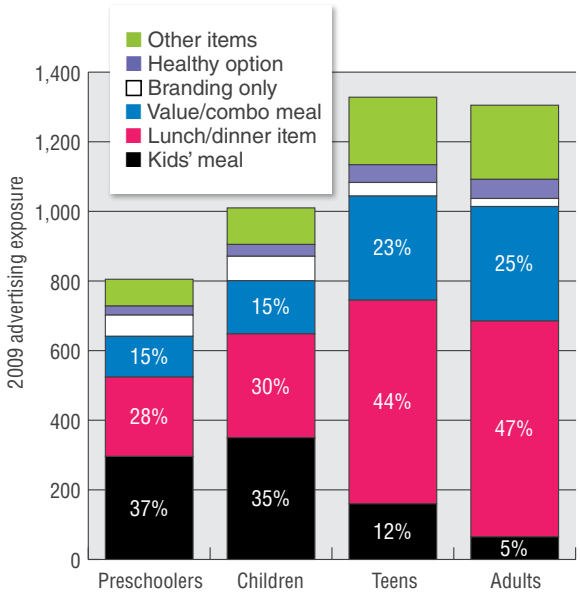
In addition to the numbers of ads viewed by age group, we also analyzed exposure to advertising on national television by product category. To identify the product category and individual menu items advertised in each TV ad, we matched the individual ads examined in the TV content analysis to the brand variety and creative descriptions available in the Nielsen AdViews database. Due to a low advertising volume for some product categories originally specified in our analysis, several categories were combined. We report the following product categories: kids' meals, branding only, promotion only, value/combo meals, breakfast, snacks, and coffee drinks. Although the advertising volume for healthy options was relatively low, we also included this category in the analysis. The advertised product could not be identified for 1% of the general audience advertisements and 2% of the Spanish-language advertisements; these ads were excluded from this analysis. **Table 18** presents the number of restaurants and youth exposure to TV ads for each product category.

Table 18. Youth exposure to TV advertising in 2009 by product category and age group*

		Ads viewed in 2009			Targeted ratios		
Product category	Number of restaurants	Preschoolers	Children	Teens	Preschoolers to adults	Children to adults	Teens to adults
Kids' meals	3	296	350	160	4.54	5.37	2.45
Lunch/dinner items	11	228	298	585	0.37	0.48	0.94
Value/combo meals	9	117	153	299	0.36	0.47	0.91
Branding only	2	61	70	39	2.58	2.99	1.66
Snacks	9	39	54	101	0.38	0.52	0.97
Healthy options	5	26	34	51	0.46	0.61	0.92
Promotion only	3	16	22	39	0.38	0.53	0.95
Coffee drinks	3	14	19	35	0.32	0.43	0.79
Breakfast items	3	8	10	18	0.34	0.43	0.78

*National TV only
Source: The Nielsen Company

Figure 16. Composition of advertising exposure in 2009 by product category and age group*



*National TV only
Source: The Nielsen Company

Not surprisingly, preschoolers and children viewed the most ads for kids' meals: approximately 1 ad per day for children and .8 per day for preschoolers. These ads also were targeted to children who viewed 4.5 to 5.4 times as many ads for kids' meals as adults viewed. Branding only ads also appeared to be aimed at children. Preschoolers and children viewed approximately one of these ads per week – a figure that is 2.6 to 3 times the number of branding only ads viewed by adults. Although ads for lunch/dinner items were not targeted to preschoolers and children (i.e., adults viewed more of these ads than children viewed), these items were the second most commonly viewed product category for this age group. Children viewed just 15% to 25% fewer ads for lunch/dinner items than for kids' meals. Preschoolers and children viewed approximately one ad for healthy options every two weeks.

Teens viewed ads for lunch/dinner menu items most often (1.6 ads per day). Value/combo meals followed with .8 ads viewed per day and kids' meals with less than one ad every two days. Teens viewed far more kids' meal ads and branding only ads than adults, but approximately half the number viewed by children. Teens also were overexposed to ads for most menu items compared to adults. Despite watching 24% less TV than adults, teens viewed just 10% fewer ads for lunch/dinner items, value/combo meals, snacks, healthy options and promotions only. Only breakfast and coffee drinks did not appear to be targeted to teens.

Figure 16 presents the composition of advertising exposure for each age group by product category. Although it appears that companies primarily targeted kids' meals and branding only ads to children, these two categories comprised just 44% and 42% of preschoolers' and children's fast food advertising exposure. More than half the ads viewed by children were for products that appeared to be targeted to an older audience. Child-targeted product categories represented just 15% of ads viewed by teens. Two-thirds of teens' advertising exposure was for lunch/dinner items and value/combo meals, and ads for snacks and promotions only were viewed relatively more often by teens than by adults.

The twelve restaurants advertised a total of 47 product categories. McDonald's advertised all nine product categories, and Burger King and Subway each advertised six categories. Taco Bell, Domino's, and Starbucks Coffee advertised the fewest categories (one or two each) (see **Table 19**).

TV ad exposure overview

Children and teens were exposed to more than 1,000 TV ads for fast food restaurants in 2009. Even preschoolers viewed on average 2.8 fast food ads *every day*, and children

Table 19. Product categories by restaurant

Restaurant	Count	Product categories
McDonald's	9	Kids' meal, branding only, lunch/dinner item, coffee drink, value/combo meal, promotion only, breakfast, snack, healthy option
Burger King	6	Kids' meal, lunch/dinner item, value/combo meal, promotion only, snack, breakfast
Subway	6	Kids' meal, value/combo meal, healthy option, lunch/dinner item, promotion only, snack
Pizza Hut	4	Lunch/dinner item, value/combo meal, snack, healthy option
Dunkin' Donuts	4	Snack, coffee drink, breakfast, healthy option
KFC	3	Value/combo meal, lunch/dinner item, healthy option
Wendy's	3	Lunch/dinner item, value/combo meal, snack
Sonic	3	Value combo meal, snack, lunch/dinner item
Dairy Queen	3	Snack, value/combo meal, lunch/dinner item
Taco Bell	2	Lunch/dinner item, value/combo meal
Domino's	2	Lunch/dinner item, snack
Starbucks	1	Coffee drink

Source: The Nielsen Company

and teens viewed even more: 3.5 and 4.7 ads per day, respectively. Young people view more ads for fast food than for any other food category. In 2007, advertising for fast food restaurants comprised 22% of all food ads viewed on TV by children and 30% of those viewed by teens.[18] In spite of food industry pledges to reduce unhealthy food marketing to children, young people's exposure to fast food advertising on TV continues to increase. Compared to 2003, preschoolers viewed 20% more fast food ads on TV in 2009 (an additional .5 ads every day), and children and teens viewed 35% to 38% more (.9 additional ads per day for children and 1.3 for teens).[19]

Fast food advertising to young people on TV was highly concentrated among a few restaurants: McDonald's, Burger King and YUM Brands! (Taco Bell, KFC and Pizza Hut) contributed 60% of all fast food ads seen by children and 50% of those seen by teens. McDonald's alone aired 30% of fast food TV ads seen by children, and children viewed more ads for McDonald's than adults viewed. Although both McDonald's and Burger King have pledged to improve food marketing targeted to children,[20] both companies marketed their products disproportionately to young people compared to adults, and both have increased their volume of advertising to children substantially since 2007 (the pledges were first implemented in 2008).[21] During that time, McDonald's advertising to children (ages 6-11) increased by 26% and Burger King by 10%. Based on relative exposure compared to adults, both Burger King and Taco Bell also target teens with their TV advertising.

Children (ages 2-11) are more likely to view ads for kids' meals and restaurant branding only (i.e., those that do not promote a specific food) compared to adults; however, these two product categories comprised just one-third of fast food ads viewed by children. More than half of the fast food ads they saw were for presumably adult-targeted products, especially lunch/dinner main dishes and value/combo meals. Across all age groups, 5% or fewer of TV ads viewed promoted healthy options on restaurants' regular menus.

Content analysis of TV advertisements

TV content analysis	Definitions
Child-targeted ads	If the ad met one or more of the following conditions: Only children were shown consuming the advertised product; only children were the main character(s) in the ad; the narrators spoke directly to children; and/or a toy or other children's product was promoted with the food.
General audience ads	All ads that were not clearly targeted to children. These ads could arguably appeal to teens and adults.
Selling points	Any direct benefit of the product communicated in the ad, including new/improved, value/cheap, health/nutrition, quality food, comparison/unique, filling/lots of food, convenience, low-fat/low-calorie, helping the community, and limited time special offer.
Product associations	Any indirect attributes or messages about the product implied in the ad, including physical activity, family bonding, fun/cool, humor, and adults as negative or incompetent.
Third party tie-ins	Featured appearances by outside (non brand-related) persons, characters or other companies/ organizations, including celebrities, movies/TV shows/video games, licensed characters, charities, other entertainment or sports, and other food brands.
Brand spokes-characters and spokespeople	Brand-specific characters (e.g., Ronald McDonald) and spokespeople (e.g., Jared from Subway).
Eating behaviors presented	Portrayals or suggestions of eating behaviors in the ad, including family meals, place of food consumption, time of consumption, and food as a primary focus (i.e., present on the screen in at least 50% of the ad).

To assess the messages presented in these TV ads, we analyzed the content of all unique ads from the twelve restaurants in our analysis. A total of 1,041 English-language ads first appeared on TV between October 1, 2008 and December 31, 2009. After removing duplicates, we obtained 627 unique ads for content analysis. Of these ads, 57 were identified as child-targeted. The content analyses examined common selling points that appeared in these ads, product associations, target audience, the use of third parties and brand characters and spokespeople, and eating behaviors presented.

Content of general audience TV ads

McDonald's and Sonic had the most general audience ads (86 and 85, respectively); followed by Subway with 78. Starbucks and Dairy Queen had the fewest (8 and 6, respectively).

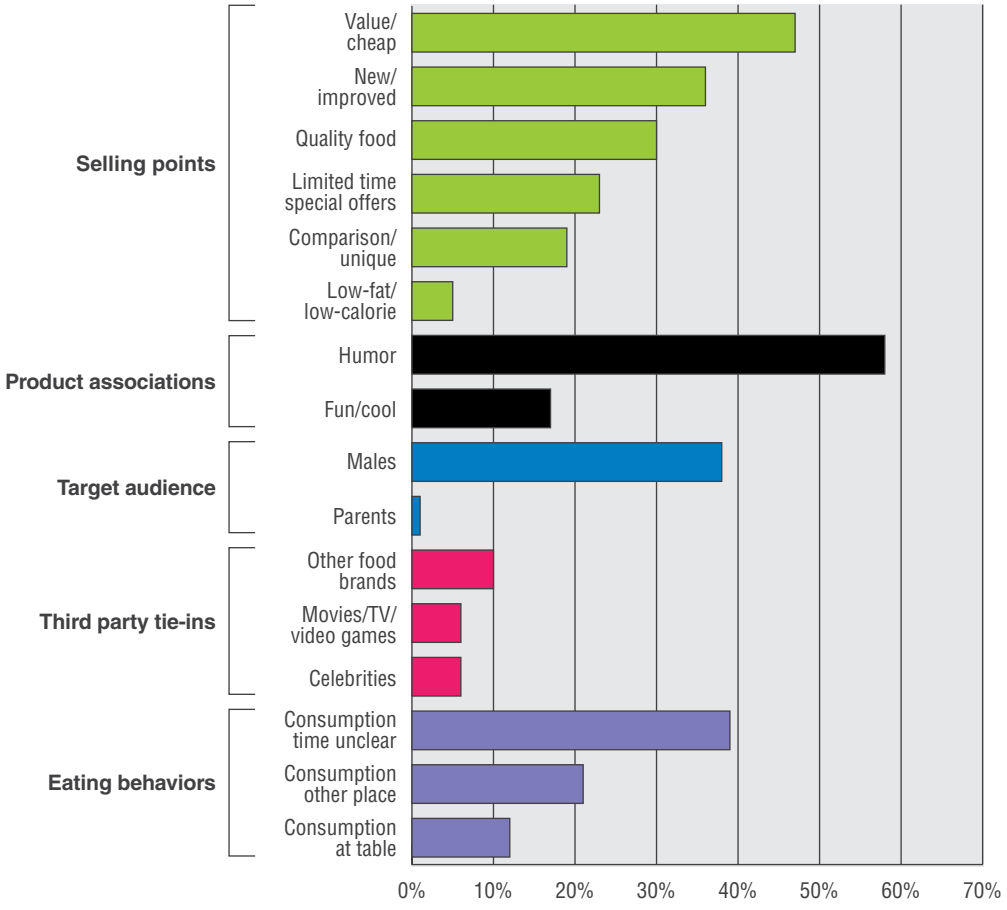
Figure 17 depicts the most common messages portrayed in general audience advertising. Product selling points that appeared most often were value/cheap, new/improved, and quality food. Appendix B **(Table B.2)** details the percentage of ads from each restaurant that included each message. Domino's and Pizza Hut promoted their products as a good value and/or inexpensive in the majority of their ads (83% and 82%, respectively). Taco Bell, Domino's, KFC, and Pizza Hut promoted their products as new and/or improved in 50% or more of their ads. Subway and Wendy's highlighted the quality of their products' ingredients more than other restaurants (82% and 63%, respectively).

Additional selling points commonly featured in some restaurants' advertising included convenience, low-fat/low-calorie, helping the community, and limited time special offers. The pizza restaurants were the only ones to promote convenience; 17% of Domino's ads promoted its online ordering application and 5% of Pizza Hut ads promoted a new iPhone ordering application. In addition, 61% of Pizza Hut's ads promoted its company website (PizzaHut.com) and Dominos.com was featured in 48% of Domino's ads. Both of these websites featured online ordering applications. Subway and KFC promoted healthy messages that featured their low-fat and/or low-calorie products in 18% and 13% of ads, respectively. Subway did so in a group of humorous ads which compared the restaurant's "fresh fit" selections to greasy fast food items such as the "can my butt look any bigger meal" and "more of me to love combo." KFC advertised its grilled chicken combo meal for "under 400 calories." Subway also highlighted its website, SubwayFreshBuzz.com, in 51% of its ads. Starbucks, Domino's, and Subway promoted limited time special offers in one-third to one-half of their ads. These were mainly menu items available for a short time or pricing offers.

More than one-half of fast food ads used humor to sell their products; Dairy Queen, Burger King, and Domino's used it in more than 80% of their ads. The fun/cool message was used most by McDonald's (35%) and Subway (23%) in their general audience ads.

Food was featured most prominently (i.e., appearing onscreen for more than 50% of the time) in approximately one-quarter of general audience ads, including 35% of Sonic ads and almost one-third of Pizza Hut, Dunkin' Donuts, KFC, Dairy Queen, and Taco Bell ads. Food was shown being consumed in nearly half of ads. This consumption occurred in a non-traditional

Figure 17. Messages in general audience TV advertising



Source: TV ad content analysis

location (e.g., park bench, living room couch) in 21% and at an unspecified time of day in 39% of ads. Just 12% of ads depicted eating at a table, and only 2% suggested or depicted family meals. The majority of Sonic ads (54%) depicted patrons eating in their cars. Wendy's and Pizza Hut showed eating at the table more than any other restaurants (28% and 24%, respectively). Taco Bell, Sonic, and Burger King commonly promoted their late-night menus and encouraged eating late at night (in 28%, 11% and 9% of ads, respectively).

Fewer than half of fast food ads appeared to specifically target men or women, but gender-specific ads targeted males 4.5 times as often as females; 38% of ads were male targeted, compared to 8% that were female targeted. Taco Bell and Wendy's appeared to target a male audience the most (in 54% of their ads).

Just eight ads targeted parents directly. Half of these ads were for McDonald's and one each for Wendy's, Subway, Dairy Queen, and Sonic. McDonald's parent-targeted ads focused on making children happy by buying them a Happy Meal. In one of these ads, a mother and child were shown eating together. The mother ate a salad while her child enjoyed his Happy Meal. The female announcer proclaimed, "He always wants a Happy Meal, and with apples and low-fat milk, I'm happy to get it." The Subway ad depicted Jared flanked by little leaguers discussing the problem with overweight children in our country and the importance of exercise and eating right.

Third parties were featured in just 29% of general audience ads; however, some restaurants used this strategy more than others. For example, Subway featured celebrity athletes in 19% of ads; and Burger King featured racecar driver Tony Stewart in four ads (10%). Burger King also featured tie-ins with other entertainment, including the movies, "Transformers" and "StarTrek," in 21% of its general audience ads. Burger King's usage of entertainment tie-ins was higher than any other restaurant. Starbucks featured a charity promotion in 25% of its ads, in which the restaurant promised to donate 5 cents of each coffee drink to "Product Red," a charity that fights Aids in Africa. Dairy Queen featured cross-promotions with the Girl Scouts and the Children's Miracle Network, a non-profit organization that raises funds for children's hospitals, to sell its Blizzard ice cream treats in 31% of its ads. In one ad, children were shown being cured of serious health issues, while Dairy Queen touted that all proceeds from sales of Blizzards ("Dairy Queen's most magical treat") sold on one day would go to the Children's Miracle Network. In addition, Dairy Queen and Burger King used brand characters in their ads. Dairy Queen's talking "mouth" character appeared in 88% of ads; and Burger King featured "the King" in 25% of ads.

Content of child-targeted TV ads

Ranking Table 5 presents advertising exposure for children by restaurant and product category. McDonald's, Burger King, and Subway were the only restaurants with child-targeted ads, and only five products had child-to-adult targeted ratios higher than 1.0, meaning children viewed more ads for those products than adults viewed (see **Table 20**). Children viewed the most ads for McDonald's kids' meals, Burger King kids' meals, and McDonald's branding only. Subway kids' meal ads and McDonald's healthy options also appeared to be targeted to children with child-to-adult targeted ratios of 7.2 and 2.2., respectively. However, these two items ranked low, tenth and forty-first, in advertising exposure to children. YUM! Brands products (Pizza Hut and Taco Bell lunch/dinner items and KFC value/combo meals) ranked fourth through sixth in volume of advertising exposure to children. Combined, these YUM! Brands products totaled 146 ads viewed in 2009, overtaking Burger King kids' meals as the second most advertised product category to children. However, children viewed fewer of these ads than adults viewed. With the exception of Subway's healthy options which ranked thirteenth, healthy options ranked in the bottom 25% of product categories advertised to children.

McDonald's aired 31 child-targeted ads, Burger King aired 23, and Subway aired just 3. **Figure 18** presents the most common messages that appeared in these child-targeted TV ads. Appendix B **(Table B.3)** presents detailed results of the child-targeted ads content analysis. Compared to ads targeting a general audience, child-targeted ads rarely promoted direct benefits of fast food products. Instead, these ads focused primarily on communicating positive associations with the restaurants and their kids' meals.

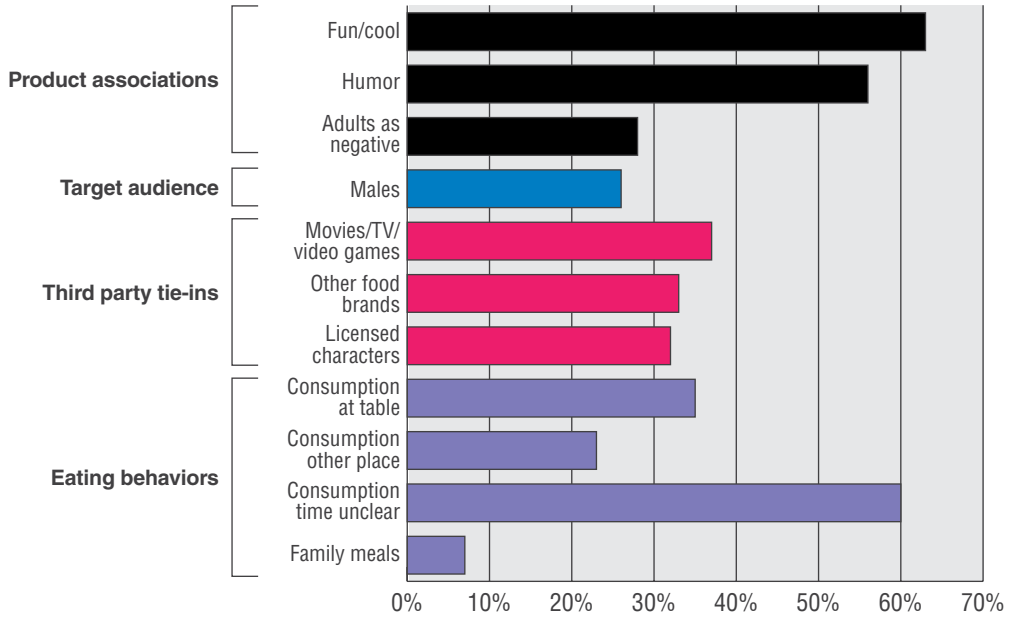
As found with general audience ads, child-targeted ads used humor and fun/cool product associations most often. Burger

Table 20. Restaurants and product categories targeted to children

Restaurant	Product category	Ads viewed by children in 2009*	Targeted ratio: children to adults
Subway	Kids' meals	32	7.23
McDonald's	Kids' meals	192	5.40
Burger King	Kids' meals	125	5.00
McDonald's	Branding only	70	2.99
McDonald's	Healthy options	2	2.17

*National TV only
Source: The Nielsen Company

Figure 18. Messages in child-targeted TV advertising



Source: TV ad content analysis

King child-targeted ads used both (humor in 91% and fun/cool in 57%), whereas McDonald's ads used fun/cool messages more often (69%). Subway ads associated its products with physical activity in two of its three ads. More than two-thirds of Burger King ads portrayed adults as negative or incompetent. In one ad, two children looked into a magic "slime mirror" which showed their reflection after being slimed. When the father tried to look into the mirror, buckets of slime poured onto his head. A similar ad showed a father acting like the "Pink Panther" and trying to steal toys from his kids. In one scene a child slapped his hand and in another the father fell onto the table as the children rolled their eyes and laughed at him.

Third party tie-ins featured in child-targeted ads differed from those that appeared in general audience ads. These ads did not use celebrities or charity tie-ins, but tie-ins with movies, TV shows, and video games occurred in one-third of ads targeted to children. About 44% of Burger King child-targeted ads and 28% of McDonald's featured a licensed character toy available in kids' meals. For example, Burger King featured a "SpongeBob" toy kids' meal promotion in 17% of its child-targeted ads. Other food brands were also present in one-third of ads. In 70% of its ads, Burger King featured Hershey's plain milk or Minute Maid juice; and McDonald's promoted Dasani water in two child-targeted ads. Subway did not include third-party tie-ins in any ads. Ronald McDonald was the only brand character used in child-targeted ads, and he appeared in just two McDonald's ads.

Whereas food was the primary focus in many general audience ads, it was never the primary focus in child-targeted ads. McDonald's and Burger King only depicted their "better for you" foods in child-targeted advertising as specified in their CFBAI pledges; however, these foods were often presented only briefly or in the background of the scene. Although 35% of child-targeted ads showed food consumed at the table, just 7% showed families eating a meal together at the table. Burger King depicted eating at the table in 48% of its ads and

Burger King child-targeted ad with negative portrayal of a parent.

Burger King "Pinkalicious" promotion, based on the popular book for preschoolers.

While McDonald's depicted "better-for-you" foods in child-targeted ads, they were rarely the main focus.

family meals in 13%; and McDonald's showed eating at the table in 31%, but family meals in only 3% of its ads. Subway did not depict eating in its child-targeted ads. In two-thirds of child-targeted ads, the time of consumption was unclear.

One-third of child-targeted ads directed children to a website. Although McDonald's had the most ads targeted to children, it did not promote any of its own websites, but did feature two third-party sites (AmericanGirl.com and Linerider.com). In contrast, 61% of Burger King ads directed children to ClubBK.com, its child-targeted website. One Subway ad directed children to the restaurant's own website, SubwayKids.com, and one featured a third-party website called GetAnimated.com. The Cartoon Network sponsored this site for its "Move it Movement" which featured Bas Rutten (a former UFC champion and martial artist) who encouraged healthy eating and physical activity in a series of brief educational videos. Interestingly, to view the videos online, children first had to watch an advertisement, including one for Froot Loops cereal.

Teen-targeted advertising

Ranking Table 6 presents advertising exposure for children and teens by restaurant and product category. Teens viewed advertising for a much different set of fast food restaurants and products as compared to children. YUM! Brands products (Taco Bell and Pizza Hut lunch/dinner items and KFC value/combo meals) ranked first, second, and third among product categories most frequently advertised to teens. Combined, they totaled 301 ads, contributing 23% of total teen exposure in 2009. The most frequently advertised child-targeted product categories (McDonald's and Burger King's kids' meals, McDonald's branding only, and Subway kids' meals) ranked sixth, eighth, eleventh, and twenty-seventh in teen exposure. Twelve additional product categories had teen-to-adult targeted ratios greater than 1.0, meaning that teens viewed more ads for these product categories than adults viewed (see **Table 21**). The product categories that appeared to be targeted to teens were: All Taco Bell products, most restaurants' snacks (with the exception of those from McDonald's, Dunkin' Donuts, and Wendy's), Burger King promotion only ads, and Dairy Queen, Subway, and Sonic lunch/dinner items. These teen-targeted product categories totaled 444 ads viewed in 2008 and represented 33% of all teen exposure to fast food advertising.

Table 21. Restaurants and product categories targeted to teens*

Restaurant	Product category	Ads viewed by teens in 2009*	Targeted ratio: Teens to adults
Subway	Kids' meals	14	3.16
McDonald's	Kids' meals	87	2.44
Burger King	Kids' meals	59	2.34
McDonald's	Branding only	39	1.66
Taco Bell	Snacks	10	1.44
Burger King	Promotion only	15	1.22
Taco Bell	Value/combo meals	11	1.15
Dairy Queen	Snacks	27	1.11
Taco Bell	Lunch/dinner items	111	1.10
Sonic	Snacks	15	1.05
Domino's	Snacks	10	1.05
Subway	Lunch/dinner items	31	1.03
Sonic	Lunch/dinner items	10	1.02

* Categories with average exposure of 10 or more ads in 2009; National TV only
Source: The Nielsen Company

Taco Bell teen-targeted ad parodied the Diddy song "All About the Benjamins"

Burger King teen-targeted ad featured a Twilight: New Moon fan-pack promotion with purchase of a 6 Burger Shots combo meal.

Content analyses of the ads that promoted these teen-targeted products revealed several that also appeared to be designed to appeal specifically to teens. For example, a Taco Bell ad was a spoof on Diddy's "All about the Benjamins" (slang for $100 bills) single in which the singer rapped on the importance of money and wealth. In Taco Bell's version, the theme song was "All about the Roosevelts" (dimes) or the cheapness of the food. The ad depicted young people singing and dancing provocatively. A promotion only ad from Burger King featured a tie-in with "Twilight New Moon," a popular teen movie. It promoted a "fan pack" containing a Twilight water bottle with images of two Twilight teen heartthrobs, Edward and Jacob, that could be obtained with the purchase of a 6 Burger Shots combo meal. Another Burger King promotion only ad featured the "Transformers" movie, with a contest to "transform your way" to win $1 million and other prizes.

While the content of other ads was not as obviously teen-targeted, Dairy Queen, Domino's, and Sonic ads frequently used more juvenile humor to promote their products. Dairy Queen featured a talking mouth brand character in 88% of its ads in which slapstick humor was prevalent and the talking mouth was often the butt of jokes. Sonic ads also often featured humorous, sarcastic conversations in cars, in which one character is made to look rather daft. Two Sonic ads also featured the Sticky Bun Dough Blast, an ice cream mix-in treat, that was promoted together with "The Hills" TV show on MTV. Dairy Queen's ads for its snack products prominently featured its Blizzard ice cream treats; and 94% of Dairy Queen's ads referred viewers to one of its websites, including 44% to BlizzardFanClub.com.

Content analysis of TV advertising overview

General audience advertising primarily featured three selling points: value or cheap food, new or improved items, and food quality. The pizza restaurants also commonly promoted the convenience of online and other means of ordering. More than one-half of fast food ads targeted to a general audience used humor to sell their products, including more than 80% of ads for Dairy Queen, Burger King, and Domino's. Fewer than one-half of ads specifically targeted men or women, but gender-specific ads targeted males 4.5 times as often as females. Just eight ads targeted parents directly, and half of these were from McDonald's.

Only three restaurants had TV ads directly targeted to children: McDonald's, Burger King, and Subway. Compared to ads targeting a general audience, child-targeted ads rarely promoted direct benefits of fast food products. Rather, these ads communicated positive associations with restaurants' kids' meals and the restaurant brand primarily through messages such as fun, cool and humor. Child-targeted ads also commonly featured third party tie-ins with movies, TV shows, games and licensed characters. Interestingly, food was *never* the primary focus in child-targeted ads. McDonald's and Burger King did picture its "better-for-you" foods as they pledged to do as part of the CFBAI; however, these foods usually appeared briefly or in the background of a scene. While McDonald's did not promote its websites in child-targeted ads, 61% of Burger King ads directed children to ClubBK.com, its child-targeted website.

Taco Bell, Burger King, Dairy Queen and Sonic targeted teens as assessed by teens' higher exposure to these ads relative to adults and the content of the ads. Taco Bell and Dairy Queen promoted their snack items more often to teens, and Burger King advertised its promotions in teen-targeted ads.

Ethnic and racial targeting

Ethnic and racial targeting on TV	Definitions
Targeted ratio: African American to white children	GRPs for African American 2- to 11-year-olds divided by GRPs for white 2- to 11-year-olds. Provides a measure of relative exposure to TV advertising for African American children compared to white children.
Targeted ratio: African American to white teens	GRPs for African American 12- to 17-year-olds divided by GRPs for white 12- to 17-year-olds. Provides a measure of relative exposure to TV advertising for African American children compared to white children.
Spanish-language television	Television programming presented in Spanish cable and broadcast programming (e.g., Univision or Telemundo). GRPs for Spanish-language television are calculated based on the number of Hispanic persons in Nielsen's viewer panel.
Targeted ratio: Spanish language to other television advertising	GRPs for Spanish-language TV divided by GRPs for national and spot market TV. Ratios were calculated for preschoolers (2-5 years), children (6-11 years), and teens (12-17 years). Provides a measure of exposure to advertising on Spanish-language television among Hispanic viewers compared to exposure to advertising on all other television for all viewers.

This section documents exposure to fast food TV advertising by African American youth on English-language TV and Hispanic youth on Spanish-language TV. We identified TV advertising targeted to African American youth according to two measures:[22] If African American youth viewed relatively more ads for targeted products than their white peers viewed, after accounting for higher levels of TV viewing, the ads were identified as targeted to African Americans. TV ads with African American main characters were also identified as targeted ads.

African American youth TV advertising exposure

In 2009, African American children viewed 4.1 TV ads for fast food restaurants on national television every day and teens viewed 5.2 fast food ads (see **Table 22**). These figures understate total exposure to fast food advertising by an estimated 7% because Nielsen AdViews does not provide GRPs by race for spot market television. On average, 93% of all youth advertising exposure occurred on national television.[23]

Compared to white youth of the same age, African American children saw 56% more fast food advertisements on national television and African American teens viewed 46% more. The difference can be largely explained by differences in TV viewing by African American and white youth: African American children watch approximately 45% more television per week compared to white youth of the same age; African American teens watch 54% more.[24] Based on these differences, however, African American children were exposed to somewhat higher than expected levels of fast food advertising and teens were exposed to somewhat less than expected.

The twelve restaurants in our analysis contributed 87% to 89% of all exposure to fast food advertising for African American youth. Exposure by restaurant and product category followed similar patterns as exposure to advertising for these restaurants by all youth (see **Ranking Table 7**). African American youth viewed the most ads for McDonald's (approximately 1.1 ads every day), followed by Burger King (.6 ads per day for children and .7 for teens). Subway was third in most frequently advertised restaurant to African American children, but KFC surpassed Subway in advertising exposure to African American teens.

With the exception of McDonald's, Burger King, and Subway, targeted ratios of exposure by African American to white children by restaurant were considerably higher than 1.45 (the difference between African American and white children's television viewing). Therefore, relative to white children, African American children were exposed to more fast food advertising from these restaurants than can be explained by their higher overall TV viewing. A different pattern emerges for African American teens. Targeted ratios of African American to white teens were generally comparable to or lower than 1.5 – a ratio that would be expected given their differences in TV viewing. However McDonald's and KFC were two notable exceptions. African American teens were exposed to 75% more television advertising for these two restaurants than their white peers.

Ranking Table 7 also presents exposure to advertised product categories for African American children and teens, including targeted ratios. Although the ranking of product categories resembled the rankings for all children and teens, some restaurants appeared to be targeting specific product categories more frequently to African Americans.

Table 22. African American youth exposure to fast food advertising*

	Ads viewed in 2009		Targeted ratios	
	Children 2-11 years	Teens 12-17 years	African American to white children	African American to white teens
Twelve restaurants	1,330	1,911	1.56	1.51
Top 20 restaurants	1,449	2,128	1.57	1.48
All fast food restaurants	1,499	2,201	1.56	1.46

*National TV only
Source: The Nielsen Company

For example, compared to white children of the same age, African American children saw more than twice as many ads for fifteen different product categories from Taco Bell, KFC, Domino's, Burger King, McDonald's, and Sonic (see **Table 23**). Similarly, African American teens saw at least twice as many ads for McDonald's lunch/dinner items, branding only, value/combo meals, and breakfast, and KFC healthy options compared to white teens. The largest differences occurred for McDonald's value/combo meals and KFC healthy options.

Content analysis of TV ads with African American main characters

Despite more frequent exposure to fast food advertising by African American youth, just 45 ads in the general audience content analysis (8% of the total) featured African American main characters. McDonald's used African American main characters in the highest proportion of its ads (23%) and directed viewers to its black-targeted website (365Black.com) in 5%. One of these ads depicted café mocha beverages with whipped cream, and the remaining three featured three large-sized burgers (Angus Bacon & Cheese, Double Quarter Pounder with cheese, Big Mac) in each. Additionally, McDonald's was the only restaurant to feature African American children as the main characters in child-targeted ads. These two ads promoted a Happy Meal toy giveaway.

Dairy Queen also featured African American main characters in 19% of its ads, and Subway featured African Americans in 10% of ads. Dairy Queen's ads depicted two varieties of Blizzards and an ice cream cake. In the Blizzard ads, the treat was presented as an addictive substance. In one, a mother's thought process was hijacked by images of the Blizzard, she lost her train of thought and had to have the treat immediately. In another, the Blizzard caused a man to mentally "check out" of a real world conversation with his wife into a heavenly place where he experienced extreme pleasure. Subway featured

Table 23. Restaurants and product categories targeted to African American children and teens*

		African American children		African American teens	
Restaurant	Product category	Ads viewed in 2009	Targeted ratio: to white children	Ads viewed in 2009	Targeted ratio: to white teens
McDonald's	Value/combo meals	29	2.51	58	2.33
KFC	Lunch/dinner items	26	2.50	49	1.88
Taco Bell	Snacks	7	2.38	13	1.45
Burger King	Promotion only	11	2.30	21	1.42
KFC	Value/combo meals	84	2.29	157	1.89
Sonic	Snacks	12	2.18	23	1.67
Sonic	Lunch/dinner items	8	2.13	15	1.72
McDonald's	Coffee drinks	25	2.10	44	1.92
Burger King	Value/combo meals	13	2.10	25	1.45
KFC	Healthy options	8	2.09	14	2.30
McDonald's	Lunch/dinner items	47	1.94	75	2.05
McDonald's	Breakfast	7	1.96	13	2.05
Taco Bell	Lunch/dinner items	77	2.04	150	1.46
Taco Bell	Value/combo meals	7	2.03	14	1.42
Domino's	Lunch/dinner items	25	2.02	133	1.79
Burger King	Lunch/dinner items	69	2.01	125	1.45
McDonald's	Branding only	81	1.28	66	2.00
Burger King	Snacks	5	2.00	9	1.31

*National TV only; targeted ratios higher than 2.0
Source: The Nielsen Company

KFC ad for Fiery Grilled Wings featuring a black main character.

African American celebrity athletes in two ads, including one with a contest to win an autograph. Subway also depicted African American characters in ads for a "Scrabble" promotion to win $100,000, $5 Footlongs and a jazz-type poetry reading about its sandwiches.

Whereas general audience ads promoted a low-fat/low-calorie selling point in just 5% of ads, this feature appeared in 13% of ads with African American main characters. For example, three KFC ads asked if the viewer was watching his or her calories and compared the calories in its new under-400 calorie meal with similarly advertised but higher calorie items at other restaurants. Dunkin' Donuts featured its under-300 calorie egg white flatbread sandwich and "getting back into a smart routine." Subway also pushed its low-fat options in two ads. In contrast to other general audience ads, ads with African American main characters were targeted more often to females than to males. For example, the KFC ads for its under-400 calorie meal depicted a female eating and enjoying the meal.

Spanish-language TV advertising exposure

The average Hispanic child and teen was exposed to one fast food television ad approximately every two days on Spanish-language television in 2009 (See **Table 24**). The number was even higher for preschool-age children who viewed on average .74 fast food advertisements every day on Spanish-language television. These ads were in addition to the ads viewed by Hispanic youth on other forms of television. On average, Hispanic children watch one hour of Spanish-language TV for every two hours of English-language cable and broadcast TV viewed in 2009; and teens watched one hour of Spanish-language TV for every three hours of English-language TV.[25]

Nine restaurants produced all fast food advertising on Spanish-language television: McDonald's, Burger King, Subway, KFC, Pizza Hut, Wendy's, Domino's, Sonic, and Popeye's (see **Ranking Table 7**). Hispanic youth were exposed to the most Spanish-language advertising for McDonald's, followed by Burger King and Subway. The average ratio of Spanish-language TV ad exposure to English-language TV ad exposure was .22 for preschoolers, .15 for children and .11 for teens. These ratios were lower than expected given the ratios of Spanish-language to English-language television viewing for these age groups.

Ranking Table 7 also presents Hispanic youth exposure to Spanish-language advertising by restaurant and product category, including targeted ratios. Compared to children watching English-language television, Hispanic children were more likely to view ads for for Domino's, Burger King and Sonic lunch/dinner items, McDonald's and Wendy's value/combo meals, Sonic snacks, and McDonald's coffee drinks on Spanish-language television (see **Table 25**). Among Hispanic teens, Sonic lunch/dinner items and McDonald's coffee drinks had higher than expected ratios of Spanish- to English-language TV given Hispanic teens' relative viewing of these media.

Table 24. Hispanic youth exposure to fast food advertising on Spanish-language TV

	Ads viewed in 2009			Targeted ratios: Spanish-language to all other television		
	Preschoolers 2-11 years	Children 6-11 years	Teens 12-17 years	Preschoolers	Children	Teens
Overall television viewing				0.51	0.46	0.34
Twelve restaurants	260	174	170	0.23	0.16	0.12
All fast food restaurants	269	181	197	0.22	0.15	0.11

Source: The Nielsen Company

Table 25. Restaurants and product categories advertised on Spanish-language TV*

		Hispanic children (6-11 years)		Hispanic teens (12-17 years)	
Restaurant	Product category	Ads viewed in 2009	Targeted ratio: to all other TV	Ads viewed in 2009	Targeted ratio: to all other TV
Domino's	Lunch/dinner items	29	**.62**	26	.29
Burger King	Lunch/dinner items	28	**.66**	27	.29
McDonald's	Lunch/dinner items	14	.46	14	.32
McDonald's	Value/combo meals	11	**.75**	11	.39
McDonald's	Coffee drinks	10	**.64**	11	**.43**
Sonic	Value/combo meals	8	.40	7	.19
Subway	Lunch/dinner items	7	.46	5	.18
Sonic	Snacks	7	**.87**	6	.39
Wendy's	Value/combo meals	6	**.72**	5	.28
Sonic	Lunch/dinner items	6	**1.07**	5	**.50**
McDonald's	Promotion only	3	.46	3	.31
McDonald's	Breakfast	2	.52	2	.31
McDonald's	Snacks	2	.53	2	.38

*Ads with the highest ratio of Spanish-language TV to other TV advertising; Bold numbers indicate higher than expected ratios given relative television viewing
Source: The Nielsen Company

Spanish-language content analysis

We identified 204 Spanish-language ads that first appeared on TV between October 1, 2008 and December 31, 2009 and 135 unique ads for the Spanish-language content analysis. McDonald's had the most Spanish-language ads (35), followed by Domino's (22), and Burger King and Subway (16 each).

We found few overall differences in the messages used in Spanish-language compared to English ads. **Figure 19** depicts the most common messages used. Appendix B **(Table B.4)** presents detailed results of the Spanish-language content analysis.

Spanish-language ads most frequently used the same three selling points as the general audience ads: value/cheap, new/improved, and quality food. However, Sonic and McDonald's featured a selling point not seen in other ads, "old favorites." This message appeared in four Sonic ads and three McDonald's ads. Physical activity was also promoted in 11% of Spanish-language ads versus only 4% of general audience ads.

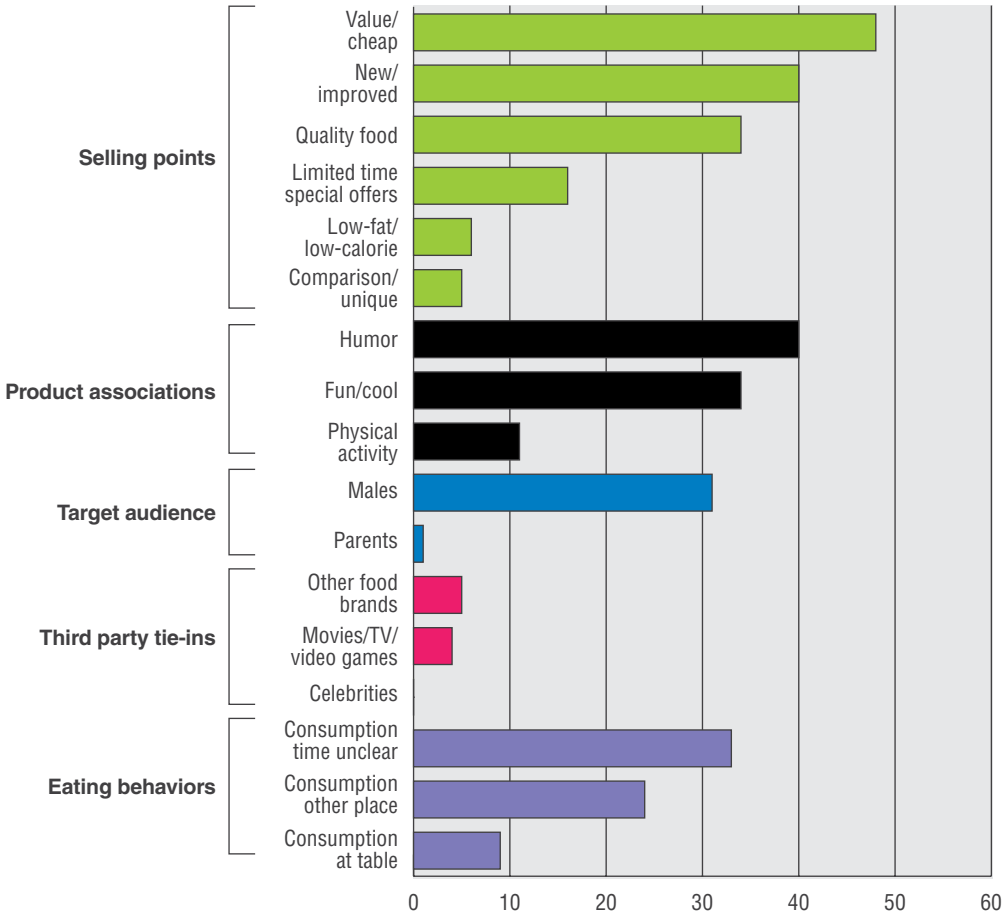
Several additional differences were observed when comparing individual restaurants' Spanish-language ads to their general audience ads. Subway used a low-fat/low-calorie message more often in Spanish-language advertising (44% versus 18% in general audience ads). In addition, 31% of Subway's Spanish-language ads promoted a physical activity message, although none of these ads featured a celebrity athlete as did 19% of its English-language ads. Domino's, Wendy's and Pizza Hut also used a physical activity message in 10% or more of its Spanish-language ads, whereas they rarely or never used this message in their general audience ads. McDonald's and Subway were also more likely to use the helping the community message in their Spanish-language ads (11% and 13%, respectively) compared to their English-language ads (5% and 3%).

Although Sonic used humor in 62% of its general audience ads, it did not use this technique in any of its Spanish-language ads. Sonic's Spanish-language ads appeared to focus on families. In addition, while the restaurant's general audience ads depicted only two people in a car, the Spanish-language ads often depicted families of four or groups of four friends together. Also, rather than highlighting a specific menu item or line of items, as the general audience ads typically did, the characters each called out several items they were craving. The simplicity of the ordering experience was also highlighted in most of these ads. Interestingly, the majority of Burger King's Spanish-language ads (69%) were male-targeted compared to 45% of its general audience ads.

Featured third parties, brand characters and spokespeople rarely appeared in Spanish-language advertising. Approximately 25% of Subway ads showed other food brands (Dasani water, Dannon Light and Fit yogurt, Lays, Sunchips, Coke). Subway was also the only restaurant with a Spanish-language charity tie-in. These two ads did not verbally mention the charity, but included a written statement at the end of the ad that Subway was a proud sponsor of the Hispanic Heritage Foundation. One-third of Spanish-language ads referenced a website, including the majority of Pizza Hut and Subway ads. Burger King, McDonald's, and Pizza Hut directed viewers to a Spanish-language website, including McDonald's MeEncanta.com (11%), BurgerKingMusica.com (6%) and Espanol.PizzaHut.com (90%).

Eating behaviors portrayed in Spanish-language advertising varied by restaurant and often differed from English-language

Figure 19. Messages in Spanish-language TV advertising



Source: TV ad content analysis

ads. For example, food was never the primary focus of Sonic's Spanish ads , although it was the focus in more than one-third of the restaurant's general audience ads. In contrast, Pizza Hut, Subway, and Wendy's portrayed food as the primary focus about twice as often in Spanish-language ads. Wendy's depicted eating at the table more often than any other restaurant in both Spanish-language and general audience ads, but did so more in its Spanish-language ads (40% vs. 28% of general audience ads).

Just four Spanish-language ads were targeted to children and all featured McDonald's Happy Meals. As in its English-language child-targeted ads, food was not the primary focus of these ads. McDonald's promoted fun in all the ads and physical activity in three of four. Additionally, one McDonald's ad targeted parents and depicted a mother coming home from work late and announcing it to be a "Happy Meal" night.

Ethnic and racial targeting overview

African American children and teens viewed 56% and 46% more ads for fast food restaurants in 2009 compared to their white peers. This difference can largely be attributed to higher levels of television viewing. However, we also identified ads from McDonald's and KFC that appeared to be targeted to African Americans because of higher relative exposure compared to white youth and the use of African American main characters in the ads. African American youth viewed 75% more ads for McDonald's and KFC overall compared to white youth, and more than twice as many ads for McDonald's value/combo meals, lunch/dinner items, breakfast and branding only and KFC healthy options. In TV ads with African American main characters, McDonald's featured large-sized burgers, coffee and Happy Meal toys, whereas KFC featured its under-400 calorie meal. Dairy Queen and Subway also aired TV ads with African American main characters.

Hispanic children and teens were exposed to approximately one ad per day on Spanish-language TV in addition to ads viewed on English-language TV. Nine fast food restaurants advertised on Spanish-language TV, but McDonald's was the most frequent advertiser, accounting for one-quarter of youth exposure to Spanish-language fast food ads. Products that were advertised relatively more frequently on Spanish-language as compared to English-language TV included Domino's, Burger King, McDonald's and Sonic lunch/dinner items, McDonald's value/combo meals and coffee drinks, and Sonic snack items. We found few differences overall in the

messages used to promote fast food products in Spanish, although several restaurants were more likely to use physical activity, low-fat/low-calorie and helping the community messages in their Spanish-language ads.

Television advertising nutrient content analysis

Finally, we examined the nutrient content of menu items that appeared in each restaurant's TV advertising. **Table 26** presents the three individual menu items or lines of items that were advertised most often to children and teens for each restaurant (excluding items with fewer than five ads viewed by either age group), as well as the nutritional quality of these items.

Every day, the average preschooler viewed a total of 1,124 calories and 2,146 mg of sodium in fast food TV ads (see **Table 27**). Children viewed somewhat more: Approximately 1,400 calories and 2,700 mg. of sodium. However, teens viewed more than 2,100 calories and 4,200 mg. of sodium in fast food ads every day. In all age groups, one-third or more of these calories were from sugar and saturated fat.

Table 28 presents the weighted average calories and sodium contained in the menu items promoted in TV ads seen by children and teens for each restaurant. KFC featured full meals more often in its ads, whereas other restaurants tended to feature individual menu items; therefore, KFC had the highest calories per ad viewed of any restaurant. Dunkin' Donuts had the lowest calories per ad because its

Table 26. Three most frequently advertised menu items (excluding kids' meal items)

Restaurant	Menu item	Ads viewed by children (2-11 years)	Ads viewed by teens	NPI Score	Calories	Sodium (mg)
McDonald's	McChicken Sandwich	12	23	50	360	830
	Big Mac	11	18	48	540	1,040
	Mochas	10	17	66-70	240-400	125-190
Burger King	Whopper Jr.	47	33	46-68	260-390	460-750
	Double Cheeseburger	44	30	38	460	990
	Combo Value Meal	8	18	various	various	various
Subway	Subway Club	6	10	62-72	247-960	1,160-3,300
	Tuscan Chicken Melt	5	11	62-72	390-596	1,190-3,360
Pizza Hut	Tuscani pastas	13	25	62-66	510-640	1,170-1,670
	Pepperoni PANormous Pizza	8	12	44	1,110	2,550
	EDGE Pizza	6	11	32-62	640-900	1,760-2,480
Dunkin' Donuts	Brewed/iced coffee	2	5	66-70	5-120	5-45
KFC	2-piece meals	20	40	various	various	various
	Value boxes	11	21	various	various	various
	Original and grilled chicken	10	21	various	various	various
Wendy's	Double Stack/ Crispy Chicken/ Jr. Bacon Cheeseburger (in the same ad)	16	33	42 48 48	360 460 310	810 1,150 670
	Wings	11	20	42-44	520-580	1,990-2,630
	Frosty's	5	9	60	150-520	70-240
Sonic	Jr. Deluxe Burger	9	20	64	350	440
	Route 44 Drink Upgrade	5	10	66-70	0-480	0-200
	Jr. Breakfast Burrito	4	9	40	330	790
Dairy Queen	Blizzards	13	24	40-60	440-1,530	180-970
	Sweet Deals Value Menu	5	10	40-80	0-400	10-920
	Chicken Strip Basket	2	4	48-50	1,360-1,640	2,910-3,690
Taco Bell	Grilled Chicken Burrito	8	19	52	650	2,180
	Volcano Menu	6	14	48-56	240-1,000	470-2,010
	Gordita Crunch	6	12	50	500	880
Domino's	Specialty pizzas	12	23	various	various	various
	Breadbowl Pastas	11	21	50-66	672-740	910-1,420
	Oven Baked Sandwiches	11	19	38-48	668-889	1,990-2,660
Starbucks	VIA Ready Brew	1	1	70	0	50

Source: The Nielsen Company (ad exposure data); menu composition analysis

Table 27. Total nutrient content of items in TV ads viewed by youth every day

	Fast food ads viewed daily		
	Total calories	Total sodium	Total calories from sugar and saturated fat
Preschoolers (2-5 years)	1,124	2,146	416
Children (6-11 years)	1,414	2,727	511
Teens (12-17 years)	2,144	4,357	736

Source: The Nielsen Company (ad exposure data); menu composition analysis

Table 28. Nutrient content of menu items advertised on TV

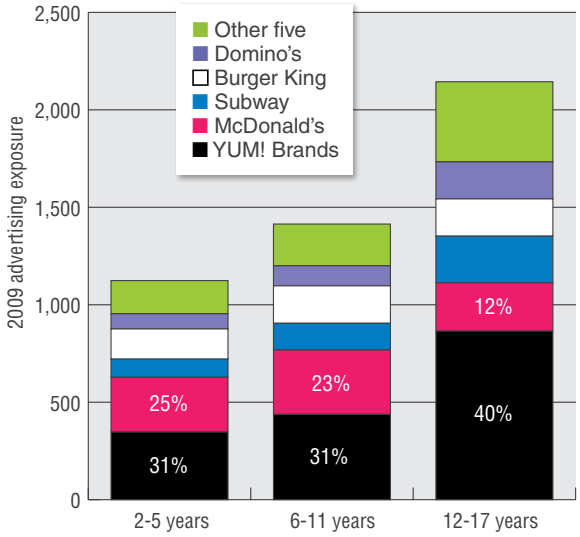
	Average calories per ad viewed		Average mg of sodium per ad viewed	
	6-11 years	12-17 years	6-11 years	12-17 years
KFC	1,242	1,196	2,008	1,967
Domino's	799	789	1,707	1,691
Dairy Queen	777	775	623	632
Sonic	763	752	978	959
Pizza Hut	728	730	1,843	1,847
Wendy's	631	626	1,518	1,491
Taco Bell	566	570	978	1,374
Subway	493	635	1,399	1,854
McDonald's	457	454	800	821
Burger King	407	439	607	742
Dunkin' Donuts	249	241	472	423
Eleven restaurants*	582	657	1,122	1.336

*Excluding Starbucks
Source: The Nielsen Company (ad exposure data); menu composition analysis

ads often featured coffee beverages and snack foods which were lower in calories than the main dishes typically featured by other restaurants. Ads from the remaining restaurants averaged 630 to 800 calories per ad. Appendix B **(Table B.5)** presents calorie and sodium information for ads viewed by demographic group and restaurant.

Figure 20 presents total calories viewed per day by restaurant. YUM! Brands restaurants accounted for 31% of calories viewed by preschoolers and children, and 40% of those viewed by teens. KFC ads alone comprised 20% of calories viewed by teens. McDonald's followed with 25% and 23% of calories viewed by preschoolers and children, but only 12% of calories viewed by teens. Burger King ads contributed 14% of calories viewed by preschoolers and children, and 9% of calories viewed by teens. Subway was responsible for the third or fourth highest calories viewed by all age groups, ranging from 9% for preschoolers to 11% for teens.

Figure 20. Calories viewed daily in fast food TV ads by age group



Source: The Nielsen Company (ad exposure data); menu composition analysis

Nutrient content of ads viewed by African American and Hispanic youth

Table 29 presents differences in the overall nutrient content of products presented in TV ads viewed by white and African American youth on English-language television and by Hispanic youth on Spanish-language TV. Ads viewed by African American children contained 7% more calories per ad than those viewed by white children, whereas African American and white teens viewed ads for products with similar numbers of calories per ad. However, due to higher levels of television viewing, both African American children and teens viewed almost twice as many calories in fast food ads every day as compared to their white peers. African American children viewed ads totaling almost 2,000 calories every day and teens viewed more than 3,000 per day, including more than 1,000 calories from sugar and saturated fat. In addition, the sodium content of fast food menu items in ads viewed daily by African American teens totaled more than 6,000 mg. Spanish-language ads viewed by teens promoted somewhat lower calorie items compared to ads viewed by teens on English-language TV. Due to fewer ads viewed by youth on this medium, daily calories and sodium viewed in fast food ads on Spanish-language TV was significantly lower than those viewed on other TV programming.

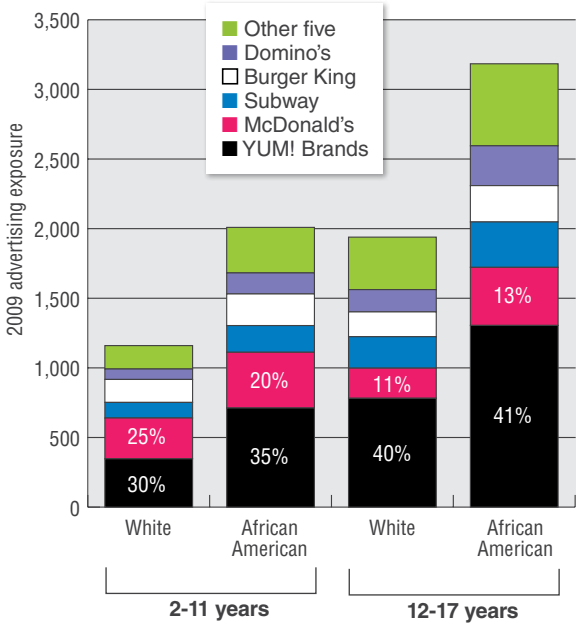
Figure 21 presents calories viewed for each restaurant per day and compares African American and white children and teens. The relative contribution of calories viewed by restaurant was comparable for African American and white teens; however, African American children viewed a set of ads that were more similar to those viewed by all teens than by white children. For example, all ads from YUM! Brands

Table 29. Nutrient content of fast food products presented daily in TV ads viewed by African American and white youth on English-language TV and Hispanic youth on Spanish-language TV

	Children (2-11 years)			Teens (12-17 years)		
	White	African American	Spanish-language	White	African American	Spanish-language
Calories viewed per ad	575	617	591	657	666	584
Total calories	1,160	2,099	307	1,939	3,184	289
Total calories from sugar and saturated fat	425	736	80	664	1,127	76
Total sodium	2,219	3,896	425	3,948	6,373	637

Source: The Nielsen Company (ad exposure data); menu composition analysis

Figure 21. Calories viewed daily in fast food TV ads by age and race



Source: The Nielsen Company (ad exposure data); menu composition analysis

restaurants accounted for 25% of calories viewed daily by white children and 35% to 40% of calories viewed by African American children and all teens; and African American children and all teens viewed more calories from KFC ads than from any other restaurant, whereas white children viewed the most calories from McDonald's ads. As found overall, both African American and white children viewed the third highest number of calories from Burger King ads (11% and 14%, respectively); and teens viewed the second or third highest number calories from Subway ads (10% for African American teens and 12% for white teens).

Television advertising nutrient content overview

This analysis combines data on the number of TV ads viewed by age, race and ethnicity with nutrient information for menu items presented in the ads to provide a complete picture of the nutrient content of ads viewed by young people. Preschoolers and older children viewed fast food TV ads with 1,100 and 1,400 calories and 2,100 and 2,700 mg. of sodium per day. Teens viewed 2,100 calories per day and 4,400 mg of sodium. Approximately one-third of the calories in TV ads viewed by all young people were from sugar and saturated fat. Compared to white children and teens, total ads viewed by African American youth contained 64% to 80% more calories and sodium. KFC, Domino's, and Dairy Queen ads contained the most calories per ad, and YUM! Brands ads comprised 31% of all calories in ads viewed by children and 40% of those viewed by teens. Although children and teens viewed more ads for McDonald's than for any other restaurant, teens viewed the most calories per day in ads from KFC.

Radio advertising exposure

The restaurant product category as a whole, including fast food restaurants, ranked third in spending on local and national radio ads in 2009, behind the automotive and communications industries.[26] The twelve fast food restaurants in our analysis all advertised on the radio in 2009; and on average, teens were exposed to 277 radio ads in 2009 for these restaurants.

Ranking Table 8 presents radio advertising exposure by restaurant and age group. Data were only available for teens and adults, as the Nielsen panel does not monitor radio listening by children. The top 5 radio advertisers matched the top 5 TV advertisers: McDonald's, Burger King, Wendy's, Taco Bell, and Subway. McDonald's, in particular, used radio aggressively. Exposure to McDonald's radio advertising outstripped its nearest competitor at a rate of nearly 4:1 in every demographic group. On average, teens listened to two McDonald's radio ads per week.

As found in TV advertising, Taco Bell was the only advertiser that advertised more often to teens as compared to both young adult and adult audiences. Its radio advertising skewed to a younger audience, ranking second (as established by GRPs) in both the 12-17 and 18-24 age groups, but sixth with 25-49 year olds. The other fast food restaurants maintained the same rank in advertising to all age groups.

INTERNET AND OTHER DIGITAL MEDIA

We evaluated four types of digital fast food restaurant marketing: restaurant-sponsored websites, banner advertising on third-party websites, social media marketing, and mobile marketing. We examined these forms of marketing for youth-targeted content and measured child and adolescent exposure when data were available.

Restaurant websites

We identified 55 websites sponsored by the twelve restaurants in our analysis: thirteen main restaurant websites; eight child-targeted sites; eight additional websites promoting learning, charity and scholarships to youth; five websites targeted to racial and ethnic minorities; and eight entertainment sites with viral videos, music and social networking features. The remaining restaurant websites included blog, shopping, customer satisfaction, store locator, and corporate giving sites. Exposure data were available for 40 of the 55 websites. Because of low website traffic, comScore did not report information about the fifteen remaining sites.

We first describe the content of child-targeted websites, followed by that of main restaurant websites visited most often by children and adolescents, and evaluate these sites' use of features that are likely to appeal to children and adolescents. We then quantify youth exposure to all fast food restaurant websites and present evidence of targeted marketing to African American and Hispanic youth.

Child-targeted website content analyses

Website content analyses	Definitions
Child-targeted website	Sites targeting children were determined based on their content. Features that indicated child-targeted sites included cartoons, animated characters, interactive games, music, and messages directed at children specifically.
Main restaurant website	The restaurant's primary website for consumers. These sites often included the restaurant name in the URL, such as BurgerKing.com or KFC.com.
Engagement techniques	The interactive features integrated on the website to engage users. Popular techniques included music, Flash animation, games, videos, and viral features.

We analyzed the messages and engagement techniques used in eight child-targeted websites: three McDonald's sites (HappyMeal.com, McWorld.com, and Ronald.com); two Dairy Queen sites (DeeQs.com and BlizzardFanClub.com); and one Burger King site (ClubBK.com), one Subway site (SubwayKids.com), and one Sonic site (SonicZooTots.com). Appendix C **(Table C.1)** presents the detailed results of the content analysis. Although KFC also maintained a children's website URL, Kids.KFC.com, it did not qualify as a child-targeted site. The site was just a one-page advertisement for KFC's kids' meals and was included in the analysis of KFC's main website, KFC.com. **Table 30** ranks the child-targeted websites based on a qualitative assessment of engaging content.

McDonald's and Burger King most actively targeted children with their websites. ClubBK.com invited kids to explore, find games, and create an avatar. McDonald's sponsored three different child-targeted sites. McWorld.com provided a

ClubBK.com had the highest level of engagement of the child-targeted websites.

McWorld.com included an elaborate virtual world, full of games, entertainment tie-ins, and subtle advertising.

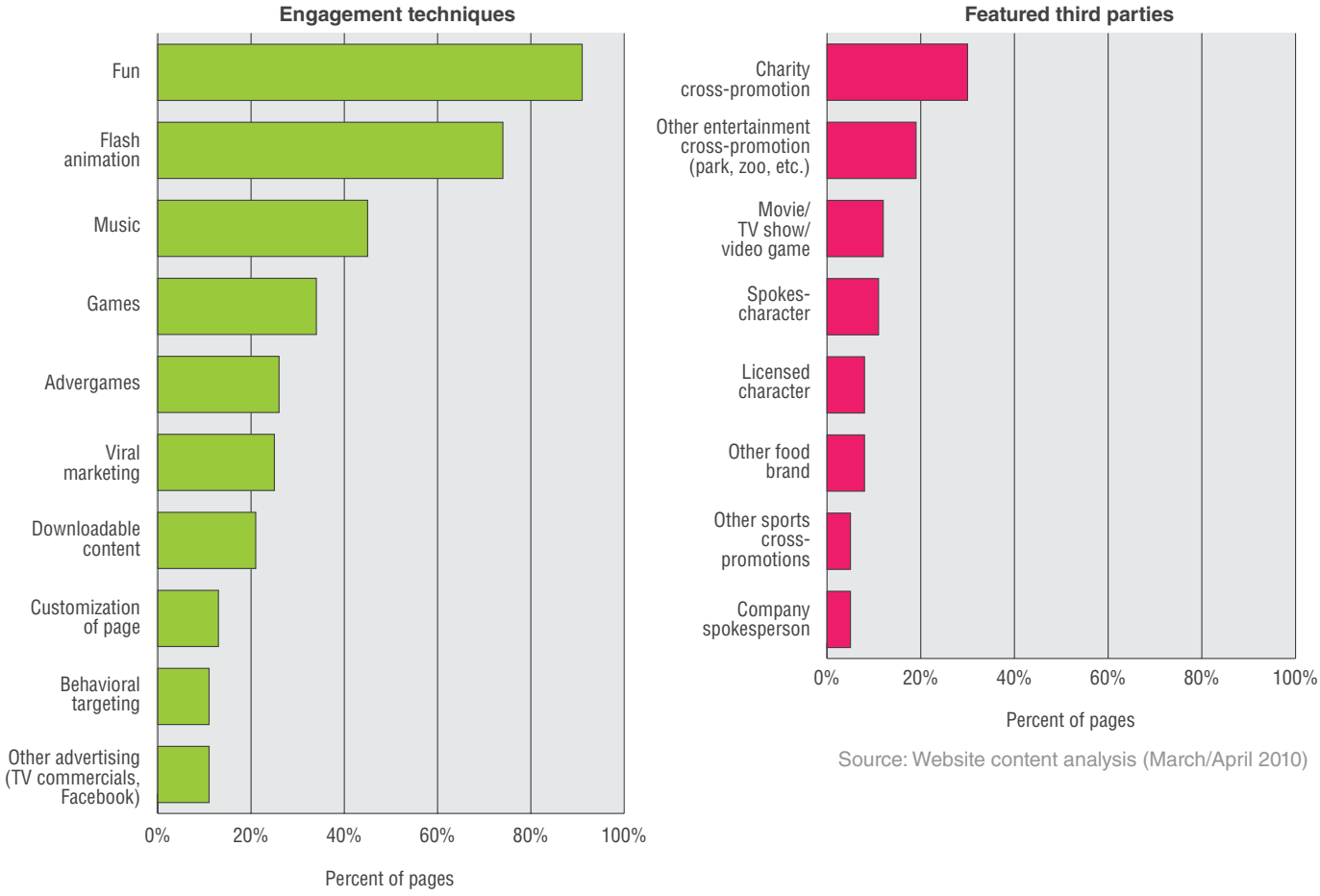
Table 30. Child-targeted websites ranked by level of engagement

Rank: Website (restaurant) Number of pages coded	Description
1: ClubBK.com (Burger King) 63 pages	Site visitors could create an avatar and explore an elaborate virtual world for children. It was unique from other virtual worlds in this study because the user could not simply click on a link to be taken to a game. Instead, the user needed to find links to shops and games, increasing his or her time on the site. The user moved his or her avatar around a page, jumping on mountain tops and descending underwater in a videogame-like fashion. Since the user searched for content, he or she could continually discover new features on the site, including dozens of games and cross-promotions with popular "Pinkalicious," NASCAR driver Tony Stewart, and Nickelodeon's "Kids' Choice Awards." Users earned points to "purchase" games and items. ClubBK.com also allowed the user to interact with others on the site. Although introductory pages advertised Burger King's "healthier" kids' meal option, consisting of macaroni and cheese and apple slices with caramel sauce, site registration led users to a coupon for a hamburger kids' meal, the restaurant's less healthy option.
2: McWorld.com (McDonald's) 93 pages	McWorld.com also created an elaborate virtual world for its users, complete with a map of areas the user could enter with a click of the mouse. The site was highly integrated among its pages. The user, for example, could be asked to move from one area to another to find hidden items, earning points to buy virtual items on the site. The site also had entertainment tie-ins with "Star Wars" and "iCarly," and cross-references with another McDonald's child site, HappyMeal.com. In contrast to ClubBK.com, the branding on this site was subtle and integrated into the page's scenery. For example, a double rainbow might appear in the background as a depiction of the ubiquitous golden arches. Though engaging, it did not have the video game-like quality of ClubBK.com.
3: DeeQs.com (Dairy Queen) 28 pages	While McWorld.com had a subtle advertising background, DeeQs.com explicitly advertised food. Food items were also prominent in the background scenery: a game space with ice cream and cheese dripping onto burgers. The virtual world effectively turned food into a fun fantasyland.
4: HappyMeal.com (McDonald's) 93 pages	This site contained content similar to McWorld.com such as cross-promotions to "iCarly" and "Star Wars" and cross-references to its sister site. However, in contrast to McWorld.com, this site was not a virtual world. It still earned its spot on this list because of the ubiquitous presence of the Happy Meal box on almost every page and videos of children enjoying a Happy Meal.
5: BlizzardFanClub.com (Dairy Queen) 15 pages	Dairy Queen's site targeted to somewhat older children promoted the Blizzard ice cream treat on each of its fifteen pages. Its interactive features included social media promotions, interactive polling, and tie-ins with Oreo cookies and a Facebook page to follow a real-world Blizzard bus promotional tour. Despite these promotions, however, the site had few interactive features such as games or virtual worlds.
6: Ronald.com (McDonald's) 35 pages	This site was the only one in our study specifically targeting preschoolers. It contained a significant amount of educational content, including games to teach kids how to type and count. The site also provided downloadable activities and encouraged families to use the site together. However, the site was heavily branded with McDonald's spokes-character, Ronald McDonald, who has resonated with small children for decades.
7: SubwayKids.com (Subway) 74 pages	This site ranked low on our list because more than half its pages were aimed at parents, not children. The site had a significant health focus, including specific games intended to teach kids about nutritious foods and physical activity. The site also had tie-ins with athletes and Jared, the well-known restaurant spokesperson who famously lost 245 pounds by eating a diet of Subway sandwiches.
8: SonicZooTots.com (Sonic) 10 pages	This site was notable because it contained little direct marketing to children. The site had about ten pages, contained no images of food, and featured a twenty question-style game in which children could guess which animal another player was thinking. The animals on the site were dressed up as tater tots, earning them the name "Zoo Tots."

virtual world for children with games, opportunities to chat with friends, cross-promotions to the "Star Wars" movies and the children's TV sitcom, "iCarly," and a visual map of virtual areas they could explore. ClubBK.com and McWorld.com were the most engaging fast food websites. Though not a virtual world, McDonald's other child-targeted site, HappyMeal.com, contained games, polls, other activities, cross-promotions with Happy Meals, and a launching pad to other McDonald's websites, including McWorld.com. Ronald.com was the only site specifically targeting preschoolers in our study. It integrated the iconic Ronald McDonald character into educational alphabet and counting games. In 2009, McDonald's also hosted McDTween.com, a website targeted to tweens (i.e., 8- to 12-year-olds). However, this site was not available in 2010 when the content analyses were conducted.

Dairy Queen was notable for its heavy promotion of unhealthy foods on its child-targeted websites. In DeeQs.com's virtual world of cheeseburgers, Dilly bars, ice cream, and french fries, children walked on clouds and collected soft drinks as they explored. Apparently targeted to a somewhat older child audience, BlizzardFanClub.com promoted Dairy Queen's signature Blizzard, a soft-serve ice cream treat with candy and other various mix-ins, on every page of the small site. SubwayKids.com had content aimed at parents and kids. For children, the focus was on games, cross-promotions with

Figure 22. Engagement techniques and featured third parties on child-targeted websites



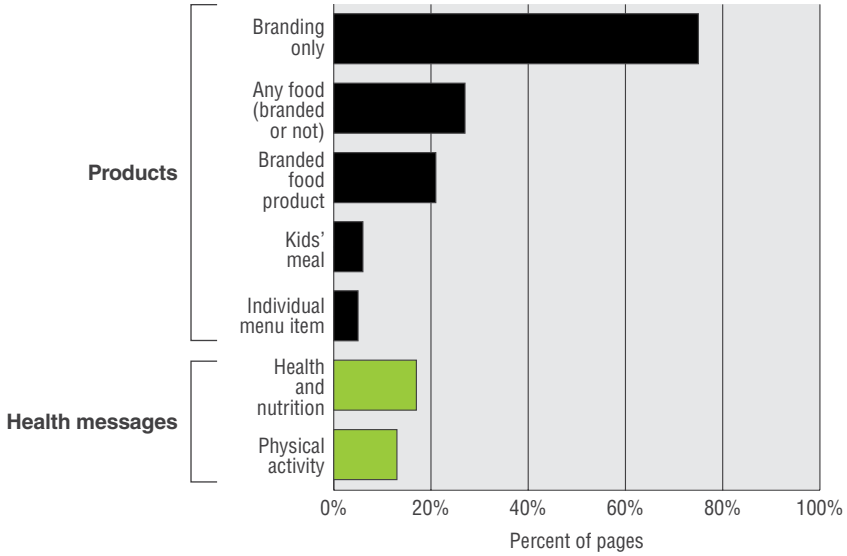
Source: Website content analysis (March/April 2010)

Dairy Queen's DeeQs.com: a virtual world filled with cheeseburgers, Dilly bars, ice cream, and french fries.

such figures as pro athletes, and the restaurant spokesperson Jared Fogel. These pages frequently promoted healthy foods and physical activity, echoing the restaurant's TV advertising message. Finally, Sonic's child-targeted site, SonicZooTots.com, was small and had games involving the restaurant's "tots" characters, but no direct marketing to children.

Figure 22 presents the most common engagement techniques and third parties present on fast food restaurant child-targeted websites. Most of these websites sought to create a fun way for children to engage with the brand. In fact, the most commonly promoted message on these sites was fun, which appeared on 91% of pages. Flash animation was present on 74% of pages and music on 45%. Approximately one-third of pages contained games, appearing most often on McDonald's sites: 77% of Ronald.com, 44% of McWorld.com, and 44% of HappyMeal.com pages (see Appendix C, **Table C.1**). Most of the games on child-targeted sites, including the preschooler-targeted Ronald.com, were advergames containing branded messages about the sponsoring restaurants. Many child-targeted websites also included features to enable children to connect with fellow online visitors. For example, McWorld.com and ClubBK.com provided chat features; and 80% of BlizzardFanClub.com pages, 69% of SubwayKids.com pages, and 40% of HappyMeal.com pages included viral marketing features which invited children to send an email message to a friend about a game or other feature on the website. Child-targeted websites also frequently contained videos, polls, and quizzes to further engage visitors. Behavioral targeting techniques, or features such as site registration that required the user to enter his or her personal information, appeared on seven of the eight child-targeted sites (all except Ronald.com) for a total of 11% of child-targeted pages. Yet only two sites

Figure 23. Products and health messages promoted on child-targeted websites



Source: Website content analysis (March/April 2010)

required parental approval to submit personal information (DeeQs.com and ClubBK.com; 0.7% of child-targeted pages).

Brand messages, without mention of specific branded food items, appeared on at least 89% of child-targeted website pages with two exceptions. ClubBK.com featured branding on 70% of pages and, notably, SubwayKids.com included brand messages on just 35% of pages. Every page on Ronald.com contained both the McDonald's logo and its spokes-character, Ronald McDonald. Overall, child-targeted fast food websites contained branding on 98% of pages; and 75% primarily featured the brand (see **Figure 23**). A page could be coded as 'branding only' as well as 'food presented,' if the only foods depicted were non-branded, such as an image of a banana used in a game.

Specific branded foods, such as Sonic's apple slices and Burger King's macaroni and cheese kids' meal, appeared on 21% of child-targeted website pages. Dairy Queen's BlizzardFanClub.com and SonicZooTots.com stood out as containing food on all of their pages. When sites promoted food products, they often presented the healthier options available in kids' meals. For example, ClubBK.com promoted the restaurant's macaroni and cheese. Yet while HappyMeal.com was named for McDonald's Happy Meal kids' meal, it mainly depicted the Happy Meal box or icon as a branding mechanism integrated into the background of the site without showing any specific kids' meal menu items. Food images often appeared as cartoon-like representations of menu items rather than identifiable products. SubwayKids.com also promoted other Subway food items in addition to its kids' meal, and Dairy Queen's two child-targeted websites promoted individual menu items extensively.

Some child-targeted fast food websites encouraged specific product purchases more explicitly. For instance, McWorld.com and ClubBK.com provided incentives to purchase products by requiring children to enter codes from their kids' meal packages to unlock extra levels of games and features on the websites that could not otherwise be accessed. SubwayKids.com similarly requested that children enter codes from kids' meals, but also provided the option to obtain codes by playing games online. To unlock its vaults, DeeQs.com encouraged children to find codes hidden in Dairy Queen restaurants.

Children were invited to enter codes from their Happy Meal toy to win a prize.

SubwayKids.com and SonicZooTots.com were the only child-targeted websites that extensively promoted health and nutrition messages, including 61% of SubwayKids.com pages and 90% of SonicZooTots.com pages. Physical activity was also promoted on approximately 13% of child-targeted website pages, most frequently on SubwayKids.com, DeeQs.com and Ronald.com (see Appendix C, **Table C.1**).

McDonald's Happy Meal bag promotes two of its child-targeted websites: HappyMeal.com and McWorld.com.

Burger King kids' meal bag with a cross-promotion for the movie "Eclipse", a sweepstakes, and a link to a special website for the promotion, BKEclipse.com.

McDonald's Happy Meal toys come with codes to unlock features on McWorld.com and HappyMeal.com.

Subway's kids' meal bag with a cross-promotion with National Geographic and a link to SubwayKids.com.

Main restaurant website content analysis

We also conducted content analyses of the eight main restaurant websites with highest youth exposure: BurgerKing.com, Dominos.com, KFC.com, McDonalds.com, PizzaHut.com, Starbucks.com, SubwayFreshBuzz.com (in place of Subway.com), and Wendys.com. Appendix C **(Table C.2)** presents detailed results of this analysis. **Table 31** ranks these main restaurant websites based on a qualitative assessment of each site, with higher rankings representing the sites with the most engaging content.

Among sites which were not primarily targeted to children, Burger King's main website, BurgerKing.com, was the most engaging. Its numerous promotions included humor, celebrity and entertainment tie-ins, and viral content, all of which could potentially appeal to teens. It also included ethnic targeting via its Futbol Kingdom section directed at Hispanics using Spanish language and "Futbol" (soccer). While less extensive than BurgerKing.com, McDonalds.com was also engaging and interactive and promoted specific foods such as the McCafe Menu and Quarter Pounders. The two pizza sites, Dominos.com and PizzaHut.com, heavily promoted the ability to order food online and have it delivered to the home. This

Burger King's main company site allowed viewers to customize the levels of "fun," "food," and "king."

appeal to instant gratification and convenience was used almost exclusively on these two sites, making them prominent internet marketers in this study. Dominos.com featured the restaurant's heavily promoted "Pizza Turnaround" campaign that was also supported by a TV campaign and a separate, dedicated website not analyzed here. The campaign described the restaurant's efforts to re-engineer its pizzas in response to dissatisfied customer feedback.

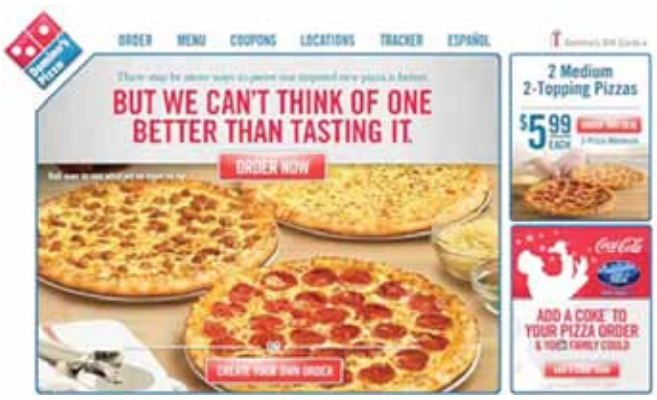
KFC.com stood out for its Pride 360 campaign, which overtly targeted the African-American community through community pride appeals. Otherwise, the site largely resembled the industry leaders, focusing on promoting new products, cross-promoting other food brands (especially soft drinks), and consistently using graphic renderings of the restaurant spokesperson, the Colonel.

The SubwayFreshBuzz.com site offered a large amount of nutrition information, including the "Fresh Fit Meal Builder" which provided customizable nutrition information that

Table 31. Main restaurant websites ranked by level of engagement

Rank: Website Number of pages coded	Description
1: BurgerKing.com 144 pages	This site was an elaborate and extensive collection of promotions, most of which could stand as whole sites on their own. One area on the site featured NASCAR driver Tony Stewart performing a lie-detector test. Another targeted Hispanics with the "Futbol Kingdom," which had elements of a virtual world. A third was a cross-promotion with "Star Trek," featuring humorous videos of how to resist "Kingons," Burger "King" characters who resembled the show's Klingons. Even in non-promotional areas of the site, BurgerKing.com displayed several funny viral video campaigns, including the Whopper Freakout (a video depicting what happens when a Burger King franchise claims to have discontinued the Whopper), the Whopper Virgins (a documentary-style film of a trip into remote areas of the world to introduce people to Whoppers), and the Whopper Flame (a sexy promotion for Whopper-scented body spray). Finally, the site featured integrated advertising with TV commercials.
2: McDonalds.com 133 pages	This extensive site had different promotional areas similar to BurgerKing.com, featuring menu items such as the McCafe menu. It had fewer entertainment tie-ins than BurgerKing.com, but also made use of humor in its promotions for Snack Wraps and Quarter Pounders with Cheese. Its engaging videos featured content demonstrating how the restaurant produces certain menu items and describing the quality of the food.
3: PizzaHut.com 28 pages	Though this site featured mostly static pages with little Flash animation or promotions other than pictures of the food itself, it was notable for its use of online ordering. With a few clicks of the mouse, site users could order a pizza for delivery to their door without leaving their couch. In addition, the site featured banner ads for its pizza on many of its pages.
4: Dominos.com 25 pages	This site also allowed users to buy food from the comfort of their homes with online ordering features. In contrast to PizzaHut.com, Domino's site did not feature banner ads, but had video content advertising a reformulation of its pizza.
5: KFC.com 63 pages	The KFC site was notable because it was the only main restaurant site to extensively target African Americans through the Pride 360 section of its website. Every page of the Pride 360 section featured a banner ad with a price promotion, which did not appear elsewhere on the site. In addition, the site had an engaging campaign to collect signatures for a petition aimed at getting the restaurant's founder, Colonel Sanders, onto a U.S. stamp.
6: SubwayFreshBuzz.com 93 pages	This site was low on the list because it focused on healthier "Fresh Fit" menu items. However, it also included content featuring its Meatball Marinara sandwich, cookies, and sandwich platters and heavily promoted its $5 Footlong sandwich menu. Interactive and engaging content included videos and close-ups of sandwiches, cross-promotions with athletes and celebrities, and a mobile application promoting the restaurant's breakfast menu. It also included customizable nutrition information such as number of calories and sandwich ingredients.
7: Wendys.com 54 pages	This site mainly featured static advertising that focused on the restaurant's food, such as images of the Wendy's burger. It emphasized the quality of ingredients and the importance of eating meals as a family. Like other sites that emphasized the nutritional content of the brands' foods, users could customize a nutrition list based on menu items' ingredients. Overall, this site was not dynamic. The most engaging content allowed users to sign up for a newsletter email and integrated TV advertisements.
8: Starbucks.com 66 pages	This site stood out as the least enticing to children based on content. Videos included features about coffee harvesting, roasting, and preparing. The focus was on the quality of the beans. Nutrition lists were static; the overall content of this site seemed targeted toward coffee aficionados.

Customers could place a delivery or carryout order at Pizza Hut's main site.

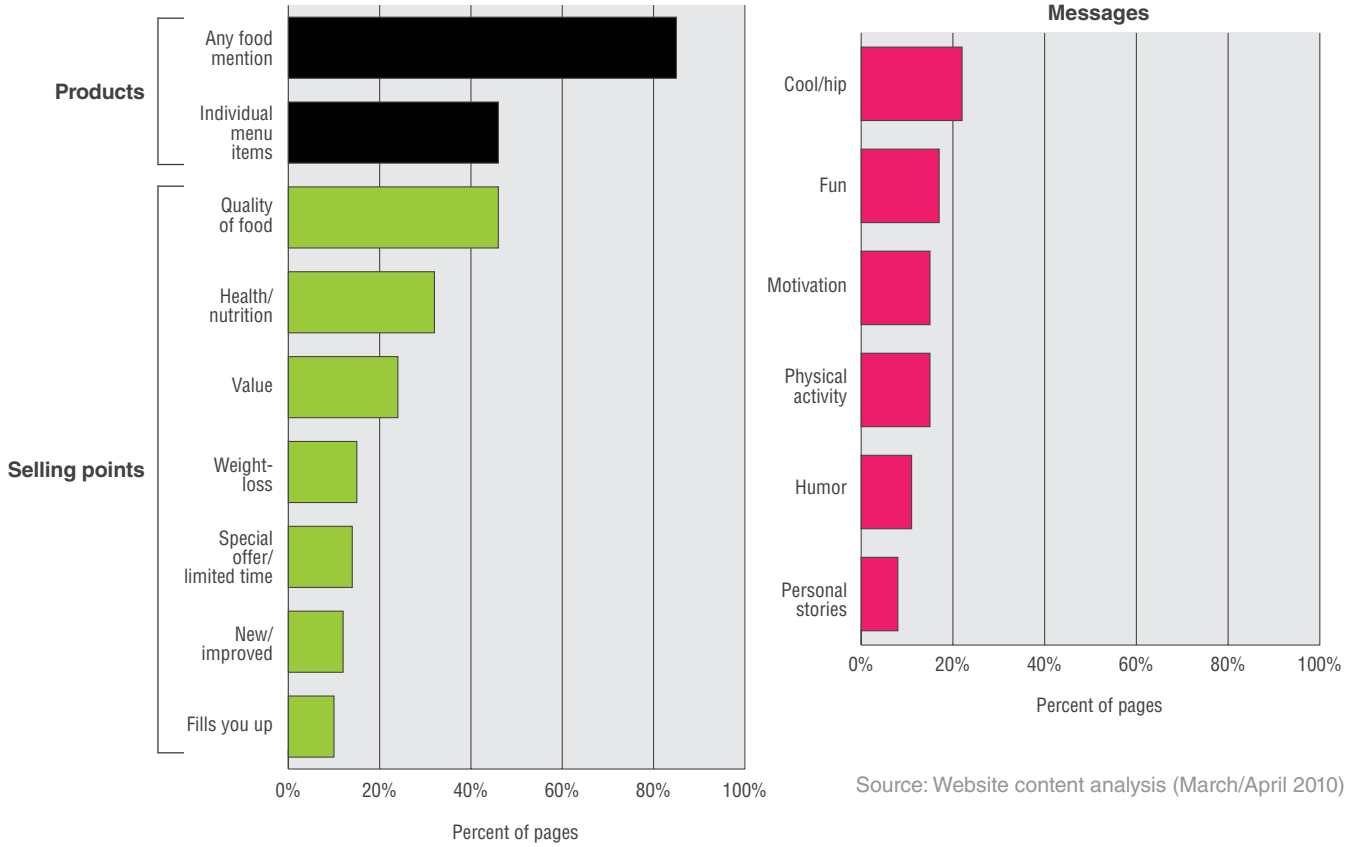


Like Pizza Hut, Domino's encouraged site visitors to place an order online.

allowed users to compare Subway sandwiches to competitor's products such as the Big Mac. However, the site also heavily promoted the restaurant's least healthy options, including the Meatball Marinara sandwich, and featured many of the same cross-promotions as SubwayKids.com. The site's interactive content advertised the sandwiches through videos and close-up imagery. Wendys.com and Starbucks.com were the least engaging of the main restaurant websites examined. The content focused primarily on the quality of their food. However, Starbucks' website contained numerous videos explaining how their coffee is prepared.

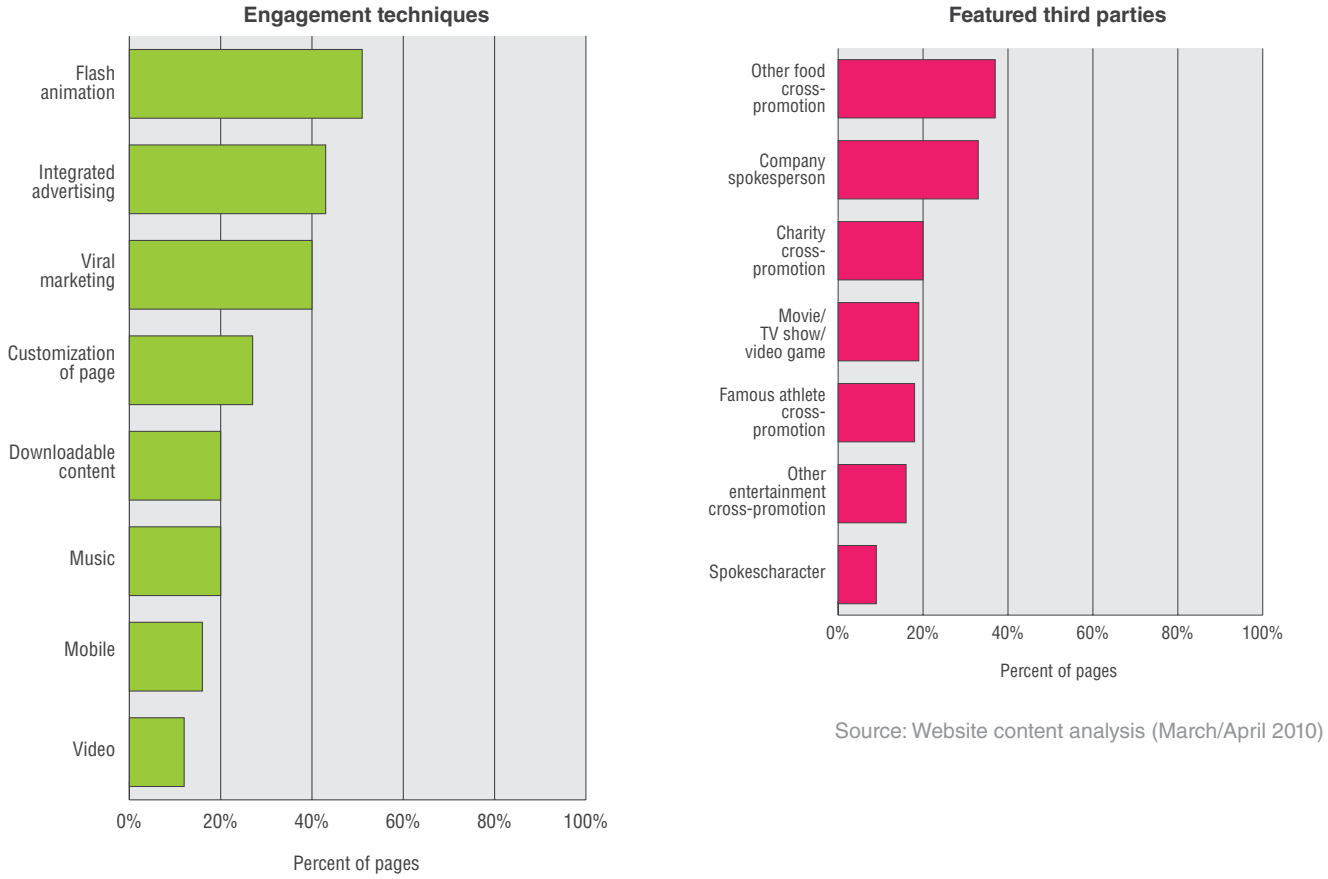
Main fast food restaurant websites differed greatly from the restaurants' child-targeted websites. "Fun" messages appeared on just 17% of main restaurant website pages. Instead, these sites focused primarily on specific menu items and the quality of their food (46% of pages) (see **Figure 24**). Dominos.com had the highest percentage of web pages promoting individual menu items (80%), followed by Starbucks.com (62%). Health and nutrition messages appeared on 32% of pages, followed by value messages which appeared on almost one-quarter of main restaurant website pages (24%). Physical activity and weight loss messages each appeared on 15% of pages.

Figure 24. Most common products, selling points and messages appearing on main restaurant websites



Source: Website content analysis (March/April 2010)

Figure 25. Engagement techniques and featured third parties on main restaurant websites

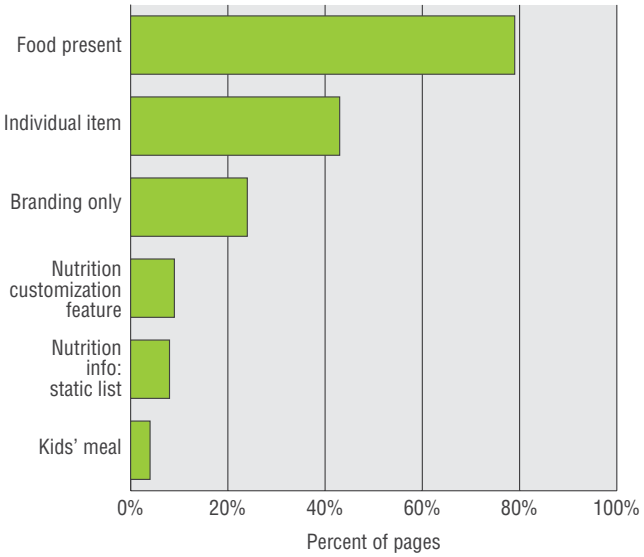


Source: Website content analysis (March/April 2010)

SubwayFreshBuzz.com most frequently promoted these messages (50% featured physical activity and 29% featured weight loss) and provided motivational messaging through stories about personal weight loss. Messages about online convenience and ordering appeared on almost 10% of pages, primarily concentrated on the pizza restaurant sites.

In further contrast to the child-targeted sites, the majority of main restaurant sites were comprised primarily of specific food-related content and promotional messages, while entertaining and engaging content appeared less frequently (see **Figure 25**). Flash animation appeared on approximately half of pages, and most restaurants allowed users to customize pages. Many sites also provided music, videos, features to upload or view photos, games, quizzes, polls, and blogs. The sites also provided opportunities to expose visitors to other forms of advertising such as TV commercials, social media websites, or mobile phone applications. These forms of integrated advertising appeared on 43% of pages. Viral marketing, which allowed users to "tell a friend" or connect on social media websites was used on 40% of main restaurant website pages: most commonly on Starbucks.com and SubwayFreshBuzz.com. Tie-ins with movies, TV shows and video games were present on 92% of Dominos.com pages and 82% of SubwayFreshBuzz.com pages. Restaurants also

Figure 26. Products and nutrition promoted on main restaurant websites



Source: Website content analysis (March/April 2010)

promoted charities on 20% of their main restaurant website pages. Unlike the child-targeted sites, behavioral targeting was one of the least prevalent features, appearing on less than 6% of main restaurant pages.

Restaurants typically devoted large portions of their main websites to displaying their menu items (see **Figure 26**). Food, primarily individual menu items, was present on almost four of five pages of main restaurant sites. Although branding was still prominent, branding only messages appeared on fewer than one-quarter of main restaurant pages, compared to three-fourths of child-targeted website pages. Main restaurant sites also included more nutrition features, including the ability to customize individual items and static nutrition information that mirrored packaged food nutrition labels. Burger King had the most advanced menu features, allowing users to add tomatoes, pickles, and various other condiments to a Whopper, create meals and obtain nutritional information. The main websites for Domino's, McDonald's, Starbucks, Wendy's and Subway also enabled visitors to create meals and obtain nutritional information, but were less customizable than Burger King's site. Pizza Hut and KFC, in contrast, only provided nutrition information in PDF format (see Appendix C, **Table C.2**).

This page on Burger King's site allowed visitors to build customized food items.

Exposure to fast food restaurant websites

Website exposure	Definitions
Average unique visitors per month	Average number of different individuals visiting the website each month in 2009. Data are reported for the following demographic groups: 2-11 years, 12-17 years, 2-17 years, and African American 2-17 years.
Average visits per month[27]	Average number of times each unique visitor (in each demographic group) visited the website each month.
Average pages per month[28]	Average number of pages viewed each month per visitor (in each demographic group) to the website.
Average time spent per visit[29]	Average number of minutes each visitor (in each demographic group) spent on the website each time he or she visited.
Composition index by age[30]	The percentage of children (2-11 years) and teens (12-17 years) who visited the website compared to the percentage of all visitors. A composition index greater than 100 for 2-11 years indicates that children were more likely to visit the website compared to all visitors.
Composition index for African American youth	The percentage of African American (2-17 years) who visited the website as compared to all youth (2-17 years). A composition index greater than 100 indicates that a site appeals disproportionately to African American youth.

Ranking Table 9 ranks each of the restaurant websites with available comScore data on youth exposure. Of these 40 websites, young people most often visited the two pizza restaurant sites, PizzaHut.com and Dominos.com. Three McDonald's websites followed: McDonalds.com, HappyMeal.com and McWorld.com. McDonald's averaged more than 659,000 unique visitors (2-17 years) every month to all thirteen of its websites.[31] More than 55% of these visitors (365,000) were children under 12 years old. Burger King's child-targeted site, ClubBK.com, was No. 6 in youth exposure.

Child-targeted websites. Six of the eight child-targeted websites in our content analysis had enough young visitors on the comScore panel to measure exposure (see **Table 32**). The three most popular of these sites, McWorld.com, HappyMeal.com, and ClubBK.com, were disproportionately visited by children (2-11 years). Children were 3 to 3.5 times more likely than adults to visit HappyMeal.com and McWorld.com and twice as likely as adults to visit ClubBK.com. McDonald's two child-targeted websites, HappyMeal.com and McWorld.com, received 248,000 and 128,000 unique young visitors per month, respectively. Engagement with both HappyMeal.com and ClubBK.com was high. Young people spent eleven to twelve minutes each month on these sites and visited nine HappyMeal.com pages and thirteen ClubBK.com pages.

Youth traffic to Dairy Queen's and Subway's child-targeted websites was substantially lower. DeeQs.com,

Table 32. Average monthly exposure to child-targeted websites

	Average unique visitors per month (000)			Composition index	
Website	2-11 years	12-17 years	Average time spent (min)	2-11 years	12-17 years
HappyMeal.com	189.3	58.2	6.1	299	81
McWorld.com	100.9	27.0	3.2	347	82
ClubBK.com	35.2	14.7	7.5	195	72
DeeQs.com	3.4	6.0	3.2	72	110
BlizzardFanClub.com	4.4	4.3	2.0	45	39
SubwayKids.com	1.4	2.3	0.9	27	40

Source: comScore Media Metrix Key Measures Report (January-December 2009)

BlizzardFanClub.com, and SubwayKids.com each were visited by fewer than 10,000 young people on average each month. Website exposure data were not available for SonicZooTots.com and McDonald's Ronald.com. McDonald's tween-targeted website, McDTween.com, which existed only in 2009, also did not receive a substantial amount of youth traffic; therefore comScore data were not available.

Main restaurant websites. It is interesting to note the extent that children and adolescents visited the main restaurant websites, in some cases even more often than restaurants' child-targeted sites (see **Table 33**). Both PizzaHut.com and Dominos.com received on average more than 430,000 unique young visitors every month in 2009 and 40% to 45% of them were under 12 years old. PizzaHut.com also had the highest average minutes per visit (7.6) of all restaurant websites. McDonalds.com received approximately 260,000 unique young visitors every month.

Racial and ethnic targeting. Of the 39 fast food restaurant websites with available comScore data for African American youth, 61% had a disproportionately higher percentage of unique young African American visitors compared to all 2- to 17-year-olds visiting the site. **Table 34** presents all websites with a composition index of 125 or higher, meaning that these websites received 25% or greater than expected African American youth visitors.

DunkinAtHome.com, a site selling Dunkin' Donuts products, had the highest African American composition index: African American youth visited this site 4.6 times more often than all youth. Not surprisingly, the percentage of African American youth visiting McDonald's ethnic-targeted 365Black.com was 3.5 times greater than the corresponding percentage of all 2- to 17-year-old visitors. Two smaller McDonald's websites (McState.com and AboutMcDonalds.com) followed. African American youth exposure was 2.5 times higher than all 2- to 17-year-olds on two Wendy's websites, WendysHighSchoolHeisman.com, a scholarship website for kids, and WendysRealTime.com, an interactive gaming and instant messaging website. Ten of the twelve restaurants

Table 33. Average monthly exposure to main restaurant websites

	Average unique visitors per month (000)			Composition index	
Website	2-11 years	12-17 years	Average time spent (min)	2-11 years	12-17 years
PizzaHut.com	195.3	242.4	7.6	59	64
Dominos.com	175.6	256.8	5.1	59	75
McDonalds.com	98.1	160.4	2.1	60	86
Starbucks.com	33.9	54.5	3.6	34	48
SubwayFreshBuzz.com	17.7	34.2	5.4	29	50
Subway.com	27.2	53.7	3.1	30	53
BurgerKing.com	41.8	55.8	2.0	72	85
DunkinDonuts.com	25.6	32.1	3.4	45	50
Wendys.com	34.4	52.0	2.2	50	66
KFC.com	34.9	50.5	2.2	33	42
SonicDriveIn.com	43.4	37.4	2.6	87	66
DairyQueen.com	27.9	20.4	3.4	85	55
TacoBell.com	16.0	51.1	2.2	28	79

Source: comScore Media Metrix Key Measures Report (January-December 2009)

Table 34. Websites with a disproportionate number of African American youth visitors

		Average unique visitors per month (000)		Composition index	
Website	Type	African American 2-17 years	All 2-17 years	Average time spent (min)	African American 2-17 years
DunkinAtHome.com	Product sales	0.9	2.0	1.0	460
365Black.com (McDonald's)	Ethnic-targeted	1.8	5.1	1.0	350
McState.com	Store locator	20.5	62.9	2.5	324
AboutMcDonalds.com	Corporate responsibility	4.5	15.6	1.3	287
WendysHighSchoolHeisman.com	Scholarship (kids)	1.0	3.9	1.2	253
WendysRealTime.com	Social media	5.6	22.2	1.1	250
SubwayKids.com	Child-targeted	0.7	3.2	0.8	225
KFC.com	Main	17.5	85.5	2.1	204
Wendys.com	Main	16.8	86.4	2.5	193
DunkinDonuts.com	Main	10.8	57.7	2.8	186
FeedTheBeat.com (Taco Bell)	Promotion	0.5	3.0	1.3	175
McDonalds.com	Main	45.4	258.6	1.5	174
BurgerKing.com	Main	16.2	97.7	2.4	165
DeeQs.com	Child-targeted	1.3	8.2	3.0	158
Subway.com	Main	12.3	80.9	3.1	152
BookItProgram.com (Pizza Hut)	Learning (kids)	0.2	1.6	2.7	144
ClubBK.com	Child-targeted	6.9	49.9	6.9	138
BlizzardFanClub.com	Child-targeted	0.9	6.5	2.0	137
Dominos.com	Main	58.8	432.4	5.1	135
TacoBell.com	Main	9.0	67.1	2.5	134

Source: comScore Media Metrix Key Measures Report (January-December 2009)

included in the analysis had at least one website with a disproportionate percentage of African American youth visitors, including the main websites for KFC, Wendy's, Dunkin' Donuts, McDonalds, Burger King, Subway, Dominos, Taco Bell and Pizza Hut.

Four of the child-targeted fast food websites with available comScore data also exhibited a disproportionate African American youth composition. On SubwayKids.com, the percentage of African American youth visitors was 2.2 times higher than the percentage of all youth visitors. Visitor composition for DeeQs.com, BlizzardFanClub.com and ClubBK.com was 1.4 to 1.6 times more concentrated among African American youth as compared to youth overall.

It is interesting to note that just McDonald's and KFC had websites explicitly targeting specific racial and ethnic groups. In addition to 365Black.com, McDonald's also had a website for Hispanic Americans, MeEncanta.com, and for Asian Americans, MyInspirasian.com. These websites emphasized the celebration of each culture and provided options to view pages in Spanish and Asian languages. KFC also had two websites targeted to African Americans (these sites could be accessed through the main KFC website): KFCHitmaker.com, a website celebrating African American heritage and music culture, as well as Pride360HBCU.KFC.com, which provided information about Historically Black Colleges and Universities. With the exception of MeEncanta.com and 365Black.com, these targeted websites did not have enough visitors for comScore to provide exposure data.

Restaurant website overview

Fast food restaurant websites were visited frequently by children, adolescents and by African American youth. Child-targeted websites engaged children with the brand through fun and interactive features such as games and virtual worlds. While some child-targeted sites promoted nutrition, the sites most commonly visited by children did not. Instead they provided an opportunity for restaurants to immerse children in messages about their brands at a young age and encouraged product purchase such as by requiring codes found on kids' meals to be entered on the sites. McDonald's and Burger King's child-targeted websites: McWorld.com, HappyMeal.com, and ClubBK.com stood out as having both the highest youth exposure and the most engaging content. Notably, Dairy Queen's child-targeted website DeeQs.com extensively advertised unhealthy foods, while SubwayKids.com and SonicZooTots.com emphasized health and nutrition.

While less interactive, some main restaurant websites drew in more young visitors than did child-targeted websites. PizzaHut.com and Dominos.com for example had the highest youth

exposure of all fast food restaurant websites. McDonalds.com and BurgerKing.com also had high youth exposure and were the main restaurant websites with the most engaging content. Main restaurant sites exposed children to marketing messages and promotions – often for specific items on the restaurants' regular menus. Although these sites contained fewer games and fun activities, entertainment features were still prominent. Based on the exposure data, their content had significant appeal for children and teens.

Banner advertising on third-party websites

Banner ad exposure	Definitions
Third-party websites	Websites on which advertising from other companies (i.e., the restaurants in our analysis) are present.
Banner advertising	Ads that appear on third-party websites as rich media (SWF files) and traditional image-based ads (JPEG and GIF files). They usually appear in a sidebar or "banner" at the top of a web page. Text, video, and html-based ads are not included.
Youth websites	Third-party websites with a disproportionate number of youth visitors (2-17 years), including entertainment websites for youth (as defined by comScore), teen community websites (as defined by comScore), and websites with a percentage of youth visitors (2-17 years) that exceeds the percentage of youth visitors on the total internet.
Average unique viewers per month[32]	Average number of unique viewers exposed to a restaurant's banner advertisements each month from June 2009 through March 2010.
Average number of ads viewed per month[33]	Average number of banner advertisements viewed each month per unique viewer from June 2009 through March 2010.
Percentage of ads viewed on youth websites[34]	Percentage of a restaurant's banner advertisements that appeared on youth websites as a proportion of all websites on which the ad appeared from June 2009 through March 2010.
Total average ads viewed on youth websites per month[35]	The average total number of ads viewed on youth websites each month by all viewers from June 2009 through March 2010.

We obtained exposure data from comScore for banner ads from the twelve restaurants in our analysis for the period from June 2009 through March 2010. We also obtained copies of the ads. The initial sample included a total of 424 banner ads with the most frequent exposure during this period. After removing duplicates, we obtained a sample of 231 ads for content analysis. **Ranking Table 10** presents exposure to banner ads by restaurant and product promoted, ranked by the average total number of ads viewed on youth websites per month.

Banner ads for the twelve restaurants in our analysis averaged millions of unique viewers per month (see **Table 35**). Three of the five restaurants with child-targeted websites (McDonald's, Burger King, and Dairy Queen) used banner advertising on youth websites to drive children to their sites. However, the majority of banner ads from these restaurants advertised individual menu items. A substantial number of these menu item ads appeared on youth websites.

The pizza restaurants used banner advertising the most. Domino's and Pizza Hut's banner ads each were viewed approximately seven times per month by 70 million unique viewers. McDonald's also relied on banner advertising

Table 35. Banner advertising exposure by restaurant

Restaurant	Average unique viewers per month (000)	Average number of ads viewed per month	Ads viewed on youth websites
Domino's	70,937.1	7.0	33%
Pizza Hut	69,617.5	7.6	26%
McDonald's	49,027.2	5.5	25%
Wendy's	30,744.2	4.4	20%
Dunkin' Donuts	28,916.7	4.2	3%
Subway	15,490.6	10.1	2%
Starbucks Coffee	14,689.0	2.9	4%
Burger King	14,570.5	3.4	28%
Sonic	10,204.4	3.2	26%
KFC	7,939.4	4.9	16%
Dairy Queen	3,541.3+	n/a	50%
Taco Bell	2,138.7	4.9	10%
Twelve restaurants	n/a	n/a	24%

Source: comScore Ad Metrix Advertiser Report (June 2009-March 2010)

with 49 million individuals viewing 5.5 McDonald's banner ads per month. Dunkin' Donuts and Wendy's followed with approximately 30 million unique viewers per month each. Banner ads for Subway, Starbucks, Burger King, and Sonic were each viewed by 10 to 15 million individuals per month. On average, nearly one in four banner ads for these twelve restaurants appeared on a youth website. Therefore, children were exposed to banner ads for a wide range of fast food products, even those not specifically child-targeted.

Banner ad content analysis

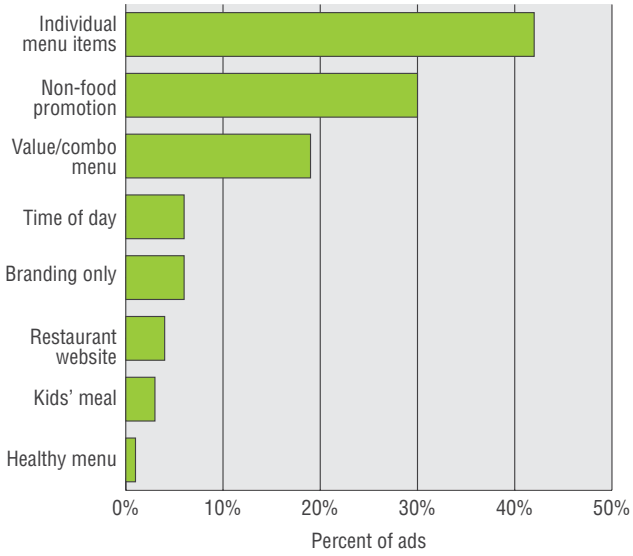
Banner ad content analysis	Definitions
Child-targeted	Ad with features clearly intended to appeal to children such as promotions for kids' meals; child-targeted websites, cartoons, and animation; or mentions of games or "advergaming" sites.
Main product type	Most important product or promotion featured in the ad.
Selling point	Quality of the product highlighted in the ad.
Engagement technique	Features that promote interaction with the banner ad.

Appendix C **(Table C.3)** presents the products promoted in each restaurant's banner advertising. The restaurants differed significantly in the types of products they chose to promote most frequently. Most of the 231 unique banner ads that we coded conveyed a single, straightforward message about a specific menu item or special offer (non-food promotion) (see **Figure 27**). Two-thirds of ads promoted a food, beverage, menu or meal, and three-fourths of ads included an actual image of a food item.

Banner ads most often highlighted three selling points: special offer (37%); value/cheap (29%); or new/improved (19%) (see **Figure 28** and Appendix C, **Table C.3**). Notably, most ads that did not feature a food product promoted a limited-time promotion, such as Subway's Scrabble and McDonald's Monopoly games.

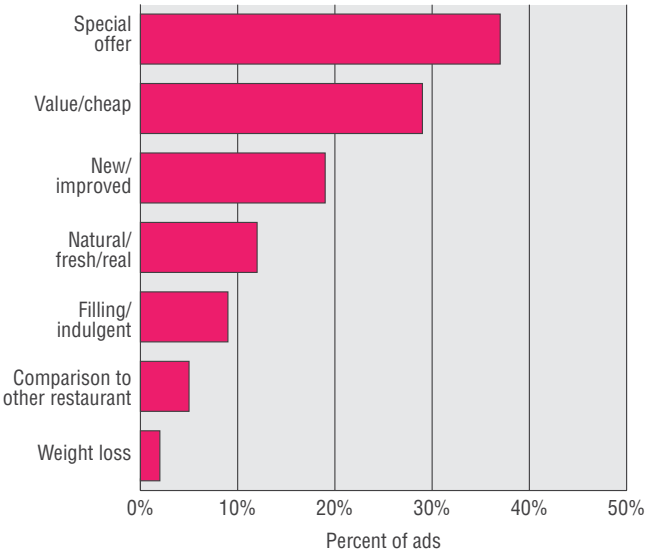
Internet banner ads are qualitatively different than other types of ads. Their content is limited by factors inherent to the medium. For example, human actors are rarely depicted because the ads do not contain sound or video. In addition, banner ads compete with a website's main content for the attention of the viewer. Therefore, the ads must grab the viewer's attention. For this reason, nearly all banner ads incorporated one or more engagement techniques (see **Figure 29**).

Figure 27. Product types featured in internet banner ads



Source: Banner ad content analysis (June 2009-March 2010)

Figure 28. Selling points featured in internet banner ads*



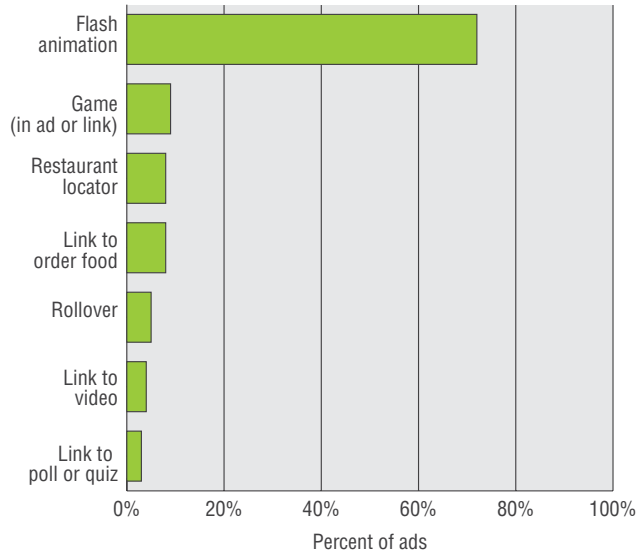
* Excludes selling points that appeared in fewer than 1% of ads.
Source: Banner ad content analysis (June 2009-March 2010)

Most banner ads (72% of our sample) included Flash animation. They also typically used bright colors, large text, and prominent depictions of food. Domino's and Pizza Hut, the two restaurants with the largest volume of third-party advertising, used a unique strategy to boost pizza sales via web ads: Their banner ads provided links to order food online. These ads generally contained a button that said "Order Now." After just a few clicks, viewers who were tempted by one of the "Hot Online Deals" could have a pizza delivered without leaving their computer.

A banner ad for Taco Bell's half-pound burritos.

Many Domino's ads included a link to order food online.

Figure 29. Banner ads with specific engagement techniques*



* Excludes techniques that appeared in fewer than 1% of ads
Source: Banner ad content analysis (June 2009-March 2010)

Many other restaurants took advantage of another unique feature of banner advertising: Viewers could interact with the ad. For example, one Burger King ad allowed viewers with a webcam to snap a picture of themselves holding a dollar bill to promote its value menu. Many ads included restaurant locators, which enabled viewers to find locations closest to their home. Other ads included polls. For example, one Domino's ad asked, "What's America's favorite pizza?" By voting, viewers gained the chance to win a year's worth of free pizza. The most common type of interaction involved simply clicking on the ad to learn more about the product.

Youth-targeted banner advertising

We distinguished between banner ads with child-targeted content and those that could appeal to all audiences. If a banner ad contained child-targeted features but mentioned that the information was intended for parents, we did not code it as a child-targeted ad. In addition, we identified banner ads that were placed disproportionately more often on youth websites and thus also appeared to be targeted to a youth audience.

Child-targeted ads. A total of 10 unique ads (4.3%) in our content analysis were child-targeted. Just three restaurants (McDonald's, Burger King, and Dairy Queen) included child-targeted content in their banner ads; however, these ads were viewed by millions every month (see **Table 36**). They most commonly promoted child- and teen-targeted restaurant websites and appeared most frequently on youth websites. For instance, 97% of banner ads for Dairy Queen's child-targeted website, DeeQs.com, were viewed on youth websites. Similarly, 83% of ClubBK.com banner ads appeared on youth websites. On average, more than 3.5 million viewers saw 2.9 banner ads every month for DeeQs.com and more than

Table 36. Exposure to child-targeted banner ads

Restaurant	Product advertised	Average unique viewers per month (000)	Average number of ads viewed per month	Ads viewed on youth websites	Total average ads viewed on youth websites per month (000)
Dairy Queen	DeeQs.com	3,541.3	2.9	97%	11,199.5
Burger King	ClubBK.com	3,019.3	4.3	83%	13,463.7
McDonald's	LineRider.com	1,650.9	4.9	62%	5,166.1
McDonald's	Happy Meal	5,741.3	3.6	57%	11,696.8

Source: comScore Ad Metrix Advertiser Report (June 2009-March 2010)

This Happy Meal ad promoted the free Penguins of Madagascar toys that come with the meal.

This Dairy Queen ad encouraged children to visit DeeQs.com, a child-targeted advergaming site.

Ad instructed viewer to "Draw a Star!"

Viewer used mouse to draw a star on the ad.

Viewer's drawing burst into dozens of colored shapes, providing the backdrop for the image of a kids meal.

Stars continued to shoot across the screen until a promotion for the Nickelodeon Kids' Choice Awards was displayed.

Viewers were invited to "Play Now!" with a link to clubBK.com.

Kids who clicked the ad arrived at ClubBK.com.

3 million viewers saw 4.3 ads each per month for ClubBK.com. In addition, 62% of McDonald's banner ads promoting LineRider.com, a gaming website, and 57% of its Happy Meal banner ads were viewed on youth websites. In contrast, only 12% of SubwayKids.com banner ads appeared on youth websites; these ads contained content aimed at parents, not children, such as promotions for programs that provide money to children's schools.

As with McDonald's and Burger King's child-targeted TV ads, child-targeted banner ads did feature the restaurants' "better-for-you" products. For example, the Burger King and McDonald's ads depicted apple slices and milk instead of their less nutritious kids' meal side and beverage options. However, these banner ads generally did not focus on the food. One prototypical McDonald's ad promoted the free Penguins of Madagascar toys included in a Happy Meal. The ad pictured a Happy Meal, but the main focus was the "toys with a mission" included in the meal. McDonald's also produced several ads with other promotional tie-ins, including partnerships with "Ice Age: Dawn of the Dinosaurs," "Alvin and the Chipmunks: The Squeakquel" ("six toys that talk!"), "Star Wars" ("may the toys be with you!"), and "Ty's Teenie Beanie Babies." Dairy Queen's child-targeted banner ads did not clearly depict any food products.

These child-targeted ads primarily encouraged children to visit the restaurants' child-targeted websites. Dairy Queen promoted DeeQs.com in many banner ads with a message such as "Unlock sweet deals at DeeQs.com. Get new gear, cool downloads, & bonus points." The food in Dairy Queen ads was barely noticeable. It is likely that many children would not have understood that the ad was produced by a restaurant. If they were intrigued by the game and clicked on the ad, they would have ended up at DeeQs.com, where they would be invited to play games in an animated world filled with cheeseburgers and ice cream.

Burger King produced one of the most engaging child-targeted ads that we analyzed: The ad invited children to draw a star on the ad with their mouse, which then burst into an image of a BK kids' meal followed by a promotion for Nickelodeon Kids' Choice Awards and an invitation to visit ClubBK.com.

Table 37. Banner ads with a high proportion of ads viewed on youth websites

Restaurant	Product promoted	Average unique viewers per month (000)	Average number of ads viewed per month	Ads viewed on youth websites	Total average ads viewed on youth websites per month (000)
KFC	Unthink (grilled chicken)	6,291.6	2.2	67%	11,360.0
Taco Bell	Fruitista Freeze	108.3	4.3	39%	111.6
Taco Bell	Volcano Menu	454.4	5.4	36%	692.6
Domino's	All ads	70,937.1	7.0	33%	181,115.6
McDonald's	McCafe beverages	10,333.4	3.7	27%	10,759.2
Sonic	All ads	10,204.4	3.2	26%	8,067.0
Pizza Hut	All ads	69,617.5	7.6	26%	141,634.3
Taco Bell	Value Menu	84.3	6.9	21%	97.3
Wendy's	Hamburgers/Sandwiches	30,309.1	4.4	20%	27,285.3

Source: comScore Ad Metrix Advertiser Report (June 2009-March 2010)

Versions of this ad were viewed approximately 23 million times, according to comScore.

Banner ads on youth websites. While the banner ads with the highest proportion of youth website placements tended to contain child-targeted content, the majority of ads viewed on youth websites contained content with broad audience appeal. **Table 37** provides exposure data for all general audience banner ad products for which 20% or more of ads appeared on youth websites. Domino's had the highest presence on youth websites, averaging 181 million ad views on youth websites every month. However, none of its banner ads contained specific child-targeted content. Similarly, Pizza Hut banner ads averaged 142 million ad views on youth websites every month. Although the exposure to its ads was much lower, Taco Bell placed 21% to 39% of banner ads for its Fruitista Freeze, Volcano Menu, and Value Menu items on youth websites.

About one-third of Taco Bell's "Volcano Menu" ads were viewed on youth websites.

This McDonald's McCafe ad featured Disney actress Demi Lovato on youth websites.

In addition, Sonic placed more than one in four general audience banner ads on youth websites; Wendy's and Dairy Queen each placed nearly one in five. Of note, KFC placed two-thirds of banner ads on youth websites for its Unthink campaign promoting grilled chicken. McDonald's also placed 27% of its McCafe beverage banner ads and 16% of its Dollar Menu banner ads on youth websites. The McCafe ads often featured Disney actors such as Demi Lovato.

Racial- and ethnic-targeted banner ads

Just McDonald's and KFC appeared to target specific racial and ethnic minority groups with banner ads. These ads directed viewers to their ethnic-targeted websites (see **Table 38**). KFC had one such ad, while McDonald's had thirteen. These ads generally were similar to the restaurants' other banner ads. They frequently used Flash animation, and most promoted a single product, usually a food item or special offer. They differed in a few ways. Sometimes the ads featured promotions that would be most appealing to a particular group (for example, a chance to win a trip to the Latin Grammys), and often the text was in Spanish or Asian languages.

Table 38. Exposure to racial- and ethnic-targeted banner ads

Restaurant	Product promoted	Average unique viewers per month (000)	Average number of ads viewed per month	Ads viewed on youth websites
McDonald's	365Black.com	191.6	2.1	12%
McDonald's	MeEncanta.com	2,022.0	5.8	3%
McDonald's	MyInspirAsian.com	204.5	4.0	1%
KFC	Pride 360	554.2	4.6	0%

Source: comScore Ad Metrix Advertiser Report (June 2009-March 2010)

This ethnic-targeted McDonald's ad began with origami animals made from dollar bills.

The origami transformed into food items from the dollar menu.

Four food items were eventually revealed.

A link to MyInspirasian.com was displayed at the end of the ad.

Banner advertising overview

Banner advertising was used extensively by all twelve fast food restaurants in this analysis. Notably, McDonald's, Burger King and Dairy Queen strategically placed banner ads for their child-targeted gaming sites on third-party youth websites. These ads contained engaging content, such as games and activities embedded in the ads to entice children to visit fast food gaming sites. The ads focused less on food and more on fun; although when food was shown, it tended to be the restaurants' healthier options.

Banner ads placed on youth websites, however, were not limited to ads promoting child-targeted websites. In fact, the majority of banner ads placed on youth websites promoted menu items with broad audience appeal. Most commonly, individual menu items were pushed in these ads, with an emphasis on special offers and value. Domino's and Pizza Hut stood out, as their banner ads had the largest presence on youth websites. Overall, all twelve fast food restaurants in this analysis maintained a strong presence on youth websites, placing one in four banner ads for a wide variety of products on these sites.

Social media marketing

Social media marketing	Definitions
Facebook	The largest social networking site with more than 500 million users worldwide. Members have their own pages on which they present information about themselves, share links to other sites, upload photos and videos, and post messages. Members connect with other members by becoming "friends" and incorporating them in their network. A typical restaurant Facebook page contains multiple tabs with different content (e.g. notes, messages, polls, photos, videos, applications).
Facebook fan	Facebook users can become fans of a restaurant by clicking a "like" button on the restaurant's page. A thumbnail photo of that individual is then visible on the restaurant page in the "people who like this" section. Any time the restaurant modifies its page (e.g., by adding a feature, posting a comment) that activity shows up in the individual's "news feed," or personalized Facebook home page. Similarly, any time the individual interacts with the restaurant's page, this action shows up in the "news feeds" of his or her Facebook friends. The restaurant also shows up on the individual's Facebook page as something that he or she "likes."
Profile picture	Every Facebook restaurant profile has a profile picture. This picture is selected by the restaurant and is visible at the top left-hand corner of the page. It is also used in thumbnail form to identify the restaurant in wall posts and comments.
Wall post	A message that the restaurant or other owner of a Facebook page posts to its wall tabs. These messages can be straightforward text, or they can incorporate images, videos, links to other pages within Facebook, links to other websites, or polls.
Twitter	Twitter is a micro blogging service that has more than 145 million registered users worldwide. Twitter users publish 140-character messages called "tweets" that are posted on their own profile pages. Users can "follow" each other by subscribing to another author's tweets. These "followed" tweets are then published on the Twitter home pages of all of the author's "followers." Twitter users may also follow the tweets of authors through their mobile phones, either using SMS, third-party Twitter applications, or Twitter's own mobile platform.
YouTube	YouTube is a website that enables restaurants to upload and share videos for the public to view. The fast food restaurants in our analysis have customized channels on YouTube with playlists of videos available for viewing. Anyone can watch the videos without registering, but registered users can "subscribe" to a channel and receive alerts whenever the restaurant posts a new video. YouTube accounted for nearly 40% of the 33.2 billion videos watched online during December 2009.

We examined fast food restaurants' presence on three of the most popular social media sites with teens: Facebook, Twitter and YouTube. We compiled data on the popularity of these sites during the first half of 2010 and examined the content of marketing messages on the sites.

Facebook

Eleven of the fast food restaurants in our analysis sponsored at least one Facebook account between December 2009 and July 2010. Wendy's and Dairy Queen each created additional profiles to support individual menu items. Subway had two pages on Facebook. The Subway365 page pre-dated the Subway page and was run by one franchise owner in upstate New York. We included it in our analysis because of its popularity. Only Burger King did not have a presence on Facebook during this time. **Table 39** shows the number of Facebook page fans and the growth in popularity of these pages.

The McDonald's and Starbucks pages led in number of fans, Starbucks is one of the most popular accounts on Facebook.[36] Starbucks, Taco Bell, and Subway had the greatest increase in popularity from December 2009 to July 2010. Each more than doubled its number of fans. Subway launched its Subway page in December, and it grew more than 400 percent in the seven-month period.

Fast food restaurants differed in the level of activity on their Facebook pages. Subway's Subway365 page, Dairy Queen's Dairy Queen page, and Taco Bell had the most active profiles measured by frequency of updates (see **Figure 30**). Subway365 posted new messages to its wall on average 5.8 times per week, and Dairy Queen and Taco Bell both posted new messages on average 5.4 times per week. The restaurants with the most tabs on their pages were McDonald's, Subway's Subway page, and Starbucks, with an average of 12.9, 11.0, and 10.8 tabs, respectively.

Table 39. Facebook pages and fans

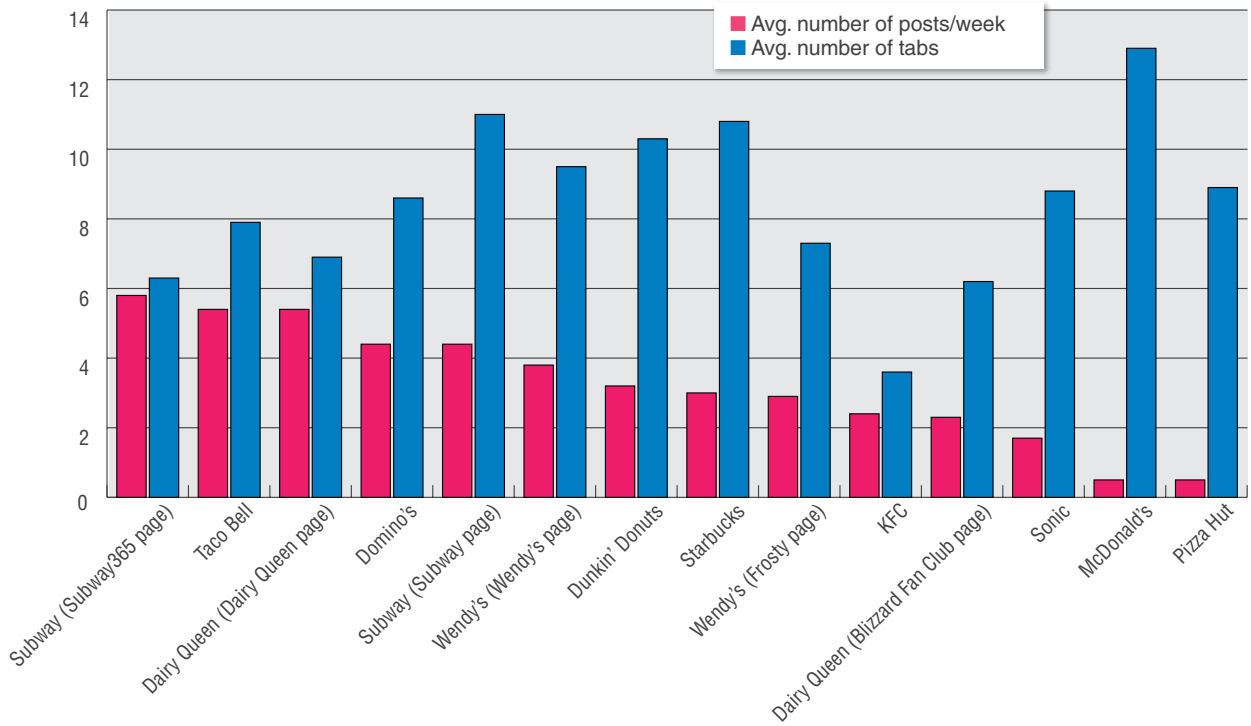
		Number of fans (000)		
Restaurant	**Facebook page**	**12/22/2009**	**7/30/2010**	**% growth**
Starbucks	Starbucks	5,341.4	11,353.4	113%
McDonald's	McDonald's	1,487.3	2,636.8	77%
Subway	Subway365	1,296.0	1,920.5	48%
Dunkin' Donuts	Dunkin' Donuts	968.6	1,820.2	88%
Taco Bell	Taco Bell	687.5	1,770.8	158%
KFC	KFC – Kentucky Fried Chicken	1,154.5	1,653.2	43%
Pizza Hut	Pizza Hut	1,057.2	1,414.8	34%
Dairy Queen	Dairy Queen	730.6	1,239.1	70%
Subway	Subway	215	1,167.6	443%
Wendy's	Frosty	470.5	593.1	26%
Domino's	Domino's Pizza	327	538.5	65%
Wendy's	Wendy's	268.8	385.3	43%
Dairy Queen	Blizzard Fan Club	219.2	380.6	74%
Sonic	Sonic Drive-In	246	297	21%

Source: Facebook weekly tracking

Engagement devices on Facebook. The profile picture, shown on the upper left-hand corner of a Facebook wall, is perhaps the most attention-grabbing feature of a Facebook page. During our tracking period, Dairy Queen's Dairy Queen page, Dunkin' Donuts, McDonald's, Subway's Subway page, and Wendy's Wendy's page moved beyond a simple depiction of their logos to a more creative use of their de-facto "faces."

Restaurants also used their profile pictures to promote specific menu items and special offers. McDonald's Big Mac and Wendy's Bacon & Blue burgers made up 50% of their respective profile pictures, while Dunkin' Donuts' Iced Coffee and Subway's $5 Footlongs comprised 30%. In an even more creative use of the profile picture space, Dunkin' Donuts launched a "fan of the week" sweepstakes: The site incorporated the winner's

Figure 30. Frequency of posts and number of tabs on restaurant Facebook pages



Source: Facebook content analysis (January through March 2010)

Examples of the chains' Facebook profile pictures.

photo (holding a Dunkin' Donuts beverage) into the restaurant's profile picture for the duration of a week.

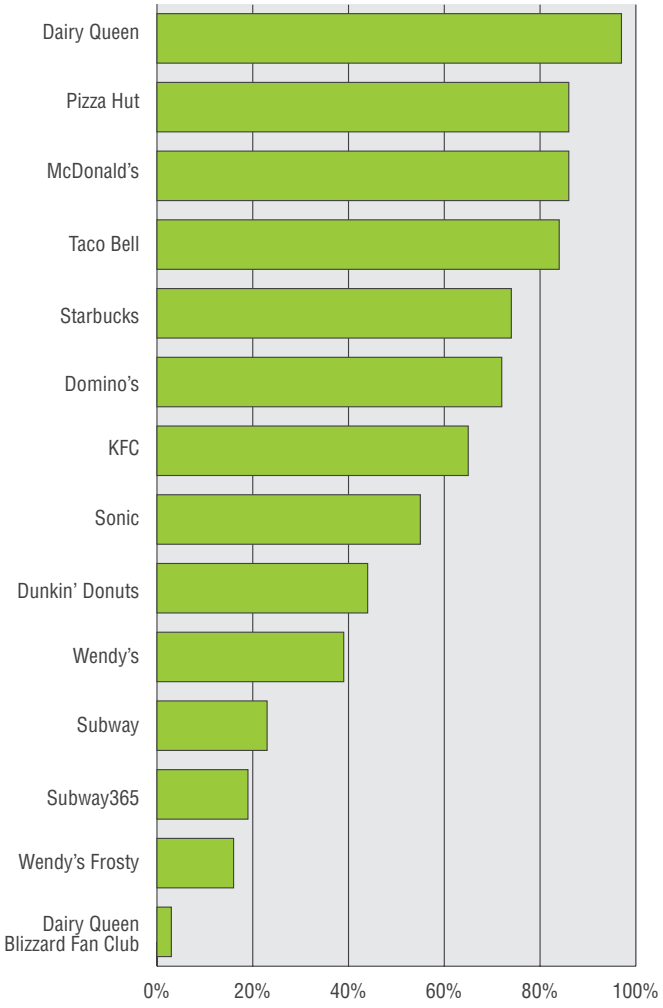
Restaurant Facebook pages encouraged fans to engage with the restaurant beyond Facebook. For example, Domino's, both Dairy Queen pages, KFC, and Pizza Hut suggested that fans register with the restaurant via SMS or email "to have exclusive deals delivered directly to your inbox!" Dunkin' Donuts promoted enrollment in Dunkin' Perks, an online loyalty program, whose members regularly receive emails with product news, store locations, and special offers. The restaurant promised coupons for free drinks as a reward for enrolling. Dairy Queen even had a separate tab entitled "Join us" on the Dairy Queen Facebook page. People who signed up for the Dairy Queen Blizzard Fan Club received a free treat coupon. The Blizzard Fan Club Facebook page encouraged people to join its club with a separate Buy-One-Get-One (BOGO) tab, offering six free treats per year with the purchase of products.

Facebook pages also provided outbound links to encourage fans to interact with the brand outside of Facebook (see **Figure 31**). Dairy Queen (Dairy Queen page), Pizza Hut, McDonald's, Taco Bell, Starbucks, Domino's, KFC, and Sonic were particularly active in redirecting their fans from Facebook to external web sites. More than 50% of these restaurants' wall posts contained outbound links. Dairy Queen most frequently linked to the Dairy Queen Blog; Pizza Hut sent readers to download the restaurant's iPhone application and to visit the Pizza Hut website; McDonald's linked to Olympic-themed pages on the restaurant's own website; and Taco Bell directed fans to its DriveThruDiet.com and TacoBell.com websites. In addition, all restaurant Facebook pages, with the exception of Dairy Queen's Blizzard Fan Club and Wendy's Frosty page, promoted the restaurants' Twitter pages.

Pizza Hut was also the only restaurant in our analysis to offer customers the opportunity to "order from Pizza Hut without ever leaving Facebook!" Users were encouraged to add the Pizza Hut application to their own Facebook page to place their orders for delivery or take-out directly.

Dunkin' Donuts, Sonic, and Starbucks actively promoted their rewards cards on their Facebook pages. These restaurants

Figure 31. Facebook wall posts with outbound links to other internet pages



Source: Facebook content analysis (January through March 2010)

Pizza Hut's Facebook application allowed users to order food via the site.

Starbucks and Dunkin' Donuts used Facebook posts to promote rewards cards.

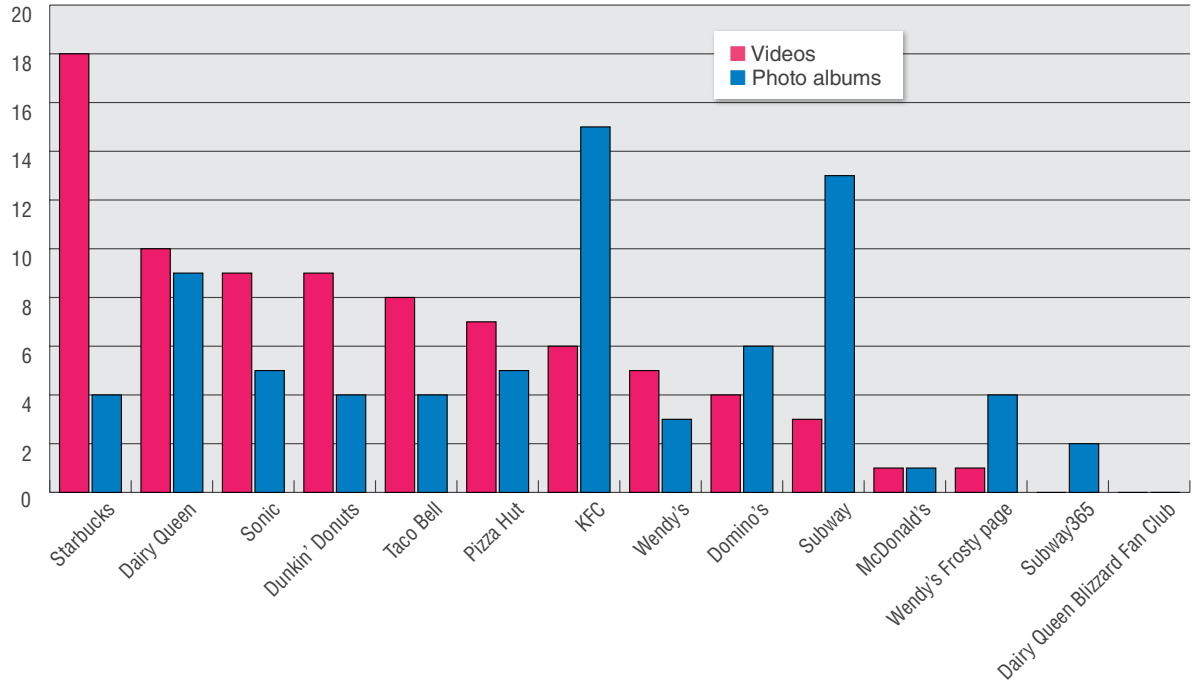
encouraged fans to register their cards online and receive "free birthday drink and rewards" (Starbucks) or get a "$2 bonus" (Dunkin' Donuts). Dunkin' Donuts and Starbucks also promoted customized card designs, Dunkin' Donuts even allowed individuals to upload photos to create personalized cards that pictured their own likenesses. The site encouraged fans to virally market these rewards cards to their friends by either sending greeting cards (Dunkin' Donuts) or purchasing a rewards card as a gift for a friend.

Facebook pages frequently used polls to introduce new products, seek product evaluation, and obtain information about customer preferences. Domino's, Dunkin' Donuts, Pizza Hut, Sonic, Starbucks, Subway's Subway365 page, and both Wendy's pages contained polls. Restaurants typically asked questions about favorite products, best pizza toppings, preferred side dishes, and ways to customize and improve menu items. Polls appear to be an efficient marketing tool for restaurants. By the end of the first quarter of 2010, Starbucks posted seven polls and received as many as 479,000 responses and more than 4,000 comments. Pizza Hut had five polls on its polls tab, receiving up to 58,000 responses and 270 comments. Domino's had only one poll, but accrued more than 70,000 responses.

Restaurant Facebook pages contained separate tabs with regularly updated photo albums and videos. Videos could be uploaded by either the restaurant or fans (see **Figure 32**). Starbucks led in the average number of videos available in the first quarter of 2009. KFC and Subway's Subway page led in the average number of photo albums.

The majority of videos uploaded by restaurants introduced new menu items, promoted existing items, or highlighted restaurant events. Domino's created a special commercial just for Facebook to call out a competitor and launched the "Stop the Puffery" program. Domino's described Papa John's slogan "better ingredients, better pizza" as "puffery," and asked users to report on their friends' use of "puffery" (i.e., making unsubstantiated boasts about themselves) by reposting these claims on Facebook or Twitter with #PUFFERY included.

Figure 32. Average number of videos and photo albums on Facebook pages



Source: Facebook content analysis (January through March 2010)

Domino's ran a Facebook campaign that targeted one of its rivals.

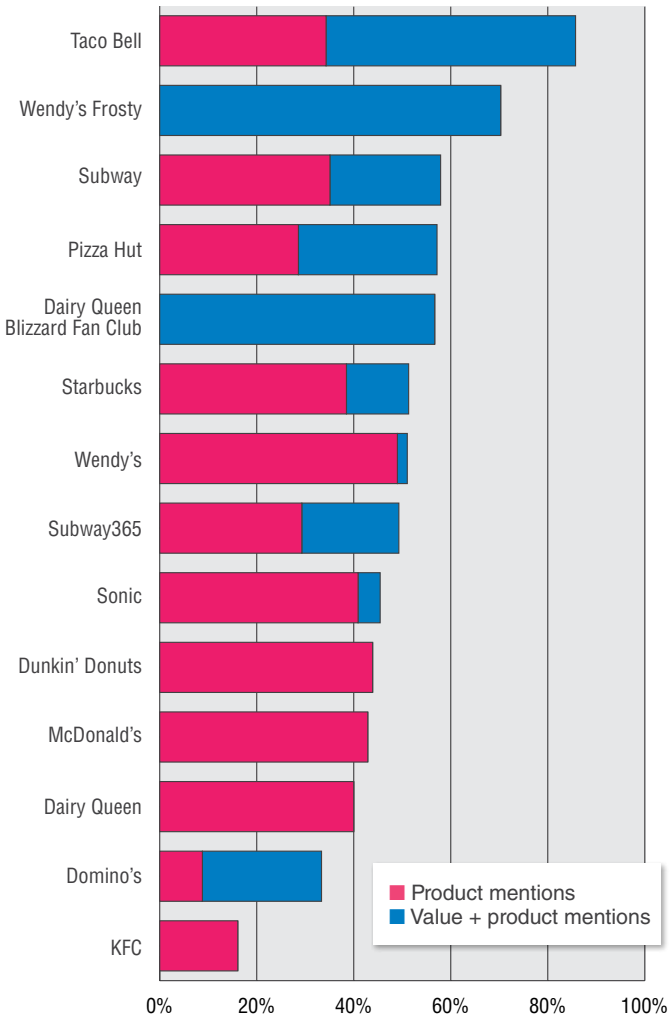
Products featured on Facebook pages. Restaurants frequently mentioned specific products in their Facebook wall posts in the form of general product discussions, sweepstakes announcements, and images (see **Figure 33**).

During our tracking period, approximately 85% of Taco Bell's wall posts mentioned a specific product, with over 60% of those messages being value-driven promotions of special pricing or coupons. Wendy's Frosty page, unsurprisingly, touted the tastiness of its Frosty ice cream treat in 70% of wall posts. Subway's Subway page included products in wall posts 58% of the time. The $5 Footlong accounted for 39% of product mentions.

Twitter

With the notable exception of Burger King, the restaurants in our analysis maintained active Twitter accounts throughout 2009 and several (McDonald's, Starbucks, Taco Bell and Wendy's) maintained more than one (see **Table 40**). From December 2009 through July 2010 only Wendy's @UrBaconMeCrazy Twitter account did not accumulate followers. By the end of July, the main Starbucks account, @Starbucks, approached

Figure 33. Wall posts that mentioned specific products



Source: Facebook content analysis (January through March 2010)

Table 40. Restaurant Twitter accounts and followers

		Number of followers (000)		
Restaurant	**Twitter account**	**12/22/09**	**7/30/10**	**% growth**
Starbucks	@Starbucks	622.1	972.6	56%
Dunkin' Donuts	@DunkinDonuts	40.3	55.1	37%
McDonald's	@McDonalds	8.8	37.5	326%
Pizza Hut	@PizzaHut	23.3	31.3	34%
Taco Bell	@TacoBell	10.4	26.1	151%
Subway	@SubwayFreshBuzz	8.2	22.8	177%
KFC	@KFC_Colonel	10.5	15.1	44%
Domino's	@Dominos	7.3	14.4	96%
Starbucks	@MyStarbucksIdea	10.1	14.4	42%
Taco Bell	@TacoBellTruck	7.7	9.1	17%
Wendy's	@Wendy's_Restaurant	6.6	8.1	24%
Dairy Queen	@DairyQueen	4.9	7.8	59%
Sonic	@Sonic_DriveIn	3.4	7.2	108%
McDonald's	@McCafeYourDay	1.6	2.1	27%
Starbucks	@StarbucksLive	1.1	2.1	88%
Wendy's	@UrBaconMeCrazy	2.1	2.1	0%

Source: Twitter weekly tracking

one million followers, more followers than all other restaurants combined.

In our content analysis of 2009 tweets, fast food restaurants often used Twitter as a customer service vehicle. They responded directly to customers who tweeted about poor service or an inferior menu item, answered questions about store hours, and replied to requests for nutrition information. McDonald's offered gift cards to some customers who appeared to dislike the restaurant's new McCafe coffee. Other restaurants, such as KFC, similarly offered coupons to displeased customers. **Figure 34** provides examples of customer service-oriented tweets. The three most active customer service tweeters, @Starbucks, @Dominos, and @DairyQueen, devoted 37%, 21%, and 19% of all tweets, respectively, to customer service in 2009.

Figure 34. Examples of customer service-oriented tweets

From @McCafeYourDay, 05/19/09 @xxxxxxx Sorry to hear that! I'd like to send you a card for a FREE McCafe if you'd like to give it another shot - send me a DM
From @KFC_Colonel, 04/19/09 @xxxxxxxSorry about the small thigh. Some pieces look small because of no breading on Grilled. DM me your address. I'll send free chik.
From @Dominos, 12/21/09 @xxxxxxxx Hmm, hard to tell. The store refused the coupon? Was the store you tried listed on the coupon?

Restaurants also used Twitter to share links with followers. Links frequently directed consumers to restaurants' Facebook pages, websites, videos, photos and blogs. They also linked to third-party articles, blog entries, photos and videos that put the restaurant in a positive light (see **Figure 35**).

Figure 35. Examples of restaurant tweets with outbound links

From @TacoBell, 11/04/09 I posted 3 photos on Facebook in the album "Taco Bell Pics" http://bit.ly/1PeuLu
From @SubwayFreshBuzz, 08/18/09 Thanks! Check out our article in BrandWeek. RT @GrowMarketing - We're digging the Scrabble at Subway promotion - http://bit.ly/C9x5J
From @McDonalds, 10/02/09 Awesome! RT @xxxxxxxx: got a happy meal & the toy was this barbie notepad! I love it & can make so many lists now! http://twitpic.com/xxxxxxxx

Additional messages found on restaurants' Twitter accounts included highlighting corporate social responsibility or charitable activities, and hosting giveaways and contests. Contests designed specifically for Twitter followers were commonly used. Eight restaurant Twitter accounts hosted contests on their pages in 2009: @Dominos, @KFC_Colonel, @McCafeYourDay, @McDonalds, @PizzaHut, @Sonic_DriveIn, @TacoBellTruck, and @UrBaconMeCrazy. The contests included restaurant trivia contests, rewards for the fastest response, and mechanisms to encourage sharing and other viral activities (see **Figure 36**).

Figure 36. Examples of Twitter contests

From @TacoBellTruck, 09/29/09 Which Why Pay More Menu taco has the most syllables? First to @ reply the correct answer & tag it #TacoBellTriviaTue wins Taco Bell Bucks!
From @Sonic_DriveIn, 09/29/09 GIVEAWAY: Free Limeade for Learning vote codes to the first 10 people to respond with their favorite Sonic menu item. GO!
From @KFC_Colonel, 07/29/09 Use bucketized face as Twitter photo, and contact @kfc_colonel. $100 in free KFC for the 1 we like best! http://bit.ly/URzqg

The most complex Twitter contest was "The Hunt for the Biggest Bacon Lover" on Wendy's @UrBaconMeCrazy Twitter page. For twelve days in November 2009, the restaurant awarded prizes of $200 and $50 twice daily. One grand prize of $2,000 was awarded at the contest's completion. Contest participants earned points for completing new challenges every day and garnered additional points for more difficult challenges. A leaderboard posted on Facebook kept track of participants' accumulated points. The individual with the most points won the grand prize. The tweets excerpted in **Figure 37** show some of the challenges issued during the contest.

Figure 37. Challenges issued in Wendy's "Hunt for the Biggest Bacon Lover" contest

From @UrBaconMeCrazy, 11/10/09 [125 pts] To the first 10 people who get THEIR "#bacon" tweet on Wendy'srealtime.com, screen grab the evidence & reply to me with it.
From @UrBaconMeCrazy, 11/11/09 [50 pts] To the first 10 of yall that can tell me how many thick luxurious strips of Applewood smoked #bacon come on the new Bacon Deluxe.
From @UrBaconMeCrazy, 11/14/09 [500 pts] If you're already having #bacon for brunch or lunch, twitpic me some #bacon eyebrows by 4pm EST for BIG #BACON POINTS!
From @UrBaconMeCrazy, 11/18/09 [600 pts] Face it, you're addicted to #BACON. And it's time you admit it to the world. You have til 8pm ET to Twitvid your #BaconConfession
From @UrBaconMeCrazy, 11/20/09 [1000 pts] If you build a respectable #bacon themed diorama (beach scene preferred) or hanging mobile by 8pm EST.

In all types of messages, tweets frequently mentioned specific menu items. **Table 41** lists the top 3 menu items mentioned more than twice in each Twitter account and the proportion of all tweets that mentioned the item.

YouTube

Eleven of the twelve fast food restaurants maintained at least one YouTube channel during the period we analyzed. Dairy Queen and Pizza Hut maintained two channels. Subway was the only restaurant that did not have a YouTube channel (see **Table 42**). As with Facebook fans and Twitter followers, the number of viewers on most restaurant YouTube channels grew significantly during the first half of 2010.

Table 41. Specific menu items mentioned in Twitter accounts

Restaurant	Twitter Account	Product	# of Mentions	Calories	NPI Score
Dairy Queen	@DairyQueen	Tagalong Blizzard	25	570-1,190	36-48
	@DairyQueen	Thin Mint Blizzard	22	530-1,050	46-54
	@DairyQueen	DQ cakes	14	290-820	36-48
	@DairyQueen	Pumpkin Pie Blizzard	14	n/a	n/a
Domino's	@Dominos	Lava cakes	39	357	22
	@Dominos	American Legends pizza	38	565-1,120	34-64
	@Dominos	Bread Bowl pasta	27	672-740	50-66
KFC	@KFC_Colonel	Grilled chicken	204	80-480	46-68
	@KFC_Colonel	Famous bowls	22	700	66
	@KFC_Colonel	Original Recipe chicken	14	120-680	38-70
McDonalds	@McCafeYourDay	Iced coffee	84	60-280	40-58
	@McCafeYourDay	Iced mocha	65	270-310	66-68
	@McCafeYourDay	Mocha	48	280-400	66-68
	@McDonalds	Big Mac	63	540	48
	@McDonalds	McCafe Coffee	20	40-400	40-72
	@McDonalds	Angus Burger	16	750-790	42-46
Pizza Hut	@PizzaHut	Edge pizza	46	640-900	32-62
	@PizzaHut	Stuffed crust	30	660-960	34-50
	@PizzaHut	Wings	26	155-408	28-42
Sonic	@SonicDrive_In	Cherry Limeade	19	140-460	66
	@SonicDrive_In	Tots	7	130-330	50-52
	@SonicDrive_In	Breakfast burrito	6	440-480	34-40
Starbucks	@MyStarbucksIdea	VIA Instant Coffee	31	0	70
	@MyStarbucksIdea	Loose Leaf Tea	3	0	70
	@Starbucks	VIA Instant Coffee	113	0	70
	@Starbucks	Hot chocolate	12	140-530	66-70
	@Starbucks	Christmas Blend	10	5	70
	@StarbucksLive	VIA Instant Coffee	20	0	70
Subway	@SubwayFreshBuzz	Cookie	16	200-220	18-24
	@SubwayFreshBuzz	Buffalo chicken	13	420-940	64-68
	@SubwayFreshBuzz	Tuna sub	5	530-1,300	50-68
Taco Bell	@TacoBell	Black Jack taco	86	210	52
	@TacoBell	Cheesy Gordita Crunch	25	500	50
	@TacoBell	Drive-thru diet	20	150-340	64-74
	@TacoBellTruck	Volcano tacos	22	240	50
	@TacoBellTruck	Crunchy taco	10	170	68
	@TacoBellTruck	Why Pay More menu	7	200-350	38-72
Wendy's	@UrBaconMeCrazy	Bacon Deluxe	10	640	44
	@UrBaconMeCrazy	Applewood smoked bacon	5	n/a	n/a
	@UrBaconMeCrazy	Baconator	5	600	40

Source: Twitter content analysis (January through December 2009)

Starbucks was by far the most active YouTube marketer in the number of videos and views during 2009. The coffee restaurant uploaded 61 videos compared to an average of thirteen videos for all restaurants. Starbucks' YouTube videos from 2009 were viewed more than 2 million times. A single ad, a music video featuring hip-hop artist MC Yogi, generated half those views.[37] The ad launched in January 2009 and promised a free coffee to any customer who committed to five hours of community service.

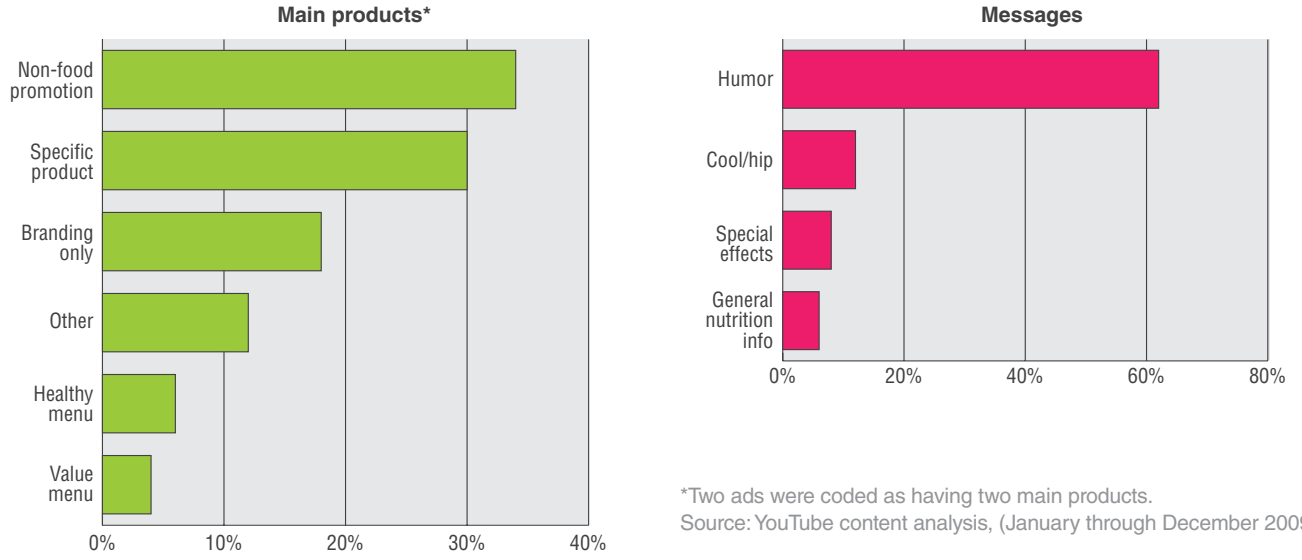
Domino's produced multiple food-focused videos with substantial viewership. Its most popular video[38] had more than 1.2 million views and featured Dave Brandon, the company's chief executive officer.[39] In the fifteen-second video, Brandon claimed his restaurant's oven-baked sandwiches were preferred over Subway's toasted subs in a taste test. Two other videos promoted Domino's "Pizza Turnaround" in which the restaurant attempted to improve its recipe in response to customer feedback. These two videos had a combined viewership of nearly one million.

Table 42. Restaurant YouTube channels, viewers, and videos posted in 2009

	Viewers			
Channel	**12/22/2009**	**7/30/2010**	**% growth**	**Videos posted in 2009**
Starbucks	2,758,497	5,293,553	92%	61
DominosVids	2,364,174	3,805,940	61%	14
TacoBell	805,942	2,073,772	157%	4
DunkinDonuts	879,563	1,144,645	30%	6
KFCColonelSanders	331,098	980,412	196%	3
Kingon Defense Academy	182,768	195,589	7%	9
DairyQueen*	54,318	130,589	140%	14
DQVideos	68,538	113,220	65%	14
McDonaldsRestaurant	33,410	115,628	246%	11
Wendy's	47,211	110,607	134%	3
SonicDriveIn	8,289	62,502	654%	4
PizzaHut	8,132	16,529	103%	10
MorePizzaHut	178	242	36%	10

* First tracked on 05/28/10
Source: YouTube weekly tracking

Figure 38. Main products and messages in 2009 YouTube videos



*Two ads were coded as having two main products.
Source: YouTube content analysis, (January through December 2009)

Taco Bell's most successful video was an expanded version of its "It's all about the Roosevelts" TV advertisement.[40] This two-minute music video promoted tacos and nachos costing 79 to 99 cents and was viewed more than 100,000 times. Dunkin' Donuts' most popular video was titled "Dunkin's Next Donut Winner" and had approximately 50,000 views.[41] This video featured Jeff Hager, the Alabama customer who won a contest to invent the recipe for Dunkin's newest donut. Much of the video centered on Mr. Hager's life at home, including playing soccer with his children, viewing photo albums, and sharing a box of a dozen donuts. He proclaimed that eating donuts is valuable because it "brings the whole family together."

Our YouTube video content analysis included 50 videos added by the fast food restaurants in 2009 with at least 5,000 views. **Figure 38** presents the main products and message of these videos. In 20 of the 50 videos, either a specific menu item or a special menu was the main point. Food was depicted in 56% of the videos, and it was shown being eaten in 38%. Humor, the most common message strategy, appeared in 62% of the videos, followed by cool or hip in 12%.

Interestingly, some popular videos were apparently identical to previously aired TV advertisements. For example, a Sonic commercial called "Cheap Date" was viewed more than 25,000 times on YouTube.[42] Other videos were too long for TV ads. Not surprisingly, these videos tended to promote the products concurrently appearing in other media. For example, Taco Bell created a three-minute faux-infomercial about the "Drive-Thru Diet"[43] which it began promoting in 2009.

We did not identify any YouTube videos that appeared to specifically target a child audience (i.e., under 12 years old) or a particular minority group; 74% of the videos featured white actors exclusively.

Mobile marketing

Mobile marketing	Definitions
Mobile website banner ads	Advertisements that appear at the top or bottom of third-party mobile website pages. Similar to internet banner ads, mobile banner ads are graphic display ads (commonly accepted file types are GIF, Animated GIF, JPEG, and PNG) that click through to a website page designated by the advertiser.
Mobile banner ad index	Indicates relative share of presence of the advertisement, established by comparing the frequency with which a particular advertisement on a given mobile website appeared compared to all other advertisements on that same website. The ad index therefore acts as a benchmark: any number above 100 indicates a greater observed presence than expected, while a number below 100 indicates the converse.
Smartphone applications	Operating system-specific (e.g. iPhone, Android) applications that may be downloaded to mobile phones. They act as stand-alone programs and may perform several different functions, including games, store locators, and ordering platforms.
Text message advertising	The short message service (SMS) enables companies to send brief text messages (160 characters or fewer) between mobile phones and other SMS-enabled devices. While the technology is primarily used to transmit messages between private parties, it can also be used to make payments, make inquiries from a service provider such as Google or Fandango, and to place orders with a restaurant

We first examine restaurants' placement of banner ads on third-party mobile websites and the content of those ads. We then describe smartphone applications sponsored by fast food restaurants and examples of text message advertising.

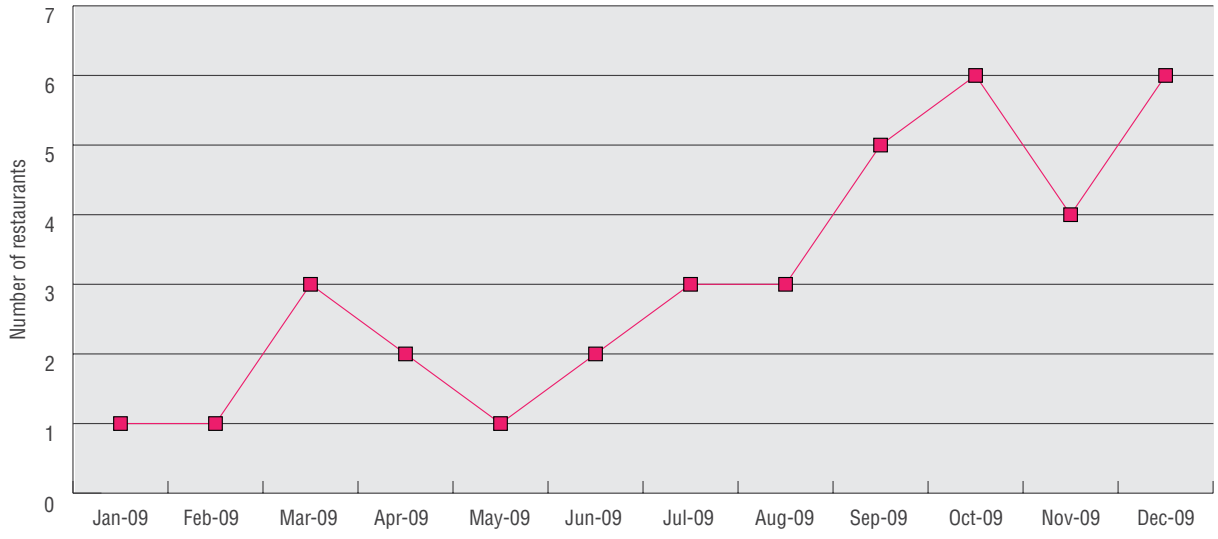
Mobile website banner ads

Eight of the twelve restaurants in our analysis ran banner ads on mobile websites at some point 2009: Burger King, Domino's, Dunkin' Donuts, KFC, McDonald's, Starbucks, Subway, and Wendy's. Usage of mobile website banner ads increased in popularity throughout the year. In January, only KFC ran mobile banner ads. By the end of the year, six of the restaurants posted ads in the month of December (all restaurants did not post ads every month) (see **Figure 39**).

These eight restaurants placed banner ads on 125 of the 200 mobile websites that comScore tracks. News, entertainment, sports, and video sites were most frequently selected for banner ad placements (see **Figure 40** and **Table 43**).

Burger King and Domino's placed ads on 50 and 66 mobile websites, respectively. In contrast, the other restaurants with

Figure 39. Restaurants with banner advertising on mobile websites by month in 2009



Source: comScore AdMetrix Mobile

Figure 40. Types of mobile websites on which restaurant banner ads appeared in 2009

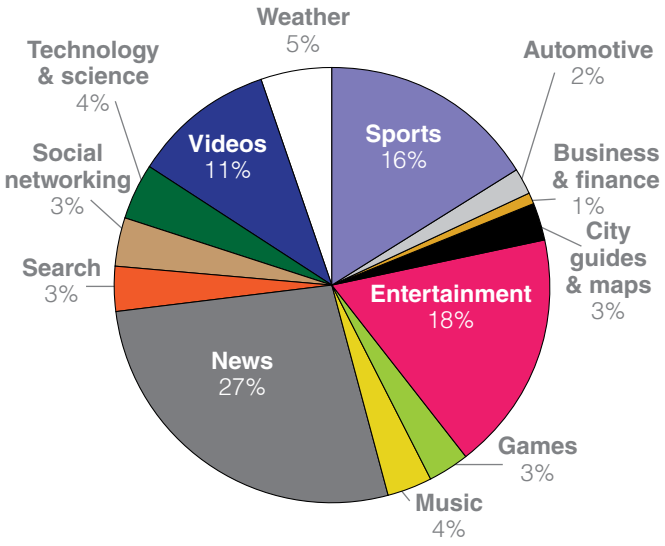


Table 43. Ten mobile websites with the most frequent placement of restaurant banner ads

Mobile website	# of months with ad placements
ESPN Mobile	12
Weather Bug Mobile	6
Yahoo! Mobile (sports pages)	5
VH1 Mobile	5
MLB.com Mobile	5
AT&T Media Net (sports pages)	5
WhitePages Mobile	4
photobucket Mobile	4
Comedy Central Mobile	4
CBS Sports Mobile	4

Source: comScore AdMetrix Mobile (January through December 2009)

mobile banner ads each placed them on fewer than ten sites (see **Table 44**). However, most restaurants that advertised on fewer websites gained a higher share of presence on those sites (based on higher median ad index numbers). Only McDonald's advertised on relatively few mobile websites and had relatively low ad index numbers.

The top monthly ad placements for each restaurant, as measured by ad index, are reported in **Table 45**. Burger King and Domino's placed banner ads on mobile websites covering the widest range of topics, including ads on numerous games, news, video, sports, and social networking sites. Dunkin' Donuts placed mobile banner ads on just one local news site for one month, but was the prominent advertiser on that site. KFC and Wendy's both advertised heavily on sports sites, but also placed ads on music and video websites. KFC, in particular, appeared to target a male audience by placing ads on sports sites and the site for the men's magazine, *FHM*. McDonald's advertised on more general interest mobile sites, such as those providing weather reports, entertainment, and local news. Starbucks advertised exclusively on two news sites: Slate and The Washington Post Mobile. Subway placed banner ads exclusively on mobile websites devoted to sports (CBS Sports Mobile, Yahoo! Mobile sports pages, and AT&T Media Net sports pages). Given its focus on video (Comedy Central) and music (VH1) mobile sites, Wendy's was the only restaurant to demonstrate potential teen targeting of mobile website ad placements. As compared to the total mobile internet population, teens access relatively more social networking, music, games, videos and technology mobile websites.

Mobile website banner ad content analysis

We identified 443 individual mobile banner ads placed by the restaurants in our analysis during 2009, but found only 48 unique ads for the content analysis. Three-fourths of these ads featured food (either an individual menu item or the value menu) as the main products (see **Figure 41**). The restaurants relied primarily on two selling points: value and novelty. KFC and Subway also advertised a promotion with a link to win prizes. Given that mobile banner ads must be small and are generally static images, it is not surprising that the ads lacked the complexity found in internet banner ads. Two-thirds of mobile banner ads did not even picture a food item. None of the mobile ads were child-targeted, and just one (a Spanish-language McDonald's ad) was targeted to a particular racial or ethnic group.

In contrast to internet banner ads, just 17% of mobile banner ads contained techniques to engage viewers. Two companies

Table 44. Mobile banner ad placements by restaurant

Restaurant	# of months	# of sites	Ad index range	Ad index median
Burger King	7	50	1 - 231	15
Domino's	1	66	1 - 62	14
Dunkin' Donuts	1	1	n/a	3,312
KFC	6	3	17 - 580	166
McDonald's	9	8	2 - 492	12
Starbucks	2	2	84 - 807	490
Subway	7	3	88 - 725	200
Wendy's	4	5	1 - 488	144

Source: comScore AdMetrix Mobile (January through December 2009)

Table 45. Top five monthly ad placements as measured by ad index for each restaurant

Restaurant	Mobile website	Month	Ad Index
Burger King	Mapquest Mobile	Dec	231
	GameTrailers.com Mobile	Dec	188
	Comedy Central Mobile	Dec	127
	ESPN Mobile	Nov	102
	Discovery Mobile	Oct	100
Domino's	LA Times Mobile	Dec	62
	Boston.com Mobile	Dec	58
	CBS iMobile	Dec	53
	Mobicious Mobile	Dec	46
	kiwibox Mobile	Dec	43
Dunkin' Donuts	courant.com Mobile	Dec	3,312
KFC	NFL.com Mobile	Feb	580
	FHM Mobile	Sep	354
	FHM Mobile	Jul	309
	NFL.com Mobile	Jan	252
	ESPN Mobile	Feb	79
McDonald's	OrlandoSentinel.com Mobile	May	492
	The Weather Channel Mobile	Sep	371
	The Weather Channel Mobile	Oct	321
	Us Mobile	Sep	96
	ESPN Mobile	Mar	66
Starbucks	Slate Mobile	Nov	807
	Slate Mobile	Oct	490
	Washington Post Mobile	Nov	84
Subway	Yahoo! Mobile Sports	Sep	725
	Yahoo! Mobile Sports	Aug	705
	AT&T Media Net Sports	Nov	287
	Yahoo! Mobile Sports	Oct	278
	Yahoo! Mobile Sports	Nov	238
Wendy's	VH1 Mobile	Nov	488
	VH1 Mobile	Oct	214
	ESPN Mobile	Sep	168
	Comedy Central Mobile	Dec	158
	ESPN Mobile	Oct	148

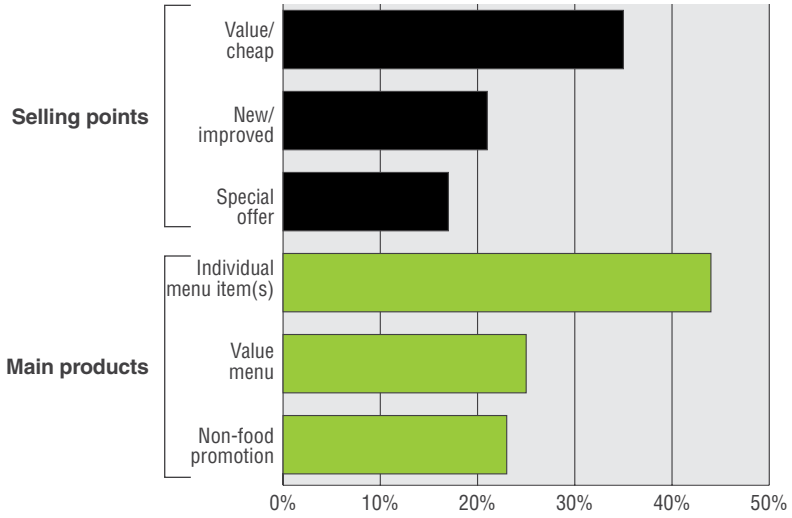
Source: comScore AdMetrix Mobile (January through December 2009)

KFC and Subway promoted prize giveaways with mobile website banner ads.

Many mobile banner ads advertised food without picturing the food.

McDonald's was the only restaurant to produce an ethnic-targeted mobile banner ad.

Figure 41. Selling points and main products on mobile banner ads



Source: Mobile banner ad content analysis (January through December 2009)

This Domino's ad encouraged viewers to order food online using their smartphone.

A Wendy's mobile ad with a link to a restaurant locator.

KFC ran many ads on the NFL.com mobile site.

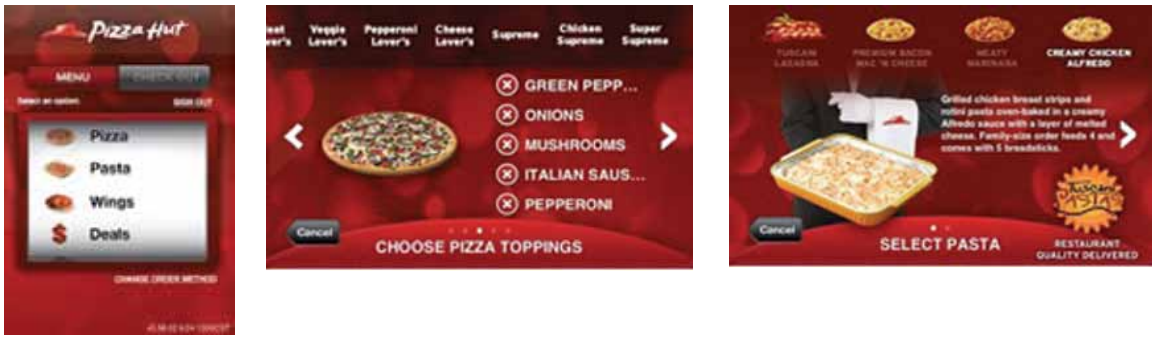
harnessed the interactive potential of mobile ads by encouraging viewers to order food (Domino's) and locate a restaurant (Wendy's) online. A few restaurants placed ads crafted for viewers of a particular mobile site. For example, KFC promoted itself as the "official wing sponsor of the NFL" (two of KFC's top three ad index scores were for NFL.com). Burger King, which advertised heavily on the Comedy Central mobile site, sponsored an ad for a Comedy Central program called "Tosh.0."

Smartphone applications

During 2009, eight fast food restaurants introduced smartphone applications available for download by iPhone users. **Table 46** identifies key functions available in each of these applications.

Most applications featured restaurant locators. These allow a user to simply click a button to submit the current location of the phone and the application returns the nearest locations. Alternatively, a zip code may be entered manually.

Although ordering applications were not yet widely available for smartphones, Pizza Hut's iPhone ordering application



The Pizza Hut iPhone application allowed users to place customized orders for pizza, wings, and pasta.

Table 46. Smartphone application functions

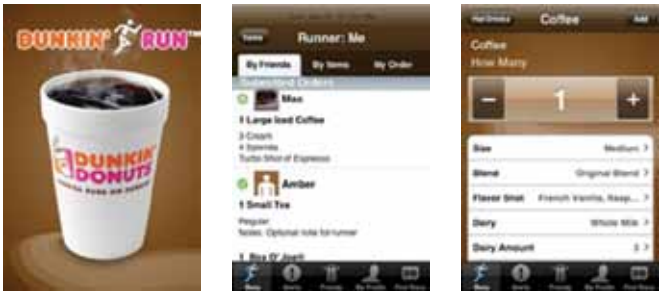
Restaurant	Application name	Launched	Restaurant locator (uses GPS)	Game	Ordering	Use as in-store payment	Special offers	Nutrition info
Starbucks	myStarbucks	Sep	x				x	x
Starbucks	Starbucks Card Mobile	Sep				x		
Pizza Hut	Pizza Hut	Jul	x	x	x		x	
Taco Bell	Taco Bell Locator	Jul	x					
Taco Bell	Why Pay More! Shaker	May	x					
Dunkin' Donuts	Dunkin' Run	Jun	x					
Burger King	Burger King Now	Apr	x		X (Queens, NY only)		x	
Subway	Subway	Feb	x		x			
Dairy Queen	Where's DQ?	Dec	x					
KFC	KFC Grillz	Apr		x				

Source: iPhone application analysis (September 2010)

reportedly generated more than $1 million in sales and approached one million downloads in the first three months after its launch.[44] After nearly a year on the market, according to Pizza Hut, it had generated more than $7 million in sales and had been downloaded more than two million times.[45] Because of this success, the restaurant plans to develop ordering applications for Android smartphones and for iPads. Pizza Hut anticipates that the mobile channel eventually will account for more than 50% of all orders.[46]

Many of the smartphone applications were creative and engaging. Users of Pizza Hut's iPhone application could fully customize their pizzas by adding toppings to a virtual pizza on the phone screen. When pasta was selected from the menu, a white-gloved waiter bearing a tray of pasta appeared. If wings were desired, the user added the sauce and chicken to a virtual bowl and shook the phone until the wings were fully coated. Favorite orders could be saved to a list for future reference.

The Dunkin' Donuts application, called Dunkin' Run, was the only socially-based fast food application. A user could coordinate with friends who also had the application installed on their phones. Each person could make his or her own selections using the fully customizable menu in the application. All requests would then be aggregated into one shopping list for one user to make a "Dunkin' Run." The restaurant cashier could view the screen to complete the order.



The Dunkin' Run application allowed users to collect coffee orders from friends before making a coffee run.

KFC launched this application to help promote its new grilled chicken.

KFC's Grillz application promoted the launch of grilled chicken to the restaurant's menu. Users could customize their own grill on an animated mouth by selecting one of sixteen combinations of grills and mouths and entering their own words or message on top. The custom grill could then be held in front of the user's mouth and spoken into and it would appear to talk.

Table 47. iPhone application demographic profile

	Users		
Application Name	**12+ years**	**12-17 years**	**% 12-17 years**
Burger King Now	6,505	2,697	41%
Dunkin' Run	737	n/a	n/a
KFC Grillz	1,658	n/a	n/a
myStarbucks	306,533	37,779	12%
Pizza Hut	210,145	33,311	16%
Starbucks Card Mobile	43,323	1,535	4%
Taco Bell Locator	1,253	1,133	90%
Taco Bell Why Pay More! Shaker	18,441	1,269	7%

Source: comScore iTunes Application Tracking (August 2010)

Not surprisingly, many teens have downloaded these fast food restaurant applications (see **Table 47**). The data indicate the projected number of individuals with these applications installed on their iPhone or iPod Touch as of August 2010. The number does not include individuals who have downloaded the application and later deleted it.

Text message advertising

Although we registered our phone with the seven restaurants with options to receive promotional messages via SMS (Domino's, Dunkin' Donuts, McDonald's, Sonic, Starbucks, Subway, and Taco Bell), we received texts from just two: Domino's and Sonic.

Both restaurants sent us notifications about special offers. Domino's sent codes redeemable for discounts when ordering online approximately two to three times per month. Sonic alerted us to special promotions available in-store. Some companies have also enabled ordering via text message. Those reported to offer this service currently are: Burger King (Queens, NY only)[47], Pizza Hut, and Subway (NYC and Southern California locations only).[48] [49]

Example from Domino's, received 5/8/2010:
Any 3 or More Med 2-Top Pizzas or 10-Piece Chicken for $5.99 each. Use code M2M online or @ http://bit.ly/cd432p Reply STOP to opt out

Example from Sonic, received 3/9/2010:
Sonic.SonicDriveIn.mobi FREE Tots w/purchase of any SuperSONIC cheezburger: 2x meat, 2x cheez :-9 Manage alerts via SONIC account

Teen use of social, viral, and mobile media

At the time of this report, the advertising industry did not have reliable measurement methods to track users of social, viral and mobile media. Therefore, we cannot definitively confirm that these restaurant marketing efforts are viewed by children, adolescents, or different ethnic groups. However, numerous market research reports confirm that teens use these media disproportionately more than the general population.

Social networking sites are extremely popular among teenagers: 73% of teens are members of a social media site, including 55% of 12- to 13-year-olds (even though 12-year-olds are technically prohibited from joining these sites) and 82% of 14- to 17-year-olds.[50] Among teens with a profile on a social network, 71% maintain pages on Facebook.[51] In addition, 86% of teens on social networking sites have posted comments on a friend's page; 83% have commented on a friend's picture;[52] and 29% have added at least one brand to their selective group of Facebook friends.[53]

Similarly, a recent study from Edison Research and Arbitron indicates that approximately 18% of the 17 million Americans who use Twitter are between the ages of 12 and 17 years. Twitter also is well-poised to continue to attract advertisers. The percentage of Twitter users who follow corporate brands is three times higher than other social media users.[54] It is significant to note that African Americans disproportionately use Twitter. They represent 24% of Twitter users, approximately double their proportion in the U.S. population.[55] Approximately 17% of Twitter users are Hispanic.

Teens are also active viewers of online videos. According to Nielsen, 12 million American teens, or about two-thirds of those who use the internet, watched video online during May 2009.[56] The average teenager watched somewhat more than three hours of online video during the month. This age group (12-17 years) accounted for about 15% of all online video watching. In addition, children (2-11 years) watched about two hours on average during the month and accounted for 8% of all online video viewership. Teens watched a large proportion of online videos that fell into Nielsen's "Entertainment--Videos/Movies"category, and YouTube is the most significant contributor.[57]

In 2010, 75% of 12- to 17-year-olds owned cell phones, an increase from 45% in 2004.[58] Teens use mobile websites frequently: 37% of teen mobile subscribers accessed the internet on their phones in the first quarter of 2009.[59] Their mobile website usage increased by 45% from 2008 levels. This growth outpaced all mobile website users, which grew by 34%.[60] Teens also avidly use text messages: 72% of all teens send text messages and 50% of those teens send at least 1,500 texts a month.[61] However, the proportion of teens who receive SMS ads through their cell phones does not differ

from the proportion of the total population.[62] As our research suggests, restaurants did not appear to use text messaging aggressively. The percentage of teens who reported receiving SMS ads from either restaurants or other food companies fluctuated between 2% and 5% per month from May 2009 to May 2010.[63]

Overall, it is highly likely that a large proportion of teens frequently engage with the social, viral and mobile marketing techniques used by the restaurants in our analysis. In addition, given restaurants' increasing use of these techniques and teens increasing adoption of these media, their exposure is likely to increase dramatically over time.

Social media and mobile marketing overview

Across all social media, Starbucks' popularity eclipsed that of the other eleven restaurants in our analysis, as measured by number of fans, followers, and subscribers. Starbucks also had the most popular iPhone application.

Pizza Hut led the way in convenience, with applications that made it possible to order food using numerous media platforms on customers' computers and mobile phones. In addition to its Facebook ordering application, the restaurant encouraged mobile phone orders through its iPhone application, by text message, or the mobile web. As indicated by Burger King's and Subway's tests of mobile ordering platforms, it appears that other fast food restaurants will soon establish their own means to order food from any location.

Although exposure data were not available to reliably track users of social and mobile media by demographic group, Wendy's may have targeted teens by placing mobile banner ads on the types of sites that are most popular among this group and Taco Bell may have targeted teens through its "Taco Bell Locator" iPhone application.

In addition, all restaurants experienced significant gains in popularity during the 29-week period that we tracked. This remarkable growth indicates that the restaurants' customers have embraced these new forms of marketing. As a result, we anticipate that social media and mobile marketing, although still in their nascent stages, will become increasingly widespread.

Figure 42. Social media footprint

MARKETING INSIDE RESTAURANTS

Restaurant signs audit	Definitions
Menu item signs	Promote specific menu items or meals, including items on restaurants' kids' menus, dollar/value menus, and healthy menus, and other lunch/dinner items, snack items, coffee drinks and breakfast items.
Featured menu items	The menu items presented on menu item signs. More than one menu item may be featured on the same sign.
Menu type signs	Mention the availability of breakfast or late-night menus, or promote value-priced options, but do not reference specific menu items.
Sign locations	Indicate where signs were located at the restaurant, including **ordering/counter** for signs in direct view of customers standing in line; **other indoor** for additional signs inside the restaurant; **drive-thru** signs located anywhere in the drive-thru lane; and **other outdoor** for signs located outside the restaurant, including those posted in the restaurant windows facing outside.
Sign messages	Indicate specific selling messages that appeared on menu item signs, including **value** when signs referenced dollar/value menus, combo meals, the word "value," or lower price; **kids** for signs promoting menu items as part of a kids' meal, toy, or included other mentions of "kids" or "children;" and **health** for signs that referenced words such as "healthy," "low-fat," "diet," or "low-calorie," as well as mentions of a healthy menu.
Price promotions	Indicate whether the sign referenced a **price promotion**, with a special price or free food giveaway for the featured menu item, or **other promotions**, including non-food giveaways, sweepstakes, celebrity endorsements, licensed characters, movie/TV tie-ins, and contests.

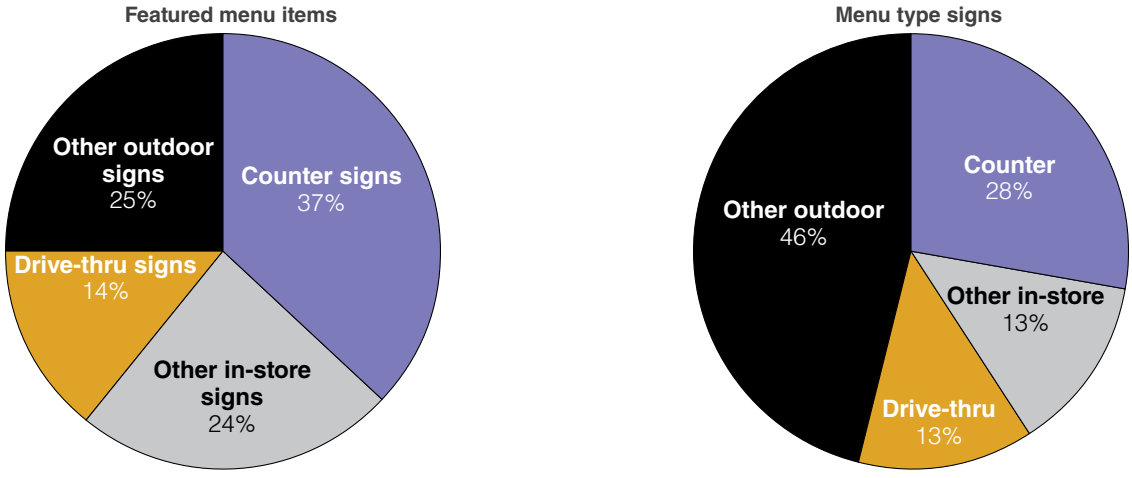
Restaurant signs audit

Across the twelve restaurant chains, each restaurant averaged 14.8 featured menu items on signs and an additional 1.0 menu type signs. More than one-third of featured menu items appeared on signs at the counter area (5.4 per restaurant) (see **Figure 43**). Approximately one-quarter appeared in both other outdoor (3.7) and other in-store locations (3.6). Menu item signs appeared least often in the drive-thru area, averaging 2.0 featured menu items per restaurant location. Although less prevalent than signs promoting specific menu items, menu type signs appeared most often in other outdoor locations (45% of menu type signs), followed by the counter area (28%).

Table 48 details the average number of menu items featured on signs in different locations at the restaurants. Wendy's had the most menu item signs, averaging 21.4 featured menu items per restaurant, followed closely by Dairy Queen at 21.3. McDonald's and Burger King also posted a significant number of menu item signs, averaging 19.5 and 18.8 featured items, respectively. Subway, Starbucks, and Domino's had the fewest menu items featured on signs, averaging 8.7 or fewer per store.

With the exception of Pizza Hut and Sonic, at least one-third of restaurants' featured menu items appeared on signs at the counter area where customers could view them while waiting in line and placing orders. Matching the total number of featured menu items per restaurant, Wendy's and Dairy Queen

Figure 43. Location of signs at restaurants



Source: Restaurant signs audit (June 2010)

Table 48. Average number of featured menu items per restaurant by location

Restaurant	Counter	Other in-store	Drive-thru	Other outdoor	Total
Wendy's	8.3	5.5	3.4	4.2	21.4
Dairy Queen	7.9	7.0	2.3	4.1	21.3
McDonald's	6.9	4.5	2.9	5.3	19.5
Burger King	7.1	3.0	3.3	5.4	18.8
Dunkin' Donuts	6.0	3.3	2.2	4.9	16.4
Taco Bell	5.7	4.1	3.4	4.2	15.7
Sonic	2.2	0.1	3.5	9.4	15.2
Pizza Hut	1.4	9.7	0.1	2.1	13.2
KFC	5.5	0.8	1.9	3.3	11.5
Subway	5.3	1.5	0.0	1.9	8.7
Starbucks	3.3	1.9	0.7	0.9	6.9
Domino's	4.3	0.8	0.0	1.2	6.2
Twelve restaurants	5.4	3.6	2.0	3.8	14.6

Source: Restaurant signs audit (June 2010)

had the most items featured at counter locations (8.3 and 7.9 per restaurant, respectively), followed by Burger King and McDonald's (approximately 7). Subway and Wendy's had the largest concentration of menu items featured on signs at the counter; approximately two-thirds were placed at this location. Pizza Hut and Sonic had the lowest proportion located at the counter, each with less than 15% of featured menu items there. Menu items featured on signs at other in-store locations are placed for customers to see while they eat. Pizza Hut advertised most frequently on indoor signs located beyond the counter area. The restaurant averaged almost ten featured menu items on signs in other in-store locations, comprising 73% of its total. Dairy Queen followed with seven items per store placed in other in-store locations, accounting for one-third of total featured items. Menu items featured on signs at other in-store locations at Starbucks and Wendy's represented 28% and 26% of the total for those restaurants. Sonic and KFC placed fewer than 10% of their menu items on signs in other in-store locations.

As with signs located at the counter, signs at the drive-thru lane are viewed by customers waiting to place their orders. Taco Bell, Wendy's, Burger King, and Sonic frequently placed menu item signs at the drive-thru, averaging more than three featured menu items per store in this location. Pizza Hut, Subway, Starbucks, and Domino's had few drive-thru locations and, therefore, signs rarely appeared at these restaurants. All other restaurants averaged two to three featured menu items on drive-thru signs per restaurant. Signs at the final type of location, other outdoor areas, encourage visits by potential customers passing the restaurant. Burger King and McDonald's placed extensive signs outside their restaurants, averaging more than five featured menu items on other outdoor signs per restaurant which accounted for more than one-quarter of their signs. Not surprisingly, given that Sonic typically serves customers in their cars, signs placed outside of the restaurant appeared to be Sonic's primary strategy (comprising approximately 60% of featured menu items). Starbucks and Pizza Hut had the lowest proportion of signs outside the restaurant (less than 16%). The other restaurants averaged three to five menu items on outdoor signs per restaurant.

Restaurants' use of signs to promote types of menus, but not specific menu items, varied widely (see **Table 49**). Four restaurants averaged 1.5 or more menu item signs per restaurant (Subway, Burger King, Taco Bell, and Wendy's); whereas four restaurants rarely used this strategy (Pizza Hut, Sonic, KFC, and Domino's). The types of menus promoted most frequently were Subway's breakfast menu (1.9 signs per store) and Taco Bell's dollar/value menu (1.4 signs per store). Five restaurants featured a dollar/value menu sign in more than half of restaurants (Burger King, Subway, Dairy Queen, Wendy's, and Pizza Hut). Signs mentioning late-night offerings and hours appeared infrequently, almost 75% of them outside the restaurant. Wendy's promoted its late-night menu the most, averaging 0.6 signs per restaurant. The highest percentage of breakfast and dollar/value menu type signs (36% and 44%, respectively) were also located outside of the restaurant, suggesting that placement of menu type signs are commonly used to encourage visits to the restaurants.

Different formats of outdoor signs.

Table 49. Number of menu type signs per restaurant

Restaurant	Breakfast	Late-night	Value	Total
Subway	1.9	0.0	0.7	2.6
Burger King	0.7	0.3	0.8	1.8
Taco Bell	0.0	0.3	1.4	1.7
Wendy's	0.4	0.6	0.5	1.5
McDonald's	0.4	0.2	0.3	0.9
Dunkin' Donuts	0.4	0.0	0.3	0.7
Dairy Queen	0.0	0.0	0.6	0.6
Pizza Hut	0.0	0.0	0.5	0.5
Sonic	0.3	0.0	0.1	0.4
KFC	0.0	0.1	0.2	0.3
Domino's	0.0	0.0	0.2	0.2
Starbucks	0.0	0.0	0.0	0.0
Twelve restaurants	0.4	0.1	0.5	1.0

Source: Restaurant signs audit (June 2010)

Figure 44. Messages and promotions on menu item signs

Source: Restaurant signs audit (June 2010)

Messages and promotions on menu item signs

Figure 44 presents the proportion of menu item signs that featured messages about health, kids or value, and price or other promotions. Approximately one in five featured menu items on restaurant signs promoted value and/or included a price promotion to encourage sales or specific menu items. Health and kids' messages were rare, appearing on 2% of signs. Other types of promotions also appeared infrequently.

Table 50 presents the proportion of signs by restaurant that featured promotions and value, health, or kids' messages. Domino's relied heavily on value and pricing to promote its menu items inside the restaurant; more than 40% of menu items on signs featured a value message and/or price promotion. Burger King, Taco Bell, and Subway also used this strategy frequently; value messages appeared on 24% or more of their menu item signs. In addition, more than 20% of Burger King, Taco Bell, and Dunkin' Donuts signs contained price promotions. In contrast, Dairy Queen and Starbucks featured value messages and/or price promotions in fewer than 10% of signs. Wendy's promoted these messages in 10% to 12% of its signs, relatively few compared to McDonald's and Burger King, the other large burger restaurants.

In contrast, health and kids' messages appeared in 2% of all menu item signs and were not present at all in four of the twelve restaurants. Taco Bell had the most featured menu items with health messages, with 7% of the total, followed by Subway with 5%. McDonald's and KFC featured kids' messages on 5% of signs, followed by 4% of Wendy's signs, and 3% of Burger King and Sonic signs. Burger King, McDonald's, and Wendy's featured other promotions on 5% or more of menu item signs. The most common types of other promotions included toy giveaways with kids' meals (e.g., "Shrek Forever After" at

Table 50. The percentage of menu item signs with theme and promotion messages

	Messages			Promotions	
Restaurant	**Value**	**Health**	**Kids**	**Price**	**Other**
Burger King	33%	2%	3%	25%	10%
Dairy Queen	7%	n/a	n/a	5%	2%
Domino's	44%	n/a	n/a	42%	3%
Dunkin' Donuts	22%	1%	n/a	21%	4%
KFC	21%	1%	5%	20%	2%
McDonald's	22%	1%	5%	18%	7%
Pizza Hut	16%	n/a	n/a	16%	n/a
Sonic	17%	n/a	3%	16%	n/a
Starbucks	5%	3%	n/a	4%	3%
Subway	24%	5%	2%	18%	3%
Taco Bell	27%	7%	2%	23%	2%
Wendy's	12%	n/a	4%	10%	5%
Twelve restaurants	20%	2%	2%	17%	4%

Source: Restaurant signs audit (June 2010)

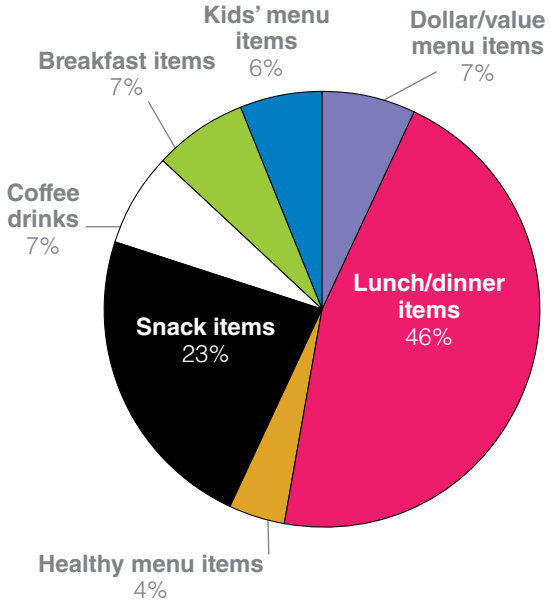
McDonald's, "Marmaduke" at Burger King, and Car Karaoke CDs at Wendy's), other games (e.g., "World Cup Soccer" game at McDonald's), charity tie-ins (e.g., Dave Thomas Adoption Foundation at Wendy's), and coupons for entertainment venues (e.g., Hersheypark, Sesame Place, and Knotts Berry Farm).

Special menus and food categories promoted

We categorized all menu items that appeared on signs by menu type and food category. We first identified signs that featured any menu items (kids', dollar/value, and healthy menus, including when the sign did not specifically refer to the special menu). We then assigned the remaining menu items to food categories (lunch/dinner, breakfast, snacks, and coffee drinks). Appendix D **(Table D.1)** provides the number of featured menu items on signs promoting each special menu and food category by restaurant. As shown in **Figure 45**, lunch and dinner items comprised nearly one-half of menu items featured on restaurant signs. Signs promoting snack items accounted for another quarter of total signs, and 14% of signs featured coffee drinks and breakfast items. Individual items from dollar/value, healthy, and kids' menus appeared in 4% to 7% of menu item signs.

Table 51 presents the percentage of signs that featured items from each special menu and food category by restaurant. Lunch and dinner items accounted for 40% or more of featured menu items on signs at most restaurants. The pizza restaurants

Figure 45. Proportion of featured menu items on signs by special menu and food category



Source: Restaurant signs audit (June 2010)

Wendy's and Burger King signs for late-night hours, value menu and breakfast menu.

Table 51. Percentage of featured menu items on signs for each special menu and food category by restaurant

Restaurant	Kids' menu items	Dollar/value menu items	Lunch/dinner items	Healthy menu items	Snack items	Coffee drinks	Breakfast items
Burger King	12%	6%	54%	n/a	13%	n/a	17%
Dairy Queen	2%	3%	30%	n/a	65%	n/a	n/a
Domino's	n/a	4%	81%	2%	14%	n/a	n/a
Dunkin' Donuts	n/a	n/a	7%	11%	5%	56%	21%
KFC	15%	23%	54%	5%	2%	n/a	n/a
McDonald's	11%	7%	40%	n/a	31%	7%	4%
Pizza Hut	n/a	15%	72%	1%	12%	n/a	n/a
Sonic	3%	2%	66%	7%	15%	2%	5%
Starbucks	n/a	n/a	8%	8%	63%	16%	5%
Subway	16%	5%	47%	12%	3%	n/a	18%
Taco Bell	3%	14%	42%	10%	30%	n/a	n/a
Wendy's	7%	n/a	62%	n/a	30%	n/a	1%
Twelve restaurants	6%	7%	46%	4%	23%	8%	7%

Source: Restaurant signs audit (June 2010)

Table 52. Special menu and food category items featured on signs in different store locations

	Counter	Other in-store	Drive-thru	Other outdoor	Total
Lunch/dinner items	44%	45%	53%	44%	46%
Snack items	22%	33%	19%	17%	23%
Coffee drinks	6%	7%	7%	11%	8%
Value menu items	6%	4%	6%	11%	7%
Breakfast items	8%	5%	4%	8%	7%
Kids' menu items	8%	4%	6%	5%	6%
Healthy menu items	6%	2%	4%	3%	4%

Source: Restaurant signs audit (June 2010)

featured the most lunch/dinner items, including 80% of Domino's and 72% of Pizza Hut's signs. Only Dairy Queen, Dunkin' Donuts, and Starbucks had a higher percentage of signs for a different food category. Dairy Queen and Starbucks advertised their snack items on more than 60% of signs; and 56% of Dunkin' Donuts signs featured coffee beverages. Taco Bell, Wendy's, and McDonald's featured snack items second most often; they promoted snacks on approximately one-third of signs, averaging 4.3 to 6.0 snack signs per restaurant. For Dunkin' Donuts, Subway, and Burger King, breakfast items came in second in appearance on menu item signs, with about 3.5 breakfast item signs (about one in five) per restaurant.

More than 15% of Subway and KFC signs promoted their kids' meal items, averaging 1.4 and 1.7 items per store, respectively. McDonald's averaged 2.2 kids' menu signs per restaurant, but promoted them in less than half of stores. Compared to the other restaurants, KFC also had the largest proportion of signs featuring dollar/value menu items (23%), followed by Pizza Hut and Taco Bell (14% to 15%). Meanwhile, healthy items appeared on 4% of menu item signs. Among the twelve restaurants, just Taco Bell, Subway, and Dunkin' Donuts promoted items from their healthy menus on 10% or more of signs.

Table 52 shows the percentage of featured menu items from each special menu and food category present on signs in different locations across the twelve restaurants. Lunch/dinner items appeared most frequently on signs in all locations of the restaurant, but they represented a somewhat higher proportion of signs in the drive-thru area. Notably, snack items were featured on one-third of signs located in other in-store areas, a comparatively high percentage as they represented just 23% of all menu items. It appears that restaurants may use these signs to encourage additional purchases of snack or dessert items to customers who eat a meal inside the restaurant. Similarly, while dollar/value menu items and coffee beverages comprised just 7% to 8% of all menu item signs, they represented 11% of signs located in other outdoor locations, suggesting that these items may be used to encourage visits to the restaurants.

Outdoor sign for McDonald's coffee beverages.

Nutritional quality of menu items appearing on restaurant signs

Table 53 summarizes the nutritional quality of menu items that appeared on signs at each of the twelve restaurants. Results include the percentage of menu items with a healthy NPI score of 64 or higher for foods and 70 or higher for

Table 53. NPI score, and weighted average calories and sodium content of menu items featured in signs at each restaurant

Restaurant	Healthy NPI score	Weighted average of featured menu items			
		Total calories	Calories from sugar	Calories from sat fat	Sodium (mg)
Subway	65%	355	47	37	963
KFC	39%	411	60	53	956
McDonald's	36%	349	124	58	413
Taco Bell	35%	331	147	23	556
Starbucks	32%	247	115	26	238
Dunkin' Donuts	30%	249	131	22	262
Wendy's	29%	455	105	71	909
Pizza Hut	17%	512	38	80	1,297
Burger King	16%	435	53	75	821
Sonic	13%	397	112	62	625
Domino's	10%	574	51	103	1,237
Dairy Queen	4%	566	204	103	512
Twelve restaurants	25%	412	108	62	699

Source: Restaurant signs audit (June 2010) and menu composition analysis (January 2010)

beverages. Average calories and sodium per menu item (weighted by number of menu items) are also presented. Nutrient information was not available on restaurant websites for 157 menu items (17% of items) that appeared 1,916 times (12% of signs).

Signs at Subway restaurants featured the most nutritious menu items. Two-thirds met the cut-offs for healthy NPI scores. Subway items were also among the lowest in average calories across restaurants, but had higher than average sodium levels. In contrast, approximately one-third of menu items featured on signs at KFC, McDonald's, Taco Bell, Starbucks, and Dunkin' Donuts had healthy NPI scores; and menu items featured on signs at these restaurants averaged 247 (Starbucks) to 454 (Wendy's) calories per item. Saturated fat content of KFC, McDonald's and Wendy's items was high, ranging from 6 to 9 grams (54 to 81 calories). Domino's and Dairy Queen featured the least healthy menu items on their signs: 10% or fewer had healthy NPI scores and menu items featured at these restaurants averaged more than 560 calories each. In addition, approximately one-half of the calories in menu items on signs at Sonic and Dairy Queen consisted of sugar and saturated fat.

Table 54 presents the three menu items that appeared most frequently on signs at each restaurant, including calorie and NPI scores. The following items appeared on signs at 70% or more of restaurants: Frappé (McDonald's), BK Breakfast Bowl (Burger King), Boneless Wings and Frosty (Wendy's), Fruitista Freeze (Taco Bell), Wings (Pizza Hut), Coolatta (Dunkin' Donuts), Family Meal and Crispy Double Down sandwich (KFC), and Blizzard (Dairy Queen). None of these menu items had healthy NPI scores and some items, including large-sized Dairy Queen Blizzards and Dunkin' Donuts Coolatas, had as many as 900 calories or more.

Table 55 presents the nutritional quality of menu items featured on restaurant signs by sign location, message, and promotions. Signs that appeared inside the restaurant in locations other than the counter area were least likely to have healthy NPI scores (20%) as compared to signs that appeared in other areas of the restaurant (24% to 29%), primarily due to higher levels of sugar averaging 32 grams (128 kcal) per sign. Menu items promoted in signs outside the restaurant had higher than average total calories and sodium.

Signs with a kids' or health message appeared in few restaurants, but the promoted items generally were more nutritious. Approximately half the items on signs with a kids' message had a healthy NPI score and these items averaged fewer than 200 calories. McDonald's, Subway, and Burger King commonly promoted kids' meal apple sides in their signs with a kids' message; and McDonald's, Burger King, and Wendy's promoted plain milk. Kids' main dishes promoted at individual restaurants included chicken nuggets (at McDonald's and Wendy's), Subway's kid-sized Fresh Fit sandwiches, Burger King's hamburger, KFC's grilled drumstick, and Taco Bell's cheese roll-up and bean burrito. Wendy's also featured its kids' meal cheeseburger and flavored milk in these signs.

Few restaurants featured health messages on menu item signs, but these menu items had the highest NPI scores: three-quarters met healthy cut-off scores and they averaged 241 calories. Individual menu items promoted with a health message and featured on 5% or more of signs in individual restaurants included apples and macaroni and cheese (Burger King); Fresco soft taco, chicken burrito supreme, and steak burrito supreme (Taco Bell); and grilled chicken drumstick (KFC).

Table 56 presents menu items that appeared on signs with price promotions at 20% or more of restaurants. NPI scores

Table 54. The three menu items featured most frequently on signs at each restaurant

Restaurant	Item	Percent of restaurants with sign	Average number of signs per store*	Calories	NPI score
McDonald's	Frappé	81%	4.0	450-680	
	Coffee	60%	1.8	40-400	40-72
	McFlurry	57%	1.6	550-620	54-58
Subway	6" Fresh Fit sandwich	30%	2.1	230-480	50-76
	Coffee	34%	1.5	5	70
	12" Fresh Fit sandwich	32%	1.5	460-1080	50-76
Burger King	BK Breakfast Bowl	78%	1.9	540	48
	Firegrilled Ribs	42%	2.9	220-590	26-28
	Icees	60%	1.9	n/a	
Starbucks	Frappuccino Light Blended Coffee	41%	2.1	90-220	68-70
	Frappuccino Coffee Drink	34%	2.1	180-490	64-68
	Frappuccino Blended Coffee	25%	2.8	180-490	64-68
Wendy's	Boneless Wings	96%	2.2	520-580	42-44
	Frosty	72%	2.8	150-520	60
	Twisted Frosty	62%	2.4	440-560	44-58
Taco Bell	Fruitista Freeze	87%	3.4	230-250	66
	Limeade Sparkler	49%	3.7	150-230	66
	$2 Meal Deal	39%	3.0	various	
	Bacon Ranch Tortada	68%	1.7	n/a	
Pizza Hut	Wings -10 pc	70%	2.6	320-408	28-42
	Hershey's Chocolate Dunkers	16%	6.3	280	38
	Hand Tossed Pizza	9%	10.3	580-880	36-64
Dunkin' Donuts	Coolatta	84%	4.2	473-946	60-66
	Iced Coffee	61%	3.1	10-120	70
	Latte - Iced	64%	2.4	70-450	68-70
KFC	Family Meal	100%	1.5	various	
	Double Down - Crispy	70%	1.8	540	46
	Fountain soft drink	28%	3.3	200-880	66
Sonic	Fountain soft drink	20%	8.0	278-929	66
	Mozzarella Sticks	14%	10.3	440	38
	Tots	28%	4.9	130-330	50-52
Domino's	Chocolate Lava Crunch Cake	44%	1.6	357	22
	Soft drink (in a bottle)	26%	1.5	0-165	66-70
	Sandwich - Italian Sausage and Peppers	26%	1.3	879	46
Dairy Queen	Blizzard	84%	4.9	440-1,530	40-60
	DQ Cakes	68%	3.6	290-820	36-48
	Frozen Lemonade	34%	3.2	200-430	66

*Per restaurant that had a sign for the menu item
Source: Restaurant signs audit (June 2010)

and total calories for menu items featured on these signs did not differ significantly from menu items featured most often on other signs in the restaurants. As with all signs, few menu items met healthy NPI score cut-offs.

Restaurant signs overview

Promoting specific menu items on signs inside the restaurant and outside is a marketing technique used extensively by all restaurants in our analysis. The burger restaurants, including Wendy's, Dairy Queen, McDonald's, and Burger King, used this strategy the most, averaging nineteen or more signs per restaurant. Signs appeared most frequently at the counter area inside the restaurant where they could influence specific menu items ordered, and outside the restaurant to encourage restaurant visits. Some restaurants also used signs outside the restaurant to advertise availability of different types of menus or other restaurant features such as Subway's breakfast menu and Wendy's late-night hours.

As found in the analysis of TV advertising, restaurants rarely used signs to promote sales of their healthier menu items.

Table 55. NPI score and weighted average calories and sodium content of menu items featured on restaurant signs

Restaurant	Healthy NPI score	Calories		Sat fat	Sodium (mg)
		Total	Sugar		
All signs	25%	412	108	62	699
Sign location					
Counter	29%	403	98	60	700
Other in-store	20%	418	128	63	651
Drive-thru	25%	393	101	57	670
Other outdoor	24%	431	107	66	754
Message					
Value	27%	417	82	61	809
Health	77%	241	31	26	698
Kids	51%	191	48	20	334
Promotions					
Price	26%	429	82	63	848
Other	34%	403	116	62	654

Source: Restaurant signs audit (June 2010) and menu composition analysis (January 2010)

Although items on restaurants' dollar/value, healthy, and kids' menus tended to receive higher NPI scores and to be lower in calories, these items were featured on 7% or fewer of restaurant signs. Similarly, although signs with health and kids' messages promoted more nutritious menu items, these signs appeared just 2% of the time. In our analysis, just Subway and Taco Bell promoted health messages in 5% or more of their menu item signs. Four restaurants that did not advertise their kids' meals on TV or the internet (KFC, Sonic, Taco Bell, and Wendy's) promoted them on a small number of restaurant signs. As in TV ads, signs with a kids' message usually featured the healthier side and beverage offered with the kids' meal options. However, they were featured on restaurant signs less than 5% of the time.

Price promotions at Burger King, Taco Bell, and Wendy's

Menu item signs at restaurants most frequently promoted lunch/dinner main dishes, which was also the case in general audience TV ads. In addition, many restaurants prominently

Table 56. Menu items that appeared on signs with price promotions*

Restaurant	Item	Percent of restaurants with sign	Average number of signs per store	Calories	NPI score
McDonald's	Sweet Tea	24%	1.5	150	68
Burger King	Firegrilled Ribs	23%	2.3	220-590	26-28
	Icees	26%	1.5	n/a	
	BK Breakfast Bowl	21%	1.4	540	48
Wendy's	BBQ Bacon Jr. Cheeseburger Deluxe	24%	1.1	430	38
	BBQ Bacon Crispy Chicken Deluxe	23%	1.1	450	40
Taco Bell	$2 Meal Deal	29%	2.9	various	
Pizza Hut	Any Pizza $10	37%	1.4	various	
	Wings - 10 pc	38%	1.2	155-408	28-42
	Any Pasta $10	22%	1.1	510-640	62-66
Dunkin' Donuts	Coolata	24%	2.9	473-946	60-66
	Donut	25%	1.4	40-470	14-50
KFC	Family Meal	71%	1.3	various	
	Crispy Strips	25%	1.1	250-380	48-50

*Items that appeared in 20% or more of restaurants
Source: Restaurant signs audit (June 2010)

featured sweet snacks, especially at other in-store locations, placed to encourage impulse purchases after a meal. Restaurants frequently used value messages and short-term price promotions to promote sales of their high calorie and poor nutritional quality items. Although no restaurants prominently featured their more healthful items in TV advertising, Subway menu items featured on store signs were relatively nutritious. Approximately two-thirds had healthy NPI scores and these items averaged just 355 calories. It appears that Subway promoted its $5 footlong sandwiches to encourage customers to visit the restaurant but, at the point-of-sale, they encouraged purchases of smaller, more healthful items. As in other types of advertising, Pizza Hut, Sonic, Domino's, and Dairy Queen promoted the least nutritious menu items on signs in restaurants; fewer than 20% had healthy NPI scores and at least one-third of calories were from sugar and saturated fat. Burger King also promoted primarily unhealthy menu items in its restaurant signs.

Pricing analysis

We priced eight individual menu items that varied in nutritional quality at eight restaurants (excluding the pizza and coffee restaurants), as well as kids' meals and combo meals at McDonald's, Burger King, Wendy's, Subway, and Taco Bell. Individual menu items evaluated for price included the healthiest chicken main dish salad available (as measured by NPI score), the healthiest and less healthy versions of chicken and red meat sandwiches, and the healthiest and least healthy sides available. Appendix D **(Table D.2)** presents the average price for each menu item in the analysis, as well as NPI score and calories per item. **Table 57** summarizes these results.

Healthy options were available on all restaurant menus examined. All offered a chicken salad (including dressing) with a healthy NPI score 66 or higher, and except for Taco Bell's salad, they were less than 700 calories. All restaurants also offered a chicken sandwich with an NPI score of 66 or higher and fewer than 450 calories. Some restaurants (Wendy's, Taco Bell, Sonic, and Burger King) offered a red meat sandwich with a healthy NPI score. In addition, all restaurants offered healthy sides with NPI scores as high as 86 and fewer than 200 calories.

At all restaurants in our pricing analysis, the salad with chicken was priced higher than any other main dish evaluated. On average, the salad cost $1.30 more than any sandwich examined; it even cost more than restaurants' large, unhealthy red meat sandwiches that averaged 972 calories. In addition, a hamburger combo meal (including a main dish, side, and beverage) was priced just $.72 higher than the salad. Therefore, restaurant pricing does not encourage sales of these items.

In contrast, within similar types of main dishes, healthier options tended to be less expensive. For instance, the healthier version of chicken sandwich cost the same or less than the least healthy version (on average, $.51 less). Similarly, the healthiest red meat sandwich, such as a regular hamburger, cost $2.18 less on average than the least healthy sandwich (e.g., McDonald's Angus Bacon and Cheese burger and Burger King's Quad Stacker). However, the least healthy items tended to provide the most food for the price. For example, the least healthy chicken sandwiches contained on average 55% more calories than the healthiest versions but cost just 14% more. Compared to the healthiest red meat sandwiches, restaurants' least healthy versions contained 128% more calories but cost 93% more. For side dishes, however, the healthiest and least healthy options tended to be priced similarly. Therefore, by simply switching side dishes, customers do have the option to increase the healthiness of a fast food meal at no cost.

It is interesting to note that kids' meals and combo meals were priced similarly among the restaurants. Subway was the only exception. The average price of McDonald's, Burger King, Wendy's, and Taco Bell's kids' meals differed by only $.10, and prices for their combo meals ranged from $4.47 to $5.80. However, both Subway's kids' meals and combo meals cost approximately $1.00 more than the highest priced meal at other restaurants: $4.05 for the kids' meal and $6.80 for the combo meal.

Overall, it is possible to obtain a healthy meal at these restaurants for a relatively low price. However, the chicken salad tended to be the healthiest main dish option at most restaurants but also the most expensive. In contrast, the largest burgers available at these restaurants provided 800 or more calories for a relatively low price.

Table 57. Average price, calories, and NPI scores for healthiest and less healthy options at restaurants

Type of item	Average price	Average NPI score	Average calories
Kids' meal	$3.19		
Combo meal	$5.57		
Chicken main dishes			
Salad with chicken	$4.85	72	495
Healthy sandwich	$3.73	69	383
Least healthy sandwich	$4.24	55	594
Red meat sandwiches			
Healthiest available	$2.35	60	426
Less healthy	$2.95	44	534
Least healthy	$4.53	40	972
Side dishes			
Healthiest	$1.35	75	101
Least healthy	$1.37	52	314

Source: Pricing analysis (June 2010)

Sales practices audit

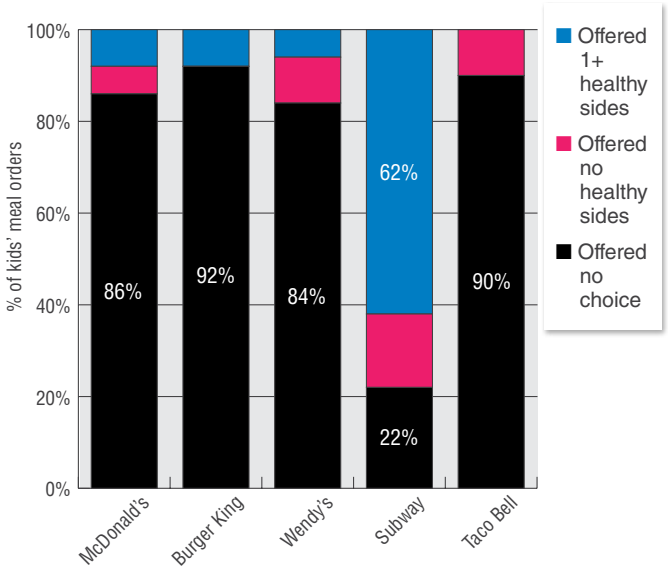
Sales practices audit	Definition
Default item	Side dish and/or beverage that is automatically provided when ordering a kids' meal or combo meal.

We also conducted an audit of sales practices used by fast food restaurant employees when customers placed orders for kids' meals and combo meals. Field personnel acting as customers were instructed to purchase any side or beverage provided with the meal automatically, or the first item offered if restaurant employees offered them a choice. The audits were conducted at 50 locations each of McDonald's, Burger King, Wendy's, Taco Bell and Subway across the country.

Kids' meals

Although all restaurants examined offered nutritious beverage options with their kids' meals, and all, with the exception of Taco Bell, offered nutritious sides, restaurant employees nearly always automatically provided a soft drink and french fries (or other unhealthy side) with the meal. In more than 84% of kids' meal orders placed at McDonald's, Burger King, Wendy's, and Taco Bell, the restaurant employees did not ask the customer what side he or she wanted (see **Figure 46**). They suggested a healthy side just 6% to 8% of the time at McDonald's, Burger King, and Wendy's. Subway was the only exception: Restaurant employees offered the customer a choice of side options 78% of the time, including fruit in 60% of orders and yogurt in 22%.

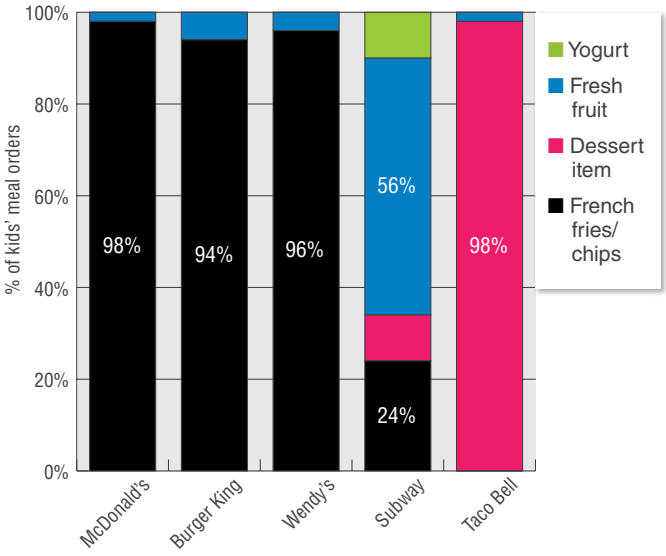
Figure 46. How sides were offered in kids' meal orders



Source: Sales practices audit (June 2010)

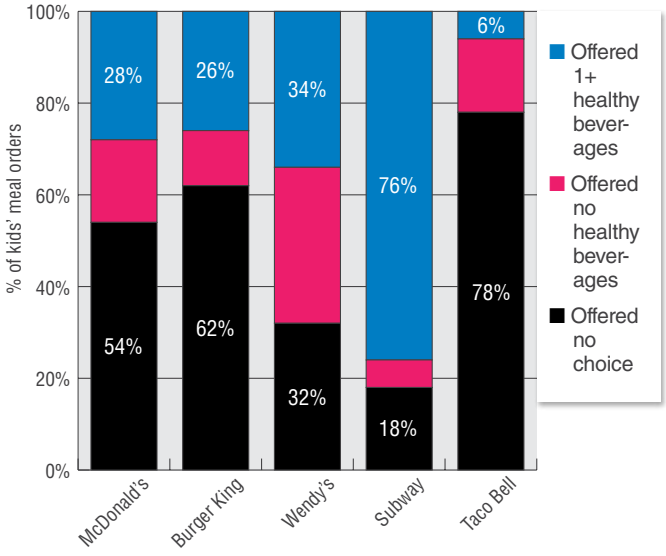
Kids' meal bags at Burger King and McDonald's.

Figure 47. Sides received with kids' meals



Source: Sales practices audit (June 2010)

Figure 48. How beverages were offered in kids' meal orders



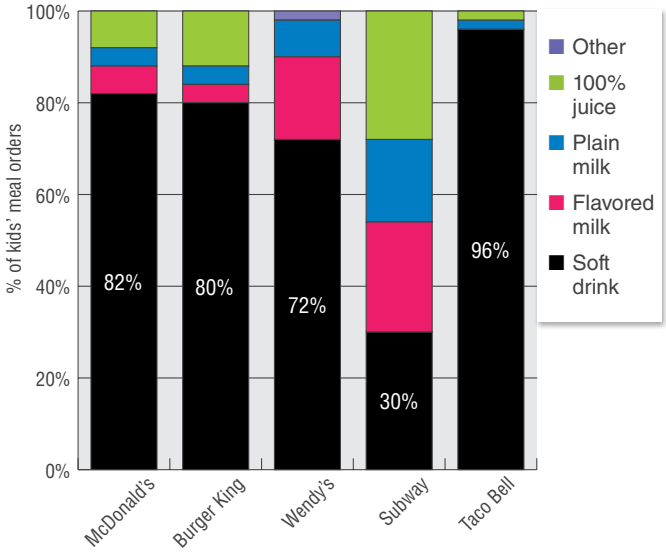
Source: Sales practices audit (June 2010)

As a result, 94% or more of kids' meals ordered at McDonald's, Wendy's, Burger King, and Taco Bell included an unhealthy side (french fries at the burger restaurants, or cinnamon twists at Taco Bell). In comparison, 56% of kids' meals ordered at Subway included fruit and 10% included yogurt, while 34% included chips or cookies (see **Figure 47**).

Restaurant employees offered customers a choice of kids' meal beverages somewhat more often than they offered a choice of sides. Nevertheless, they did not offer a choice approximately half of the time (see **Figure 48**). Taco Bell offered no choice of beverage with kids' meals 78% of the time, and McDonald's and Burger King offered no choice 54% and 62% of the time. In contrast, Wendy's and Subway employees were more likely to offer customers a choice of beverage, including 68% of orders placed at Wendy's and 82% at Subway. At Subway, they offered plain milk and 100% juice in three-quarters of orders. However, at Wendy's, even though customers were typically offered a choice of beverage, plain milk or 100% juice was suggested in just 34% of orders. Interestingly, Wendy's poured soft drinks behind the counter more often than other restaurants; this occurred in 54% of Wendy's orders. Wendy's provided customers a cup to pour his or her own soft drink 18% of the time, whereas this occurred 52% of the time at the other four restaurants.

Consequently, 72% to 96% of kids' meals ordered at McDonald's, Burger King, Wendy's, and Taco Bell came with a soft drink (see **Figure 49**). Plain milk or 100% juice was received in 16% of kids' meal orders at Burger King, 12% at McDonald's, 8% at Wendy's, and 4% at Taco Bell. Subways' kids' meals came with a healthy beverage more often: 28%

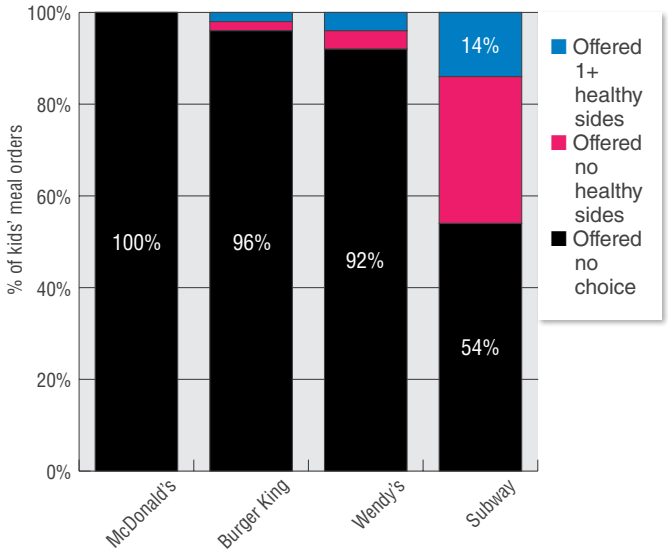
Figure 49. Beverages received with kids' meal orders



Source: Sales practices audit (June 2010)

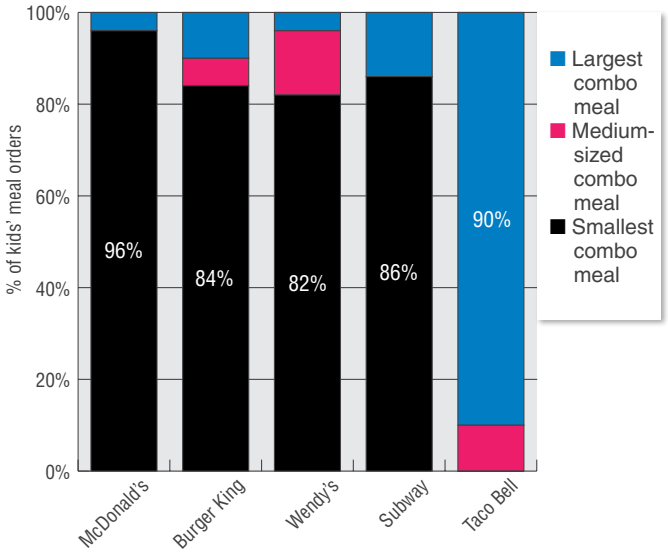
of orders included 100% juice and 18% included plain milk. Even so, customers still received a soft drink with Subway's kids' meals 30% of the time and flavored milk 24% of the time. Wendy's also suggested flavored milk first in 18% of orders.

Figure 50. How sides were offered with combo meals



Source: Sales practices audit (June 2010)

Figure 51. Size of combo meals received*



*McDonald's smallest combo meal was labeled "medium," but was the same size as Burger King and Wendy's "small." Accordingly, we classified McDonald's medium combo meal as the smallest combo meal offered.
Source: Sales practices audit (June 2010)

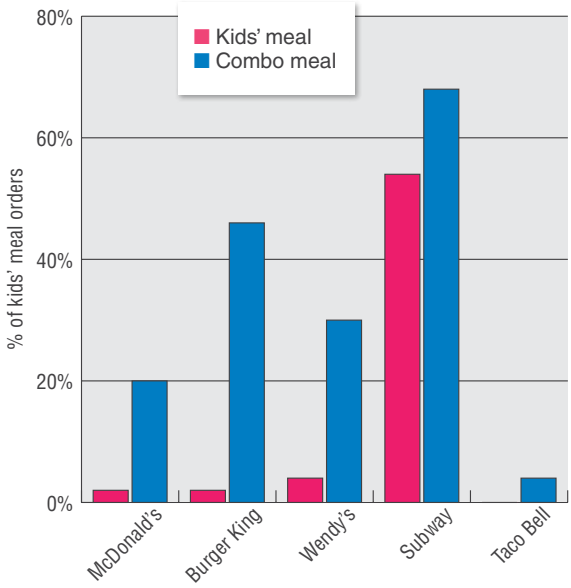
Combo meals

Similar to the kids' meal-ordering scenarios, restaurant employees rarely offered a choice of sides with combo meals, and instead, they automatically included a default side with the meal. At McDonald's, Burger King, and Wendy's, customers automatically received a side with their combo meal 92% to 100% of the time (see **Figure 50**). Subway provided customers with a choice of sides in approximately one-half of orders. However, they offered a healthy side in just 14% of orders at Subway and in 2% to 4% of orders at Wendy's and Burger King. No healthy sides were offered at McDonald's. Across all restaurants, customers received a soft drink with 98% of combo meals and they received french fries or chips more than 90% of the time.

During the majority of combo meal orders (69%), restaurant employees did not offer customers a choice of meal sizes. When they did, they usually mentioned all available sizes. At McDonald's, Burger King, Wendy's and Subway, customers most commonly received the smallest sized combo meal available (a medium at McDonald's and a small at Burger King, Wendy's and Subway) (see **Figure 51**). Employees asked customers if they wanted a larger sized combo meal in 4% of orders at McDonald's, 14% at Subway, 16% at Burger King and 18% at Wendy's. Notably, Taco Bell nearly always suggested a larger-sized combo meal.

With the exception of Subway, restaurants seldom asked customers if they wanted to modify their meal, such as by adding condiments or offering a choice of toppings or bread types. Adding cheese to a sandwich was the only modification commonly suggested by restaurant employees (see **Figure 52**). They asked the customer about adding cheese more often when the order involved combo meals (34% of orders) than kids' meals (12%). In contrast, Subway commonly asked customers about bread choice (48% of kids' meal and 66%

Figure 52. Cheese modifications in fast food orders



Source: Sales practices audit (June 2010)

of combo meal orders); cheese (more than 54% of kids' and combo meal orders); and choice of other toppings (10% of kids' meal and 20% of combo meal orders).

Sales practices audit overview

The overwhelming default at four of the five restaurants examined in the sales practice audit was to provide french fries and a soft drink with orders for both kids' meals and combo meals. Subway alone offered healthy sides and beverages as the default in its kids' meals. Although McDonald's and Burger King promoted their healthy kids' meal options extensively in their external advertising, their employees offered customers a healthy side option in 8% of orders and a healthy beverage option in approximately one-quarter of orders. Restaurant personnel offered customers a healthy side or beverage option even less often with a combo meal. As a result, with the exception of Subway kids' meals, nearly all kids' and combo meals automatically came with a soft drink and french fries. With the exception of Taco Bell, restaurant employees did not regularly suggest a larger-sized combo meal. On average, this occurred in 30% of orders.

Marketing outcomes

In this final section, we assess the outcomes of fast food restaurant marketing practices, including frequency and reasons for restaurant visits as reported in a survey of parents of 2- to 11-year-old children. In addition, we purchased market research data from The NPD Group's CREST service to evaluate fast food items purchased most often by teens and by parents for their children.

Restaurant visits

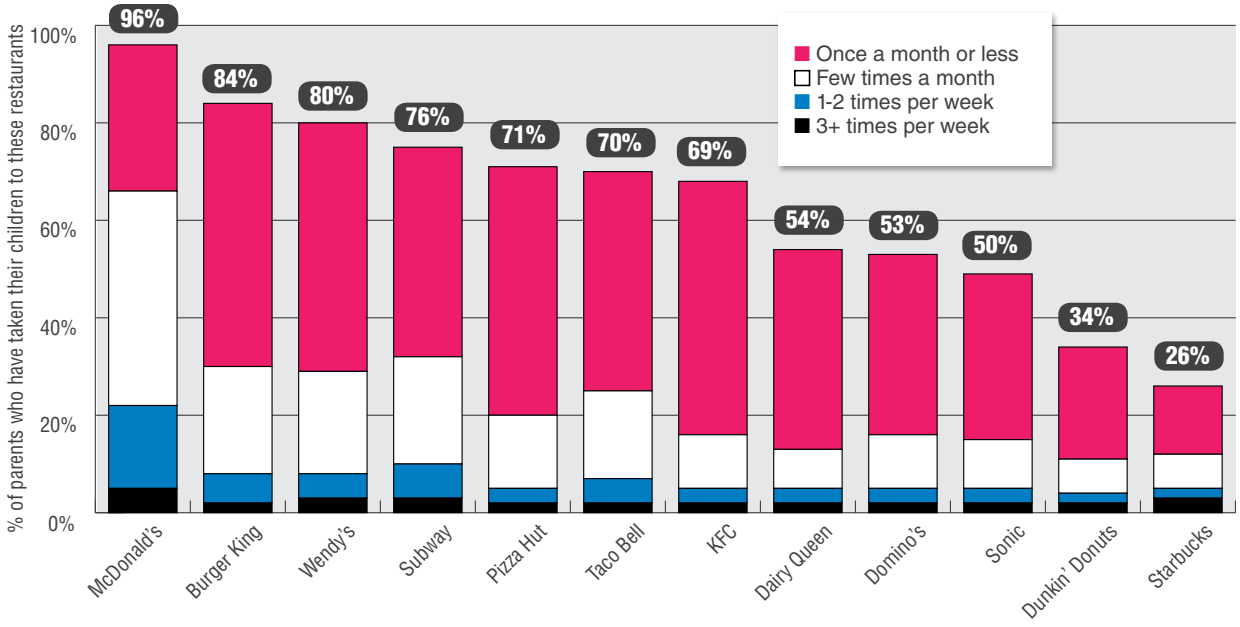
We conducted an online survey of 689 parents of children (2-11 years), including 310 white, 214 African American, and 159 Hispanic parents (respondents were asked both race and ethnicity). We oversampled African American and Hispanic parents to obtain enough responses to compare differences by race and ethnicity. Of these parents, 60% had children from 2 to 5 years (n = 412), and 71% had children from 6 to 11 years (n = 486).

The frequency that parents reported visiting the twelve restaurants in our analysis varied widely (see **Figure 53**). With the exception of Dunkin' Donuts and Starbucks, 50% or more of parents had taken their children to all the fast food restaurants in our analysis at least once. At least 75% had visited McDonald's, Burger King, Wendy's, or Subway. Approximately 70% had visited Pizza Hut, Taco Bell, and KFC. About half had visited Dairy Queen, Domino's, and Sonic. Parents took their children to McDonald's significantly more often than they visited other fast food restaurants: 66% reported taking their children there at least a few times per month and 22% reported going at least once a week. In contrast, approximately 30% reported taking their children to Burger King, Wendy's, or Subway more than once a month, and fewer than 10% reported going once a week or more to any of these restaurants.

We found similar patterns of responses when we asked parents how often their child asks to go to the twelve fast food restaurants (see **Figure 54**). Again, with the exception of Dunkin' Donuts and Starbucks, one-third or more of parents reported that their child had asked them to go to these restaurants at least once. The most frequently requested restaurant was McDonald's; 91% of parents said their child had asked to go there and 41% of parents said their child asked at least once a week. In fact, 15% of parents of 2- to 5-year-olds reported that their child asked to go to McDonald's *every day*, and 8% of parents of older children reported daily requests. One-half to two-thirds of all parents reported that their child had asked to go to each of the following restaurants: Burger King, Wendy's, Subway, Pizza Hut, and Taco Bell. Between 12% and 16% of parents reported requests to go to Burger King, Wendy's, and/or Subway at least once a week.

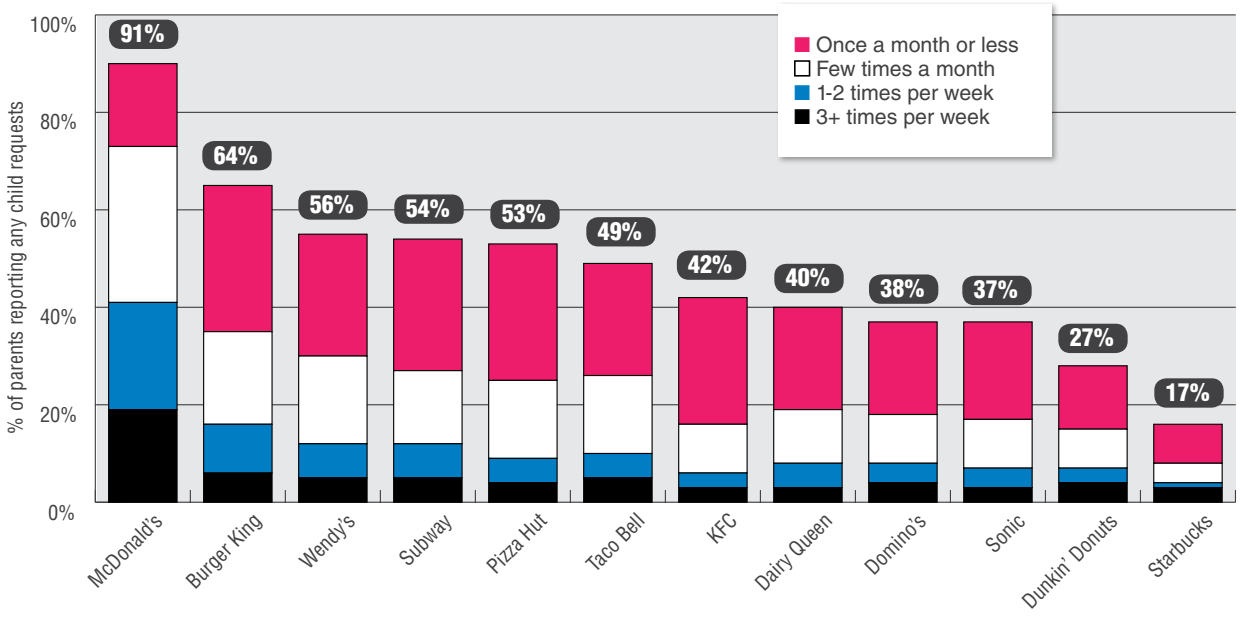
Differences by race and ethnicity. We found some significant differences by race and ethnicity in reported visits to individual fast food restaurants (see **Figure 55**). African American parents visited McDonald's, Burger King, Wendy's, KFC, and Pizza Hut with their children more often than did white parents. Hispanic parents also visited McDonald's, Burger King, KFC, and Pizza Hut more often than white parents. Hispanic parents were less likely to visit Wendy's but almost as likely as African American parents to visit Burger King.

Figure 53. How often parents reported taking their children to the twelve fast food restaurants



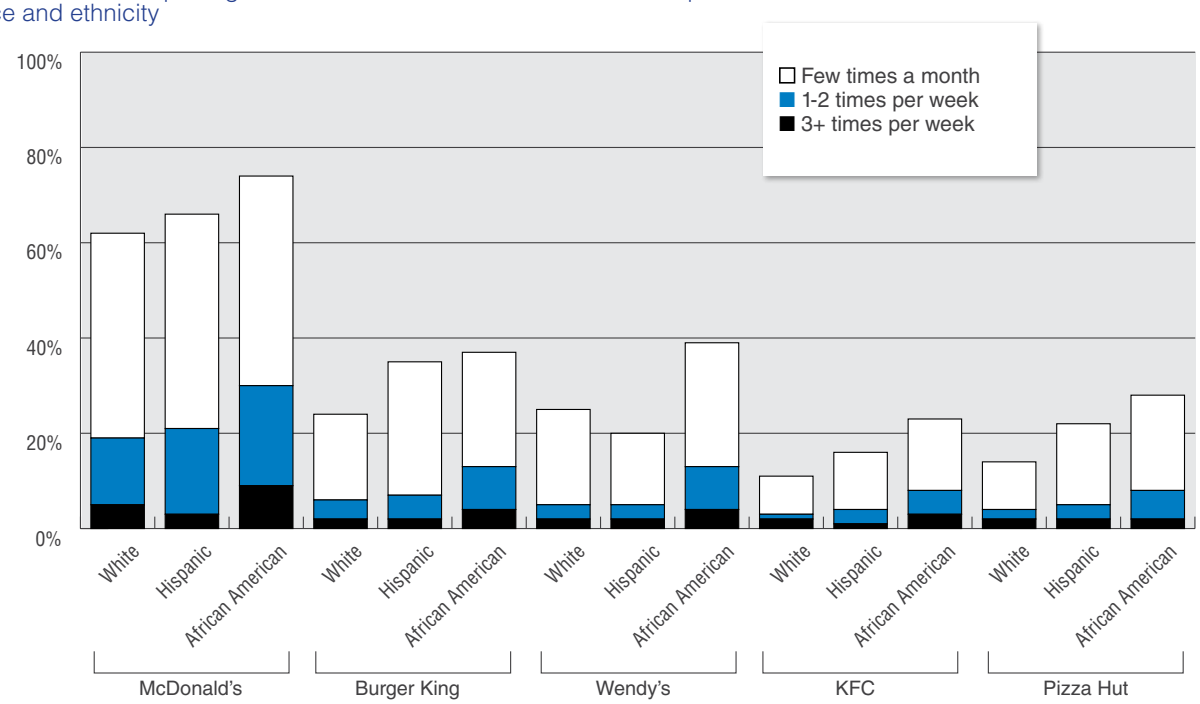
Source: Survey of parents of children 2-11 years (August/September 2010)

Figure 54. How often parents reported that their child asked to go to the twelve fast food restaurants



Source: Survey of parents of children 2-11 years (August/September 2010)

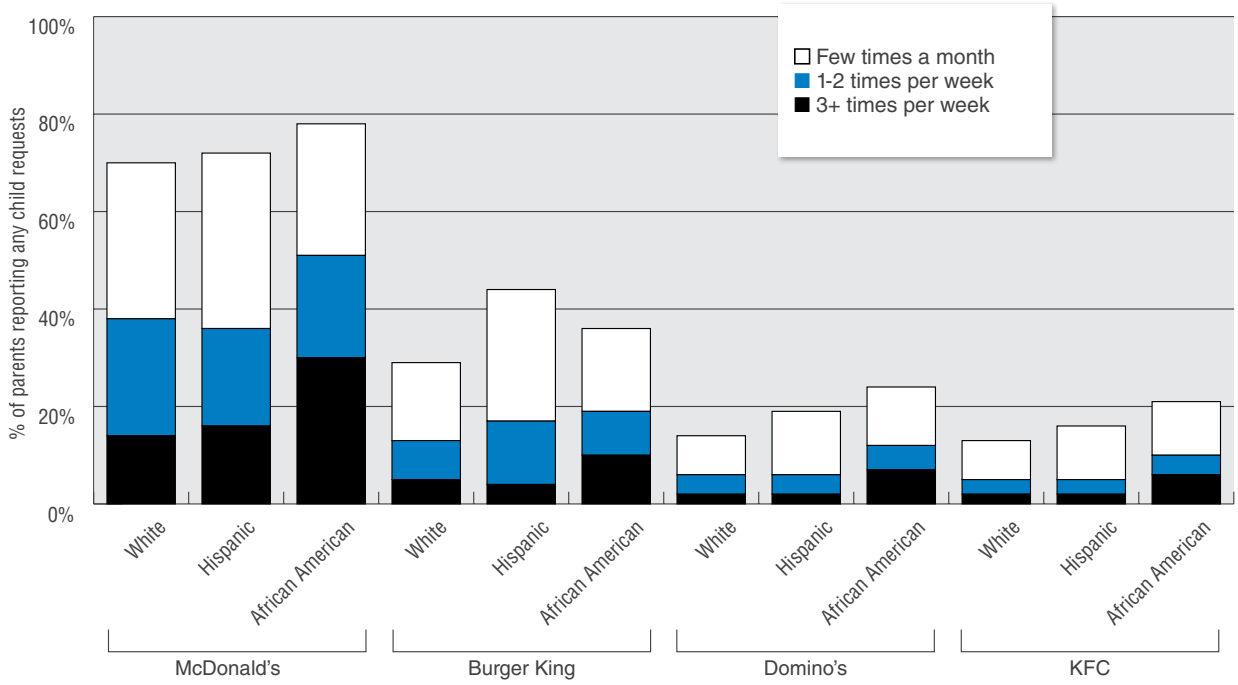
Figure 55. Parents reporting visits to fast food restaurants a few times per month or more often: Restaurants with differences by race and ethnicity



Source: Survey of parents of children 2-11 years (August/September 2010)

Similarly, African American parents were more likely to report that their child asked to visit McDonald's, Burger King, Domino's, and KFC compared to white parents (see **Figure 56**). Hispanic parents were even more likely to report that their child asked to visit Burger King, perhaps explaining their higher relative frequency of visits to this restaurant: 44% of Hispanic children asked to visit compared to one-quarter of white and one-third of African American children.

Figure 56. Menu items that appeared on signs with price promotions



Source: Survey of parents of children 2-11 years (August/September 2010)

Parents' visits to the top four fast food restaurants

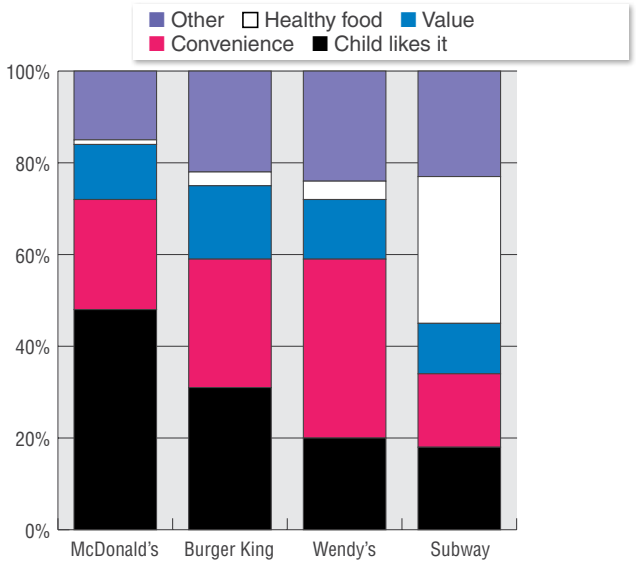
Of the parents responding to our survey, 84% reported that they had purchased lunch or dinner for their children from any fast food restaurant in the past week and 79% (*n* = 546) had purchased lunch or dinner from one of the four restaurants we examined in detail (McDonald's, Burger King, Subway, and Wendy's). In addition, 39% had visited more than one of these four restaurants in the past week. McDonald's was the most popular choice: Two-thirds (66%) of parents had taken their children to McDonald's for lunch or dinner in the past week, compared to 25% each who had taken their children to Burger King or Subway and 23% who had gone to Wendy's. Parents also reported that these results were not unusual. Three-quarters indicated that they had eaten at fast food restaurants in the past week *the same as usual* and 20% reported eating at fast food restaurants *less often* than usual in the past week. Just 6% reported eating at fast food restaurants *more often* than usual.

Parents also provided detailed information about their most recent visit to one of these four restaurants: 66% had visited McDonald's most recently (*n* = 360); 12% each had visited Burger King or Subway (*n* = 65 and 64, respectively); and 10% had visited Wendy's (*n* = 57). They also reported specific purchasing information for their youngest child during their most recent visit. The sample included 312 parents who reported purchases for their 2- to 5-year-old (57%) and 234 who reported on their 6- to 11-year-old (43%). It also included 240 white, 163 African American, and 130 Hispanic parents.

With the exception of those who had gone to Subway, the majority of parents ordered food at the drive-thru window: 63% at McDonald's, 60% at Burger King, and 75% at Wendy's. Just 3% reported ordering from a Subway drive-thru. As a result, fewer parents reported eating inside a McDonald's, Burger King, or Wendy's restaurant (25%, 23%, and 19%, respectively), while 33% ate inside a Subway. The most common locations for consuming the food were at home or someone else's home, including 43% who purchased from McDonald's, 40% from Burger King, 54% from Wendy's, and 39% from Subway. In addition, approximately one-quarter of parents who purchased food from McDonald's, Burger King, or Wendy's consumed the food inside their car (26%, 31%, and 21%, respectively).

Parents who visited all four restaurants reported that the main reason they chose the restaurant was because their child likes it there (39%), convenience (25%), and value (12%). Just 5% reported going to these restaurants because they provide healthy menu options. However, we found significant differences in parents' reasons for choosing individual restaurants (see **Figure 57**). Nearly half of parents (47%) reported that the main reason they visited McDonald's was because their child likes it, compared to 31% who went to Burger King, and fewer than 20% who went to Subway or Wendy's. More than one-third of parents reporting going to Wendy's for convenience. In contrast, healthy menu options was the most common reason that parents chose Subway (31%), compared to less than 1% of parents who went to McDonald's and 3% to 4% of parents who went to Burger King or Wendy's.

Figure 57. Main reason that parents chose to go to fast food restaurants



Source: Survey of parents of children 2-11 years (August/September 2010)

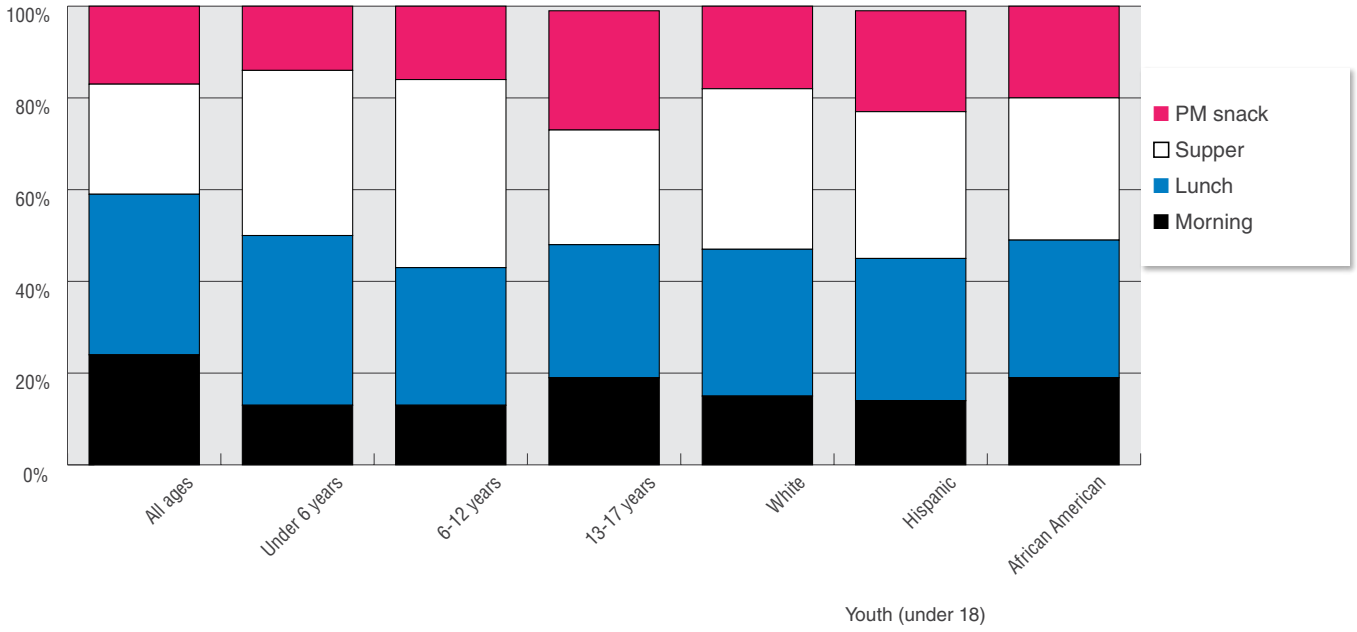
When asked about the main reason their child wanted to go to these restaurants, the majority of parents reported that their child likes the food, including 83% who went to Subway, 65% who went to Wendy's, 59% for McDonald's, and 48% for Burger King. The free toy or giveaway was the second most common reason parents reported that their child wanted to go to McDonald's (15%) and Burger King (19%). Fewer than 5% of parents reported that their child wanted to go to Wendy's or Subway for a free toy or giveaway.

Fast food restaurant visits by children and teens

NPD also provided information on fast food restaurant visits to major quick service (i.e., fast food) chains, including information reported by teens (13-17 years) and by parents of children (under 13 years).[64] According to NPD, children under 13 accounted for 13% of all visits to quick-service chains, while teens accounted for 8%. Relative to each group's representation in the population, children were below-average users of fast food chains, while teens were average users. Young adults, ages 18-24, had the highest propensity to visit fast food chains.

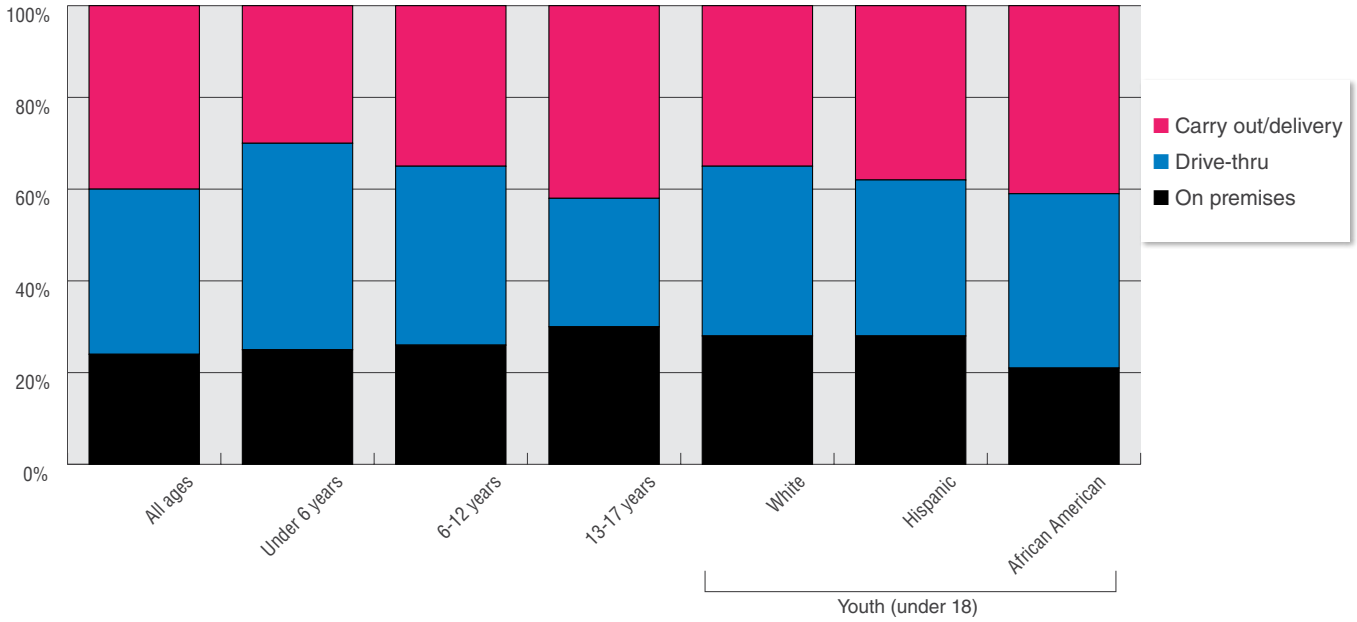
Among visitors of all ages, approximately one-third of occasions were for lunch, one-quarter for supper or morning meal, and 18% for a p.m. (i.e., afternoon or night-time) snack (see **Figure 58**). Compared to consumers of all ages, parents visiting with children were more likely to visit at supper and less likely at morning meal. In addition, teens and parents of older children were less likely to visit at lunch. Teens were above average users of the p.m. snack occasion: One-quarter of their fast food visits were for snacks, compared to 18% of occasions for all visitors and 21% of occasions for 18- to 24-year-olds (the next highest group). Fewer differences were found when comparing all youth (under 18 years) by race and ethnicity. White youth were somewhat more likely to visit at supper, and African American youth to visit at morning meal.

Figure 58. All fast food restaurant visits by time of day for children and teens



Source: The NPD Group/CREST®/Year Ending December 2009

Figure 59. Percentage of all fast food restaurant visits by place of consumption and ordering method for children and teens



Source: The NPD Group/CREST®/Year Ending December 2009

As found in our survey of parents, approximately one-quarter of fast food restaurant meals were consumed at the restaurant (see **Figure 59**). NPD reports that approximately one-third of orders occurred at the drive-thru, and the rest of orders were carried out of the restaurant or delivered. When children were present, parents of young children were most likely to use the drive-thru and parents in general were less likely to use carry out or delivery. Conversely, teens were least likely to use the drive-thru, but more likely to consume food at the restaurants and to use carry out or delivery. African American youth were less likely to consume food at the restaurants.

Restaurant visits overview

These results confirm that young people visit fast food restaurants frequently. Similar to previous research that showed that 59% of teens consumed fast food in the past two days,[65] 84% of parents reported taking their child to at least one fast food restaurant in the past week and 39% reported taking them more than once. Across the four restaurants examined in detail, one-third of parents reported that convenience and value were the main reasons they had visited. Similarly, two-thirds reported that they placed their order at the drive-thru window and consumed the food in their car or at home. Subway was the only restaurant that parents reported going to for healthy menu options. According to NPD data, parents of children under 6 were also more likely to purchase food at the drive-thru. Approximately two-thirds of fast food restaurant visits by parents and teens were for lunch or dinner. Teens were more likely to have visited for an afternoon or evening snack when compared to other age groups.

Children appear to have a significant influence over fast food restaurant visits by parents. The most common main reason that parents chose McDonald's or Burger King was that their child likes it there, including nearly one-half of parents who went to McDonald's. Similarly, nearly all children had asked their parents to go to McDonald's, and 40% asked them to go at least once per week. The main reason that parents reported their child wanted to go to these restaurants was that they like the food – more than twice the number who reported the main reason their child wanted to go was because of the toy or giveaway.

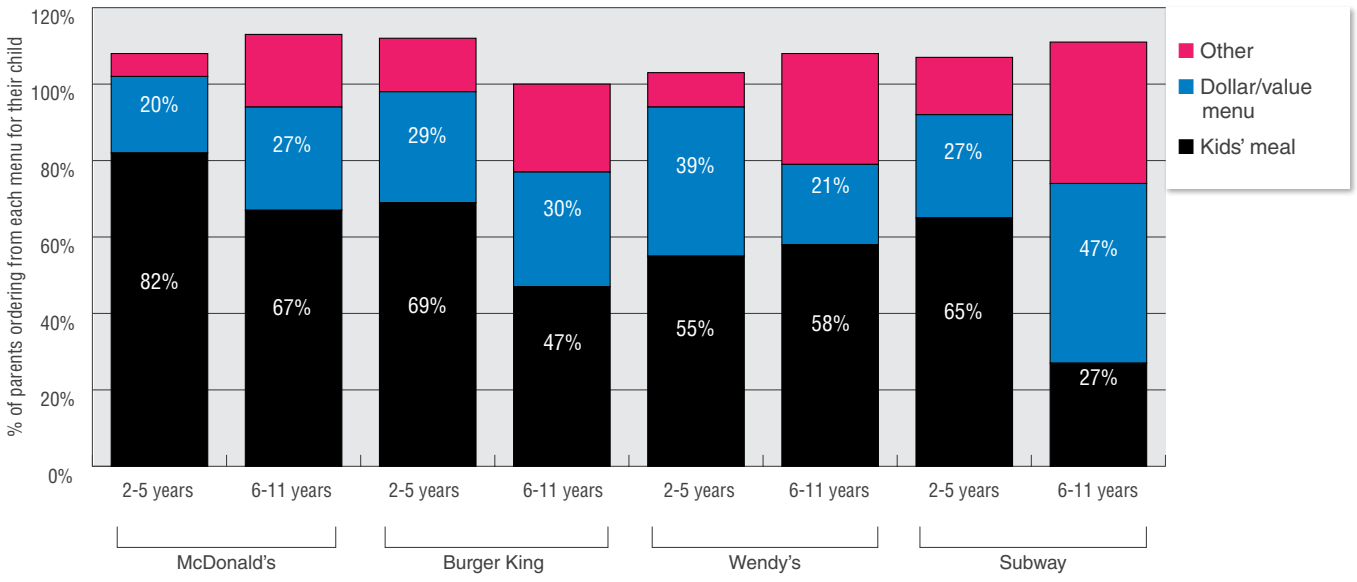
Special menus and menu items purchased

We also surveyed parents about fast food purchases for their children, and purchased NPD CREST data on restaurant usage across all age groups.[66] We report on the special menus ordered and the specific items purchased. Finally, we combine the NPD data with our menu composition analysis to provide estimates of the nutritional quality of food purchased by age and demographic groups for the twelve restaurants in our analysis.

Parents' purchases by menu from the top 4 fast food restaurants

In our survey, we asked parents to indicate from what menus they ordered for their child. We combined the special menus into three categories: 1) Kids' meals, including McDonald's Happy Meal and Mighty Kids' Meal, and Burger King's,

Figure 60. Parents' orders for their child by menu type, restaurant, and age of child*



*Percentages exceed 100% as some parents ordered from more than one menu for their child
Source: Survey of parents of children 2-11 years (August/September 2010)

Subway's, and Wendy's kids' meals; 2) dollar/value menu, including McDonald's Dollar Menu, Burger King's Value Menu, Subway's $5 Footlongs, and Wendy's Super Value Menu; and 3) other, including combo and value meals and the regular menu.

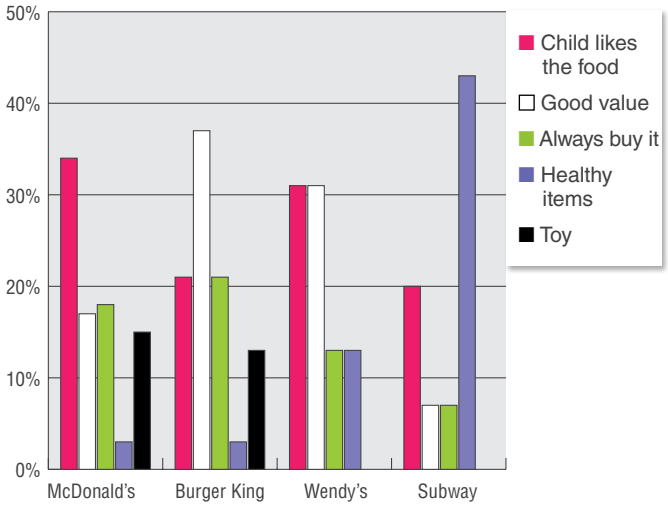
As expected, parents reported purchasing kids' meals most often for their children (70% across all restaurants). However, this number varied widely by restaurant: 76% of parents purchased a kids' meal at McDonald's, compared to 59% at Burger King, 56% at Wendy's, and 47% at Subway. At McDonald's, 20% of kids' meals ordered were the larger-sized Mighty Kids' Meal that came with a 6-piece chicken nuggets or double cheeseburger. The dollar/value menu was also popular with parents. Among the four restaurants, 26% purchased food from this menu for their child. Again, this number varied by restaurant, ranging from 23% of parents at McDonald's to 36% at Subway.

The type of menu from which parents ordered also varied by the age of the child (see **Figure 60**). Parents of younger children were significantly more likely to order a kids' meal for their child while parents of older children were more likely to order from the dollar/value menu. The percentage of parents ordering a kids' meal ranged from 82% of parents of 2- to 5-year-olds at McDonald's to just 27% of parents of 6- to 11-year-olds at Subway. The Mighty Kids Meal at McDonald's was more popular with older children, comprising 42% of McDonald's kids' meal orders for older children. By comparison, just 7% of parents ordered it for younger children. In addition, 20% of parents of young children ordered food from the dollar/value menu for their child at McDonald's. Forty-seven percent of parents of older children ordered a $5 Footlong sandwich for their child at Subway (56% of these parents indicated that their child ate one-half or less of the sandwich during the meal). In addition, 21% of parents of children 6-11 years who went to Wendy's and 33% who went to Subway ordered an adult-sized combo meal for their child.

Parents also indicated the main reason they chose to order a kids' meal or dollar/value menu item for their child. Not surprisingly, 60% of parents chose the dollar/value menu because it was a good value. However, an additional 20% indicated that the dollar/value menu had the food their child liked the most. Parents had more varied reasons for choosing the kids' meal. Among the four restaurants, 32% chose the kids' meal because it contained the food their child likes the most, followed by 20% who said it was a good value, 17% who indicated that they always buy it, and 12% who said their child wanted the toy. Just 7% ordered a kids' meal because it contained healthy items.

The reasons that parents ordered a kids' meal varied by restaurant (see **Figure 61**). Parents were more likely to indicate that they bought a kids' meal at McDonald's and Wendy's because it contained the food that their child likes most. They were more likely to indicate that the kids' meal was a good value for the money at Burger King and Wendy's. In addition, 13% to 14% of parents responded that they bought the kids' meal at McDonald's or Burger King because their child wanted the toy. In contrast, 43% of parents said they purchased the kids' meal at Subway because it contained healthy items.

Figure 61. Main reason parents reported choosing a kids' meal for their child



Source: Survey of parents of children 2-11 years (August/September 2010)

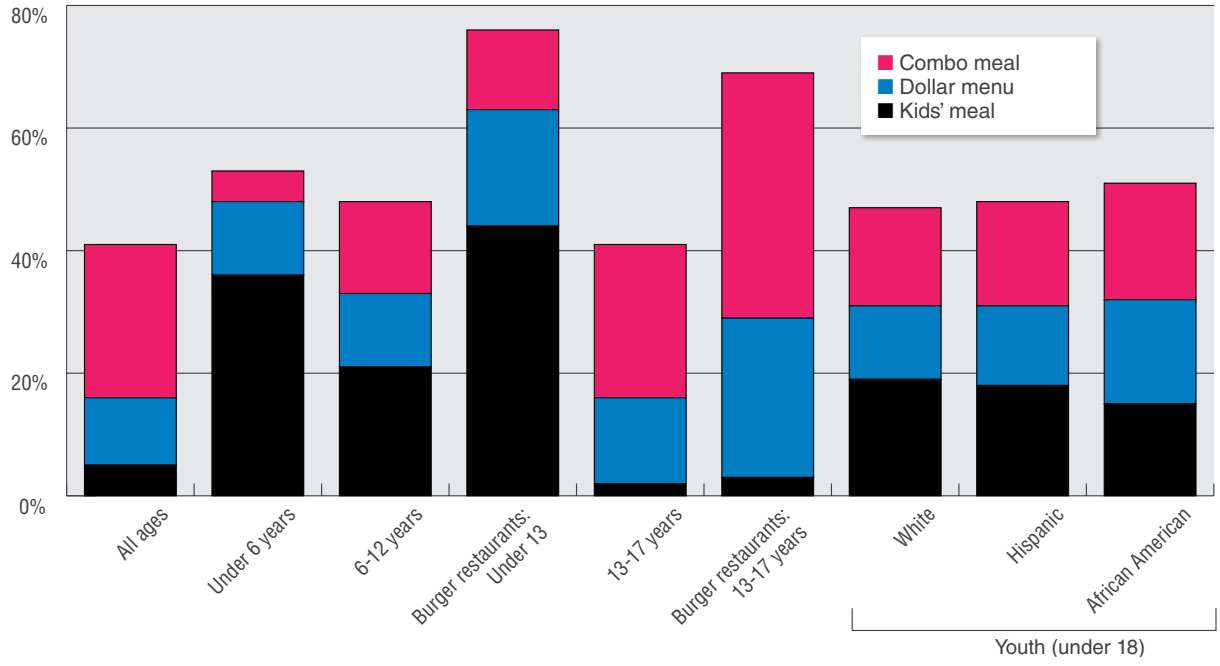
Special menus purchased by children and teens

NPD also reports that parents commonly order kids' meals and value-priced menu items and meals for their children at all fast food restaurants (see **Figure 62**).[67] For all eating occasions (including breakfast and snacks), 36% of parents of young children purchased a kids' meal for their child and another 17% purchased items from the dollar/value menu or combo meals. Parents of older children were more likely to purchase items from the dollar/value menu or combo meals (27%) than kids' meals (21%) for their children. Teens rarely purchased kids' meals, but 39% said they purchased dollar/value menu items or combo meals. African American youth were also more likely to purchase dollar/value menu items and combo meals compared to white and Hispanic youth. The incidence of purchasing from a special menu was higher at burger restaurants: 77% of parents reported ordering from a special menu for their child under 13 and 69% of teens reported ordering from one.

Kids' menu items purchased by parents for their children

In our parent survey, we also asked about the specific menu items they purchased for their child from the kids' meal menu. Chicken nuggets was the most popular main dish at Wendy's, McDonald's, and Burger King: 81% of parents purchased them at Wendy's; 38% at McDonald's; and 50% at Burger King. The hamburger or cheeseburger was also popular at Burger King, purchased by 45% of parents, compared to 31% at McDonald's and 13% at Wendy's. Overall, 66% of parents also ordered french fries or chips. Soft drinks were the most popular beverages: 38% ordered them for their children. Juice and flavored milk were also popular, ordered by 28% and 24% of parents, respectively. One-third of parents reported that they ordered fruit as the side and just 8% ordered plain milk.

Figure 62. Purchases from special menus by youth at all fast food and burger restaurants



Source: The NPD Group/CREST®/Year Ending December 2009

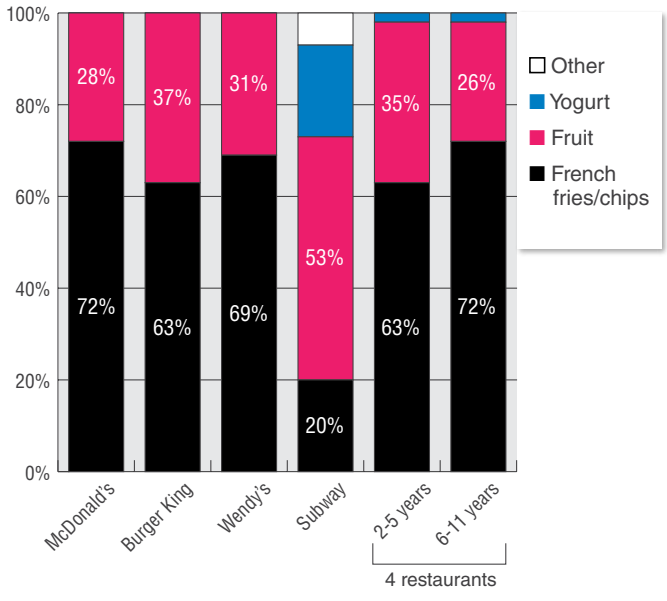
In our survey of parents who had visited the top 4 restaurants, specific sides and beverages ordered with kids' meals varied by restaurant and age of the child (see **Figures 63** and **64**). Approximately two-thirds of parents ordered french fries for their child at McDonald's, Burger King, and Wendy's. At Subway, however, just 20% of parents ordered chips (Subway does not offer french fries) and 73% ordered fruit or yogurt. Parents were somewhat more likely to order Burger King's Apple Fries than McDonald's Apple Dippers or Wendy's mandarin orange fruit sides. Parents were also less likely to order fruit for older children than for younger children.

Parents' beverage orders with kids' meals varied even more by restaurant and age. Soft drinks were the most popular options at McDonald's and Burger King and juice was most popular at Subway. Flavored milk was most popular at Wendy's and appeared to displace both soft drink and juice purchases. In addition, 6% of parents ordered a Frosty for their child from Wendy's. Parents ordered more plain milk at Subway than at any other restaurant (23%), compared to just 6% to 8% of parents at the other three restaurants. More than half of parents of older children ordered a soft drink with their child's kids' meal – double the percentage who ordered a soft drink for their younger child. In contrast, almost twice as many parents of younger children ordered juice or plain milk as compared to parents of older children. About 27% of parents ordered flavored milk for their younger child, but only 19% ordered it for their older child.

We also asked parents who reported visiting McDonald's at least once within the past month (n = 528) whether they had ever purchased one of the healthy side or beverage options with a McDonald's kids' meal (i.e., apple dippers, 100% juice, and/or plain milk). The majority of parents reported that they had purchased apple dippers or juice for their child with a McDonald's kids' meal in the past (69% and 71%, respectively); and 51% reported that they had purchased plain milk. However, these percentages were more than twice as high as the percentage of parents who reported purchasing these items during their last visit to McDonald's. Among parents who reported that they had never purchased these items, the majority (60% or more) responded that it was because their child preferred other options. Few parents indicated that their child would not eat the healthier options. Of all parents sampled, just 8% reported that their child would not eat apple dippers, 13% would not drink plain milk, and 4% would not drink 100% juice. When asked to evaluate the healthiness of different main dishes available with McDonald's kids' meals, 13% to 14% of parents believed that the hamburger or cheeseburger was somewhat to very healthy; however, 30% believed that chicken nuggets was a healthy main dish option.

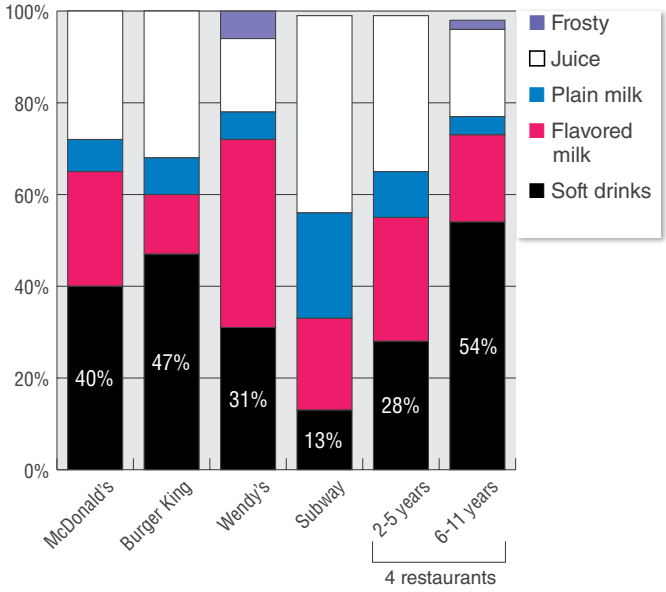
Differences by race and ethnicity. In our sample of parents who had visited one of the top 4 restaurants in the past week, we found some differences in menu items purchased by white, African American, and Hispanic parents for their children. Approximately two-thirds of parents in all demographic groups

Figure 63. Side dishes ordered with kids' meals by restaurant and age of child



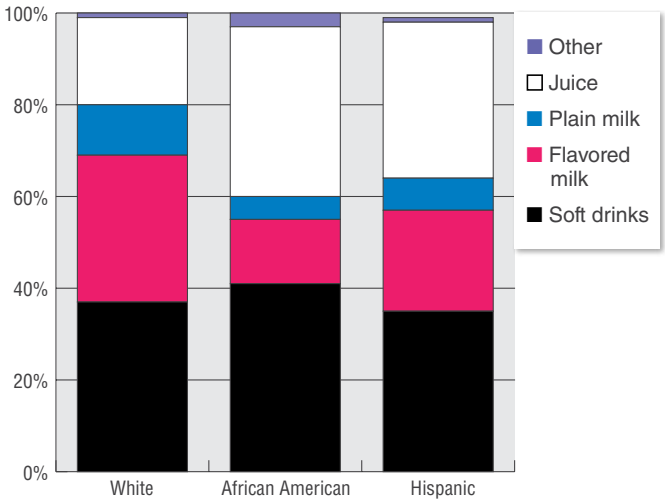
Source: Survey of parents of children 2-11 years (August/September 2010)

Figure 64. Beverages ordered with kids' meals by restaurant and age of child



Source: Survey of parents of children 2-11 years (August/September 2010)

Figure 65. Beverages ordered with kids' meals by race and ethnicity



Source: Survey of parents of children 2-11 years (August/September 2010)

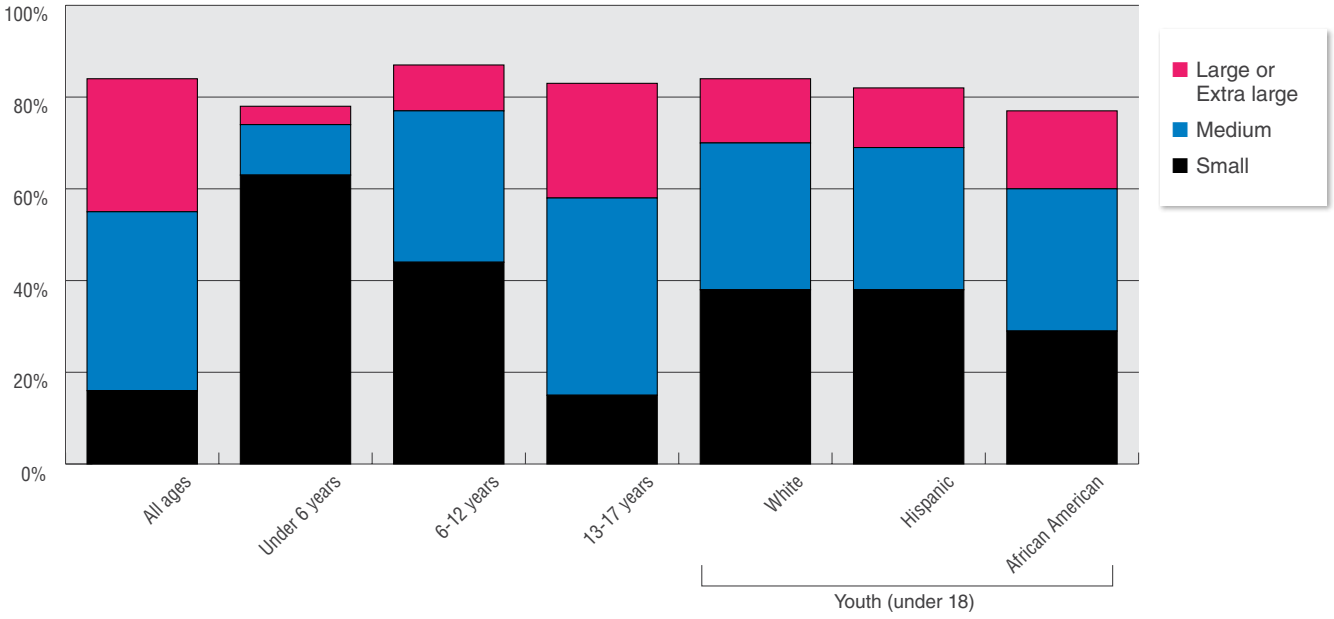
reported ordering kids' meals for their child at their last visit. However, African American parents were more likely to order from the dollar/value menu (32%) compared to 22% of white parents. Two-thirds of African American, Hispanic, and white parents ordered french fries or chips for their child (see **Figure 65**). However, African American and Hispanic parents were more likely to order juice, whereas white parents were more likely to order flavored milk. Among parents of all races and ethnicities, 35% to 41% ordered a soft drink with their child's kids' meal.

Sizes of beverages and french fries ordered

NPD reports the sizes ordered by respondents who purchased a beverage (at all fast food restaurants) or french fries (at burger restaurants) by age and race/ethnicity.[68] Approximately one-third of all beverages ordered at fast food restaurants are medium-sized. However, this proportion varies by the age of consumer (see **Figure 66**). Two-thirds of beverages purchased for young children and 44% purchased for older children are small-sized (including kids' meal and dollar menu sizes). In contrast, just 15% of teens ordered a small-sized beverage, whereas 25% ordered a large or extra-large size. African American youth were less likely to order a small-sized beverage compared to white and Hispanic youth and they were more likely to order a large or extra-large size.

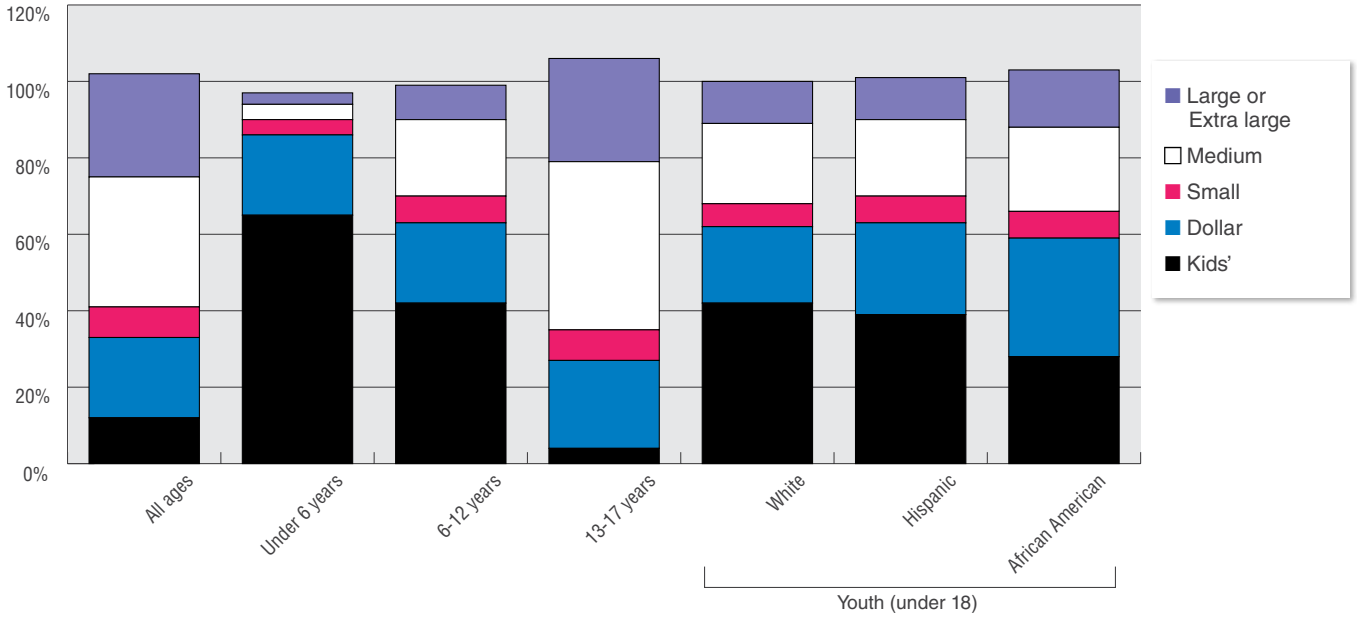
Sizes of french fries ordered showed a similar pattern to beverages (see **Figure 67**). Overall, approximately one-third of french fries ordered were medium-sized. However, 89% of parents of young children and 70% of parents of older children ordered kids', dollar, or small-sized french fries for their child. In contrast, just 36% of teens ordered these smaller sizes and one quarter ordered large or extra-large sizes of fries. African American and Hispanic youth were less likely to order the kids' sizes and more likely to order dollar-sized and larger-sized fries compared to white youth.

Figure 66. Percentage of beverages ordered by size at all fast food restaurants*



*These percentages are based on all beverages ordered, including those purchased in a can, bottle, or box/pouch
Source: The NPD Group/CREST®/2 Years Ending December 2009

Figure 67. Percentage of french fries ordered by size at burger restaurants*



*Some individuals ordered more than one size
Source: The NPD Group/CREST®/2 Years Ending December 2009

Types of food purchased by parents for children and by teens at all fast food restaurants

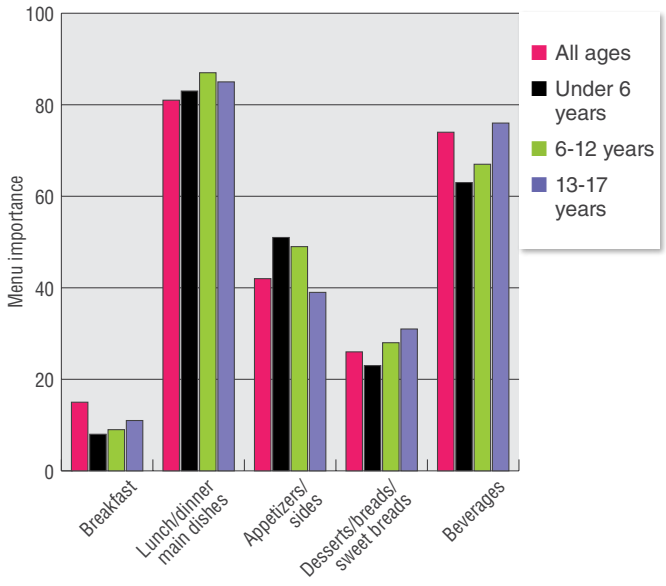
Menu items purchased	Definitions
Food type	NPD classifications used to categorize individual menu items into similar types of foods.
Menu importance	The percentage of meals or snacks ordered by a specific demographic group that included a specific food type.

Table Appendix E **(Table E.1)** summarizes data from The NPD Group on menu importance by food type at all fast food restaurants, including data by age group and by race/ethnicity.[69] Across all age groups, individuals purchased an average of 2.4 menu items per visit, including 1.7 foods and 0.7 beverages.

Figure 68 summarizes menu importance by age group for different food categories. All individuals purchased the most lunch/dinner main dishes (81% overall), followed by beverages (74%). Parents purchased somewhat more lunch/dinner main dishes (83% to 87%) and somewhat fewer beverages for their children (63% to 67%). Appetizers and sides were purchased by 42% of fast food patrons overall, but in almost one-half of orders placed by parents for their children. The most common side item ordered, french fries, was purchased 30% of the time for children. In contrast, young children received fruit in 7% of orders and older children received it in 3% of orders. In addition, 15% of all fast food orders included breakfast-oriented foods and 26% included desserts, breads and sweet breads. Children were less likely to eat breakfast items (8% to 11% of orders), and teens were more likely to order desserts, breads and sweet breads than other age groups (31% of orders).

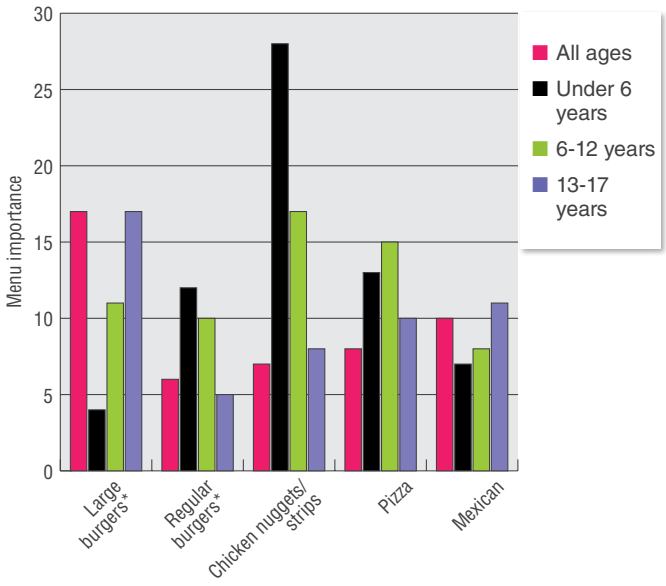
Overall, hamburgers and cheeseburgers were the most common type of lunch/dinner main dish ordered. They were purchased in 23% of fast food restaurant orders. Children and teens purchased them somewhat less often than adults did (see **Figure 69**). Across all age groups, approximately three-quarters of burgers ordered were large-sized versions (e.g., McDonald's Quarter Pounder, Burger King Whopper) and three-quarters included cheese. Large-sized burgers comprised just 25% of burgers ordered for young children, but almost half of those ordered for older children. Chicken nuggets or strips were the most common lunch/dinner main dish ordered for children, including one-third of main dishes

Figure 68. Menu importance of food and beverage categories by age group



Source: The NPD Group/CREST®/2 Years Ending December 2009

Figure 69. Menu importance of main dish items by age group



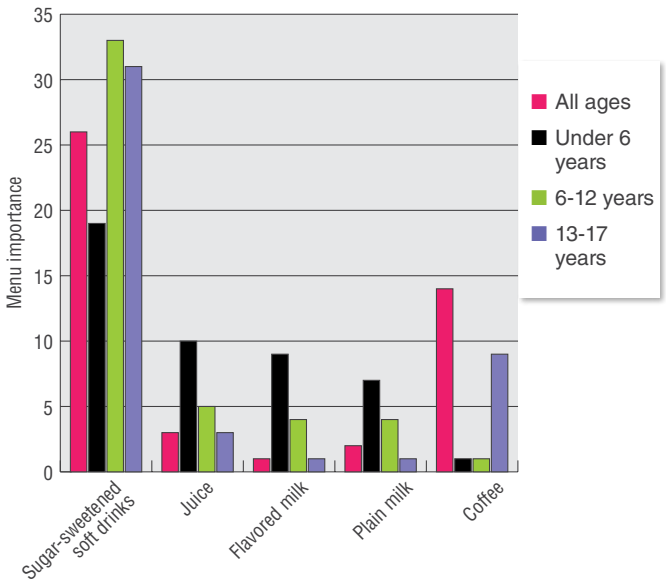
*Includes cheeseburgers
Source: The NPD Group/CREST®/2 Years Ending December 2009

for young children and 20% for older children. By comparison, fewer than 10% of teens ordered chicken nuggets or strips. Children also received pizza more often than other age groups (13% to 15% of all main dish items purchased). In contrast, the main dishes that tend to be healthier at most restaurants were rarely purchased: a main dish salad was purchased in just 2% of restaurant visits and a grilled chicken sandwich or non-fried chicken in 3%.

Individuals of all ages ordered sugar-sweetened beverages more often than any other beverage (26% of orders), and older children and teens ordered them one-third of the time (see **Figure 70**). Juice and flavored and plain milk was ordered most often by parents for their young children; parents of older children ordered these options half as often; and teens ordered them less than 5% of the time. In contrast, teens ordered coffee drinks in almost 10% of restaurant visits.

Differences by race and ethnicity. African American youth (under 18 years) ordered more food items overall (average 1.9 per order) compared to white and Hispanic youth (1.7 per order) (see **Table E.1**). These included more breakfast items (purchased twice as often compared to white youth), lunch/dinner main dishes, appetizers/sides, and desserts/breads/sweet breads (see **Figure 71**). Beverages were the only food category that African American youth did not purchase more often than white youth. Among lunch/dinner main dishes, African American youth were more likely to order large-sized burgers (16% of orders compared to 10% of orders by white youth) and three times as likely to order fried chicken (6% of

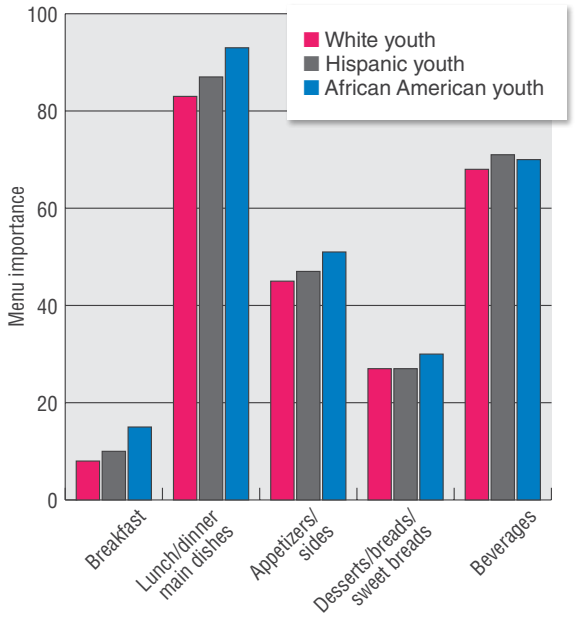
Figure 70. Menu importance of beverages by age group



Source: The NPD Group/CREST®/2 Years Ending December 2009

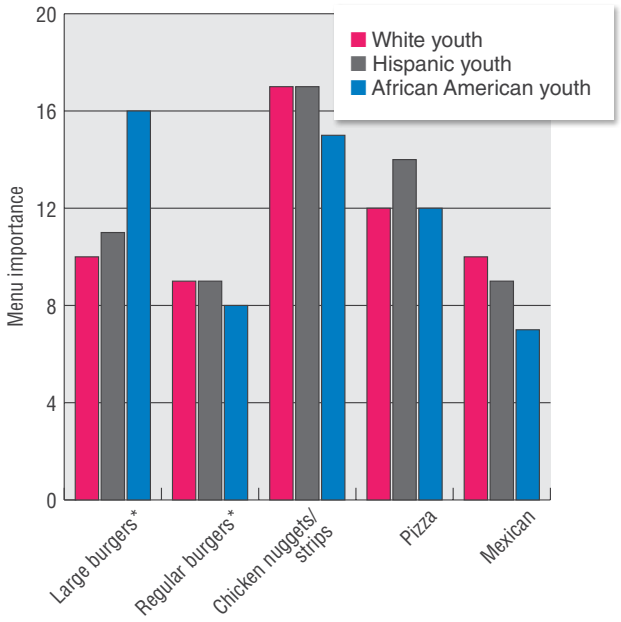
orders compared to 2% of orders by white youth) (see **Figure 72**). However, they purchased similar numbers or fewer regular-sized burgers, chicken nuggets/strips, pizza, and Mexican items. For beverages, African American youth were less likely

Figure 71. Menu importance of food categories purchased by white, Hispanic and African American youth (under 18 years)



Source: The NPD Group/CREST®/2 Years Ending December 2009

Figure 72. Menu importance of main dishes purchased by white, Hispanic, and African American youth (under 18 years)



*Includes cheeseburgers
Source: The NPD Group/CREST®/2 Years Ending December 2009

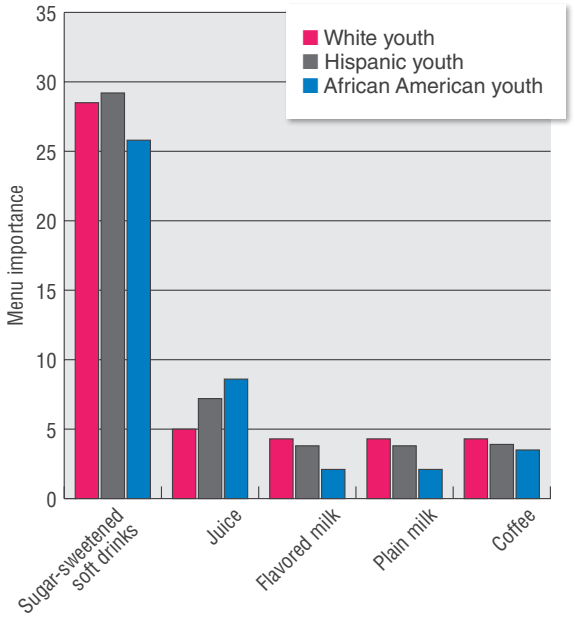
to order sugar-sweetened carbonated beverages than white or Hispanic youth, but more likely to order juice or juice drinks (see **Figure 73**). They also ordered less plain and flavored milk.

Nutritional quality of menu items purchased at fast food restaurants

To assess the nutritional quality of menu items purchased at fast food restaurants, we combined the information from NPD on menu importance by age and race/ethnicity[70] and information from NPD on the menu items included in each of their food types with the nutrient information for individual menu items from our menu composition analysis. This analysis enabled us to estimate calories and sodium for all items purchased per visit to each of the twelve restaurants in our analysis (see Appendix E, **Table E.2**). The NPD data do not include sizes for menu items that can be purchased in more than one size (e.g., beverages, chicken nuggets, and french fries). Therefore, we used the conservative assumption that food types purchased for children would all be a child-sized menu item if one were offered. For all other food types and those purchased by teens, we used the median calories, milligrams of sodium, grams of sugar, and grams of saturated fat to calculate the nutrient content of menu items purchased per order.

Starbucks, Dunkin' Donuts, and Taco Bell were the only restaurants for which the estimated total calories consumed per visit did not exceed the maximum recommended calories for a lunch or dinner meal for younger and older children (410

Figure 73. Menu importance of beverages purchased by white, Hispanic and African American youth (under 18 years)



Source: The NPD Group/CREST®/2 Years Ending December 2009

and 650 calories, respectively). Starbucks and Dunkin' Donuts also did not exceed the 700 calories recommended for a meal or main dish consumed by the average moderately active teen. However, purchases at the coffee restaurants were also more likely to be for a snack and not a meal. For eight other restaurants in our survey, excess calories per order for children ranged from 38 (Sonic) to 198 (Dairy Queen) (see **Figure 74**). Excess calories purchased at the pizza restaurants were even higher, although it is possible that younger children consumed less than the portion sizes we had estimated in the menu composition analysis. In spite of the higher caloric requirements for teens, excess calories per order were even higher for this age group. Excess calories ordered ranged from 197 at Subway to 700 at Pizza Hut. Total calories from saturated fat alone for menu items purchased from Domino's exceeded 160 (or 17.5 grams) (see **Table E.2**). At the remaining ten restaurants, the percentage of calories from sugar and fat exceeded 30%. Purchases of menu items at Dairy Queen also had the most calories from sugar, totaling more than 250 calories for children (63 grams) and 350 for teens (88 grams).

At all restaurants except Starbucks and Dunkin' Donuts, total sodium in menu items purchased was high, exceeding recommended limits for lunch or dinner meals by more than 1,000 mg for children at four restaurants (Subway, Pizza Hut, KFC, and Domino's) and for teens at seven restaurants (the same four plus Burger King, Wendy's, and Taco Bell) (see **Figure 75**).

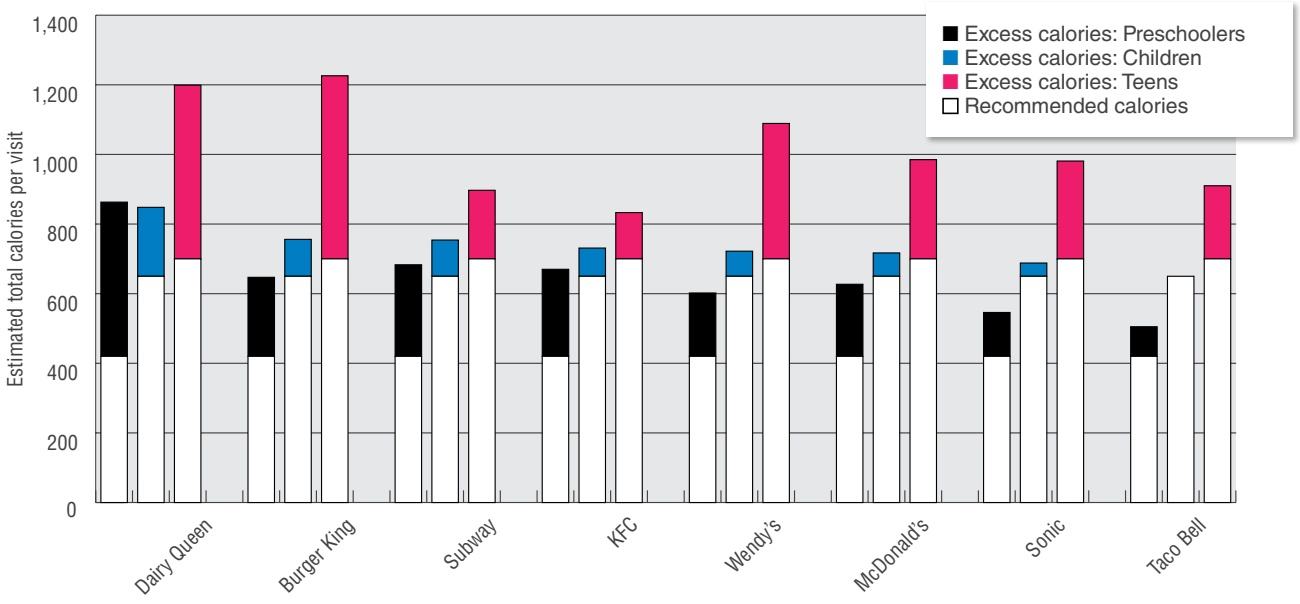
In most cases, estimated calories and sodium in menu items purchased per visit by African American youth exceeded those purchased by white and Hispanic youth (see **Figures 76** and **77**). However, Hispanic youth purchased menu items with higher total calories from Dairy Queen and KFC.

Special menus and menu items purchased overview

Results of both our parent survey and NPD data on fast food purchases paint a disturbing picture of the foods purchased for children and by teens at fast food restaurants. As a result, children and teens are purchasing (and likely consuming) far more calories and sodium than should be consumed in one meal. In addition, 30% or more of fast food calories come from sugar and saturated fat, empty calories that comprise nearly 40% of young people's energy intake and far exceeded recommended discretionary calorie allowances of 8% to 20% of total calories.[71]

Although most kids' meals are a more appropriate portion size for older children, the majority of parents of preschool-age children buy them for their younger children. For older children, parents are more likely to buy a combo meal or menu item from the dollar/value menu, items that are more appropriately sized for moderately active teens and adults. We did find that parents were more likely to buy kids' meals for their older children at McDonald's as compared to other restaurants. However, they tended to buy the larger-sized Mighty Kids Meal for these children. As a result, most meals purchased for children at fast food restaurants exceeded recommended calories for a lunch or dinner meal.

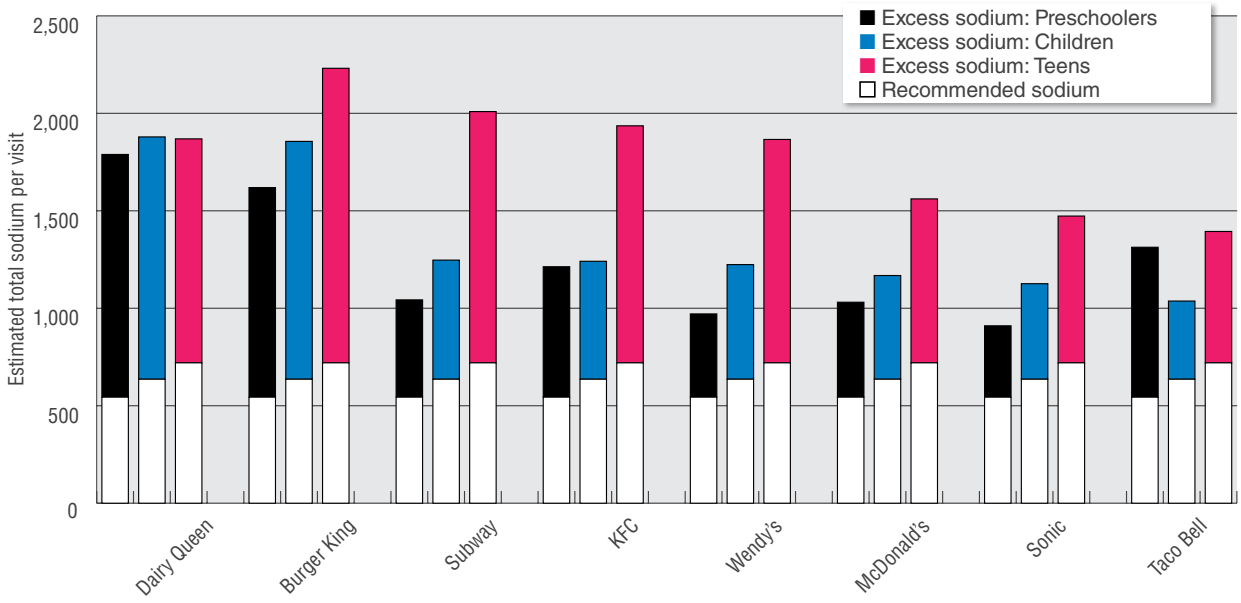
Figure 74. Excess calories in menu items purchased per visit by restaurant and age group



Source: Estimate of nutrition quality of menu items purchased per restaurant visit (2008-2009)

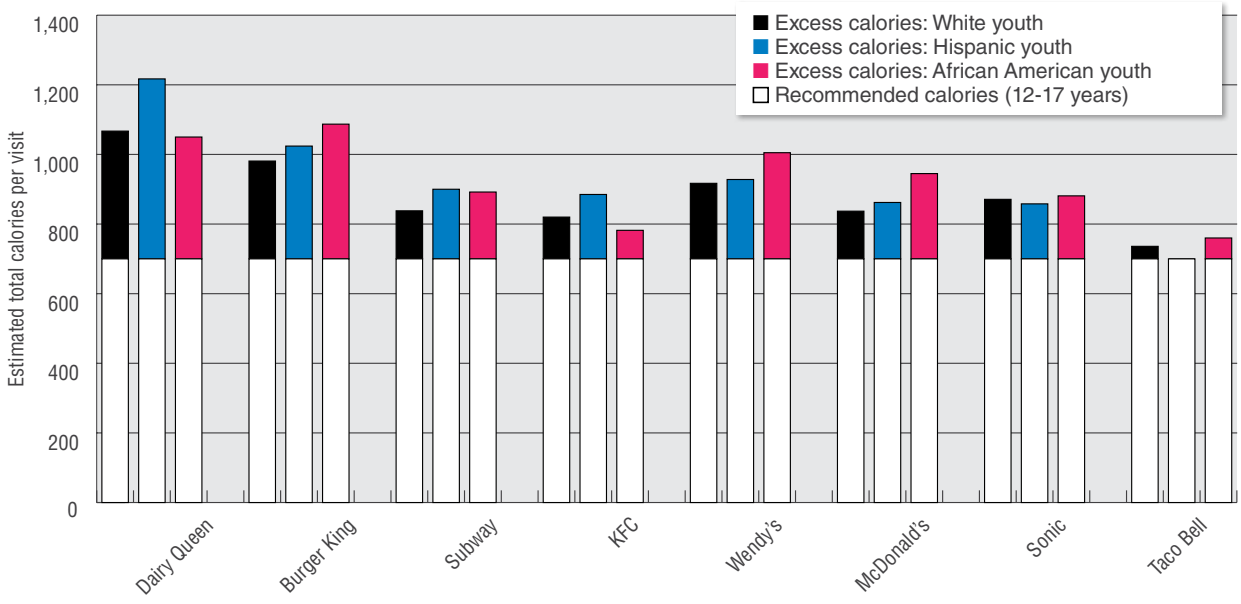
Although McDonald's and Burger King market their kids' meal toy giveaways extensively, the most common reason parents gave for purchasing kids' meals was that their child likes the food. Few parents reported that they purchased kids' meals because their child wanted the toy. In addition, although most parents reported that they have purchased fruit, plain milk, and juice with McDonald's Happy Meals in the past and that their child will eat those items, few parents purchased them for their child at the last visit. Parents were also more likely to purchase these healthier items for their younger children than for older children. These findings suggest that restaurants could increase sales of these items if they promoted them more inside the restaurant, where parents and children place their order. For example, they could place signs for them at

Figure 75. Excess sodium in menu items purchased per visit by restaurant and age group



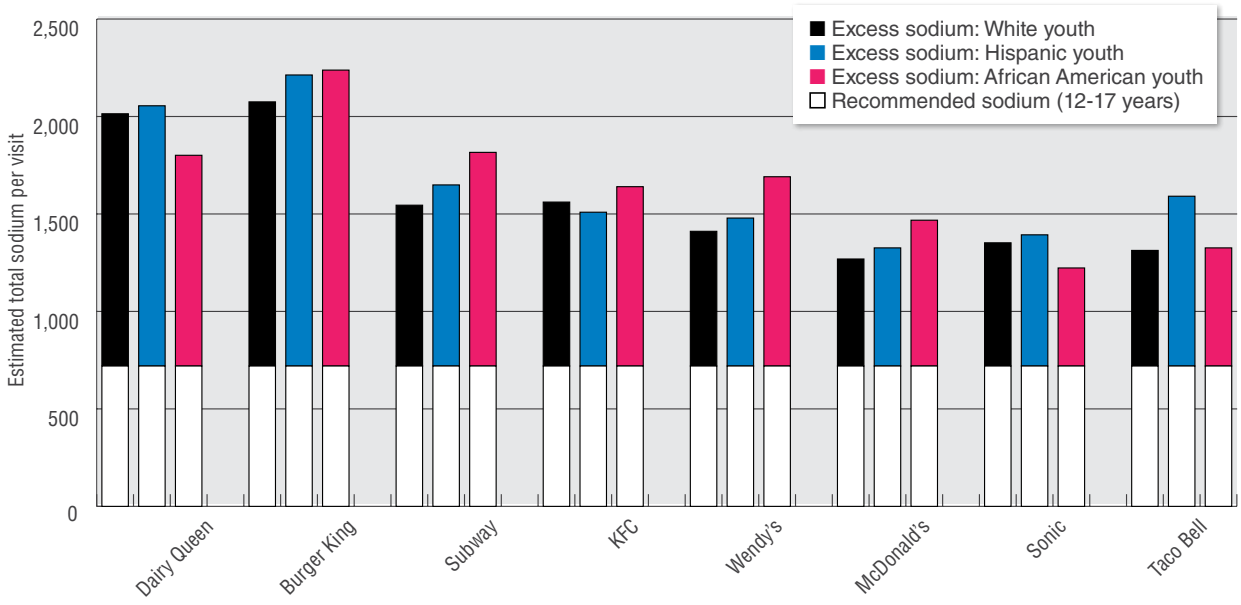
Source: Estimate of nutrition quality of menu items purchased per restaurant visit (2008-2009)

Figure 76. Excess calories in menu items purchased per visit by restaurant and race/ethnicity



Source: Estimate of nutrition quality of menu items purchased per restaurant visit (2008-2009)

Figure 77. Excess sodium in menu items purchased per visit by restaurant and age/ethnicity



Source: Estimate of nutrition quality of menu items purchased per restaurant visit (2008-2009)

the counter or offer them as the default option in place of french fries and soft drinks. These practices rarely occur now inside the restaurant (according to our audit of marketing inside restaurants). There also appears to be a misconception among parents that McDonald's Chicken McNuggets are a healthy option for their children; 30% rated them as healthy, even though they receive a fairly low NPI score of 42 to 48 (depending on the sauce) for overall nutrient quality.

The foods purchased at fast food restaurants by teens and African American youth may be even more troublesome. With the exception of Starbucks and Dunkin' Donuts, teens purchased on average from 800 to 1,400 calories for their meal; up to double the 700 calories recommended for lunch or dinner for the average moderately active teen. Teens were more likely to order "large-sized" beverages and french fries, and more desserts, breads and sweet breads compared to all restaurant patrons. In addition, African American youth ordered as much as 10% more calories at some restaurants compared to white youth. They tended to order more breakfast items (i.e., some of the least healthy items on fast food menus, according to our menu composition analysis), more large sized burgers, and more food items per order overall. Average saturated fat for African American youth was 10% higher than for whites (121 grams versus 110 grams average visit), and total sodium contained in menu items ordered by African American youth was also dangerously high.

The restaurant industry, including quickserve or fast food restaurants, has said it wants to be part of the solution to the childhood obesity crisis.[1]

Two of the largest fast food advertisers, McDonald's and Burger King, have joined the Children's Food and Beverage Advertising Initiative (CFBAI) and pledged to advertise only "better-for-you" choices to children.[2] The majority of restaurants have introduced more nutritious options to their menus for both children and adults.[3] Most fast food restaurants also post detailed nutrition information about menu items on their websites. According to the National Restaurant Association, these efforts are part of an industry initiative to address "consumers' interest in more healthful food options."[4] But one critical question remains: Will these industry promises reverse the unhealthy defaults in the current fast food marketing environment that make it too easy for people to consume the least healthy options?

The data in this report about what young people order at fast food restaurants and what parents order for their children demonstrate that restaurants have a long way to go before a visit to a fast food restaurant ceases to harm young people's health. Children consumed up to 200 excess calories (above recommended calorie limits for lunch and dinner meals) during the average visit to nine of the twelve restaurant chains in our analysis. Teens consumed between 100 and 700 excess calories at ten restaurants. In addition, 30% or more of all fast food calories came from sugar and saturated fat, two nutrients that young people already consume in excess.[5] Sodium consumed at fast food restaurants also exceeded maximum recommended intake for a lunch or dinner meal: by 1,000 mg at Subway, Pizza Hut, KFC, and Domino's for children and teens, and at Burger King, Wendy's, and Taco Bell for teens. Excess calories and sodium consumed by African American youth were generally higher than those consumed by white youth at most fast food restaurants.

If visiting fast food restaurants was an occasional occurrence or reserved for a special treat, this picture of what young people consume at fast food restaurants would not be problematic. However, research demonstrates that fast food has become a staple of young people's diet. Every day, one-third of young people (2-17 years) consume fast food.[6] In 2003-2004, 59% of adolescents consumed fast food in the past two days and fast food contributed 16% to 17% of adolescents' total caloric intake.[7]

Fast food marketing

While all this consumption is good for fast food companies' bottom line, it is terrible for young people's health. If the restaurants are sincere about wanting to do what they can to prevent obesity, they must transform their marketing practices with substantial improvements to all components of their marketing plans, including menu composition, external advertising, and marketing inside the restaurants, to substantially reduce the unhealthy impact of fast food on young people's diet and health.

Menu composition

Of the almost 2,900 different items on the regular menus of the twelve restaurants in our analysis, just 17% qualified as healthful choices (i.e., received good NPI scores for overall nutritional quality) and did not exceed recommended calories and sodium for the average moderately active teen. However, the menu items that met these three nutrition criteria were predominantly beverages. In contrast, 12% of lunch/dinner sides qualified as healthy, and 5% or less of lunch/dinner main dishes, snacks, and breakfast items met the criteria. Of 3,000 possible kids' meal combinations examined (including main dishes, sides, and beverages), 15 (0.5%) met the three nutrition criteria for elementary school-age children and 12 met the criteria for preschool-age children. Just two restaurants, Subway and Burger King, offered a main dish kids' meal option with an NPI score that qualifies as healthy and would be allowed to be shown on children's television in the United Kingdom. Overall, 91% of kids' meal combinations at the twelve restaurants exceeded the recommended maximum calories for lunch or dinner for a preschool-age child.

Although the majority of items on restaurants' regular and kids' menus did not qualify as nutritious choices, most restaurants offered some healthy options. For example, at most restaurants, customers could order a chicken salad or grilled chicken sandwich, each with 700 or fewer calories and healthy NPI scores. Eight restaurants promoted on their websites a healthy menu with an average of two dozen lower-calorie items. These items were also more likely to meet healthful NPI scores compared to items on the restaurants' regular menus. In addition, most restaurants (except KFC, Taco Bell, and Dairy Queen) offered a fruit or vegetable side and plain milk and/or 100% juice with their kids' meals.

Some restaurants also appear to have responded to concerns that have been raised by the public health community about pricing that favors unhealthy foods, serving sizes, and healthy food availability.[8] For example, lower-priced healthy items were available on many restaurant menus. Items on most value-priced dollar menus had smaller average serving sizes and fewer calories when compared to other items on restaurants' menus. Several restaurants offered side salads, low-fat chicken sandwiches, and fruit for about $1. In addition, pricing for healthier and less healthy versions of sandwiches was often similar (e.g., grilled and fried chicken sandwiches, egg white and regular egg breakfast sandwiches).

However, most restaurants continued to offer large and extra-large sizes of burgers, soft drinks, and french fries. According to NPD, these three categories were the most common menu items ordered at fast food restaurants. Five restaurants sold an extra-large burger with at least 800 calories for less than $4.50

(McDonald's, Burger King, Taco Bell, Sonic, and Dairy Queen), and Wendy's sold a 1,300-calorie burger for $7.00. Compared to 2006, McDonald's remained the only restaurant to have eliminated its extra-large (i.e., supersized) soft drinks and fries.[9] Five restaurants (Subway, Burger King, Taco Bell, KFC, and Sonic) sold fountain drinks in sizes of 40 oz. or more, the equivalent of five servings. Burger King, Wendy's, and Dairy Queen sold french fries in a serving of more than 180 grams, totaling 500 calories or more. The names that restaurants assign to portion sizes also make it difficult for consumers to know how much food they are consuming. For example, Burger King and Wendy's renamed their "small" french fries to a "value" size that was the same size as McDonald's "small." Their new "small" became the same size as the "medium" at McDonald's, Wendy's, and Sonic. The medium-sized french fries packages at McDonald's and Burger King looked nearly identical, but Burger King's contained 25 additional grams of food. Wendy's was the only restaurant to provide nutrition information about their beverages "with ice." As a result, they sold a "medium" soft drink in a 32 oz. cup, but only reported calories and other nutrients for a 20 oz. serving.

The marketing is relentless

Fast food advertisers spend a staggering amount on media to draw customers into their restaurants to consume this primarily unhealthy fare: more than $4.2 billion in the United States in 2009. The majority of the money (86% or $3.6 billion) supported TV advertising, although restaurants also spent more than $200 million on radio advertising and more than $150 million on outdoor advertising (e.g., billboards, transit signs). As a result, young people viewed enormous amounts of fast food advertising. *Every day*, the average preschooler saw 2.8 fast food ads on television, the average child saw 3.5, and the average teen saw 4.7. Teens listened to approximately one radio ad per day. Children were exposed to more than 1,200 traditional fast food ads per year while teens saw and heard more than 2,000. Although it is difficult to measure exposure to signs placed outside restaurants, fast food restaurants used this strategy extensively to encourage visits by potential customers passing by. The average fast food restaurant had 3.8 outdoor signs per location, and seven restaurants averaged four or more outdoor signs per location.

Increasingly, fast food restaurants have expanded into newer forms of marketing that are relatively inexpensive and more difficult to quantify. We identified 55 different websites sponsored by the twelve restaurants in our analysis, including main restaurant sites, child-targeted sites, and special interest sites (e.g., charity and scholarship, entertainment, racial or ethnic sites). Several websites had as many as 200,000 unique child and teen visitors every month. Young people spent seven minutes or more per month interacting with some of the most engaging sites. The twelve restaurants in our analysis also placed banner ads with special promotions, ads for menu items, and links to their own websites on other company (i.e., third-party) websites, including on many sites visited primarily by children and teens. Banner ads from these restaurants reached up to 70 million unique viewers every month. The use of social and viral media by fast food restaurants has also expanded exponentially. As of July 2010, nine fast food restaurants each had more than one million fans on their Facebook pages, most restaurants had thousands of Twitter followers, and four restaurants accrued more than one million viewers of their videos on YouTube. The use of mobile marketing by fast food restaurants is in its early stages, but most restaurants placed banner ads on third-party mobile websites, eight have introduced downloadable iPhone applications, and a few have begun to conduct text message advertising to customers who opt-in to this feature. Fast food marketing is becoming ever more ubiquitous and strategically targeted.

Fast food advertising is highly concentrated among just a few restaurants. McDonald's alone spent $900 million in media in 2009, an increase of $100 million from 2008. YUM! Brands restaurants combined (KFC, Taco Bell, and Pizza Hut) spent more than $700 million in 2009; and Subway, Burger King, and Wendy's each spent more than $280 million. Together, these seven restaurants accounted for more than 60% of fast food media spending and three-quarters of fast food TV ads viewed by children and teens. These restaurants also purchased more than two-thirds of fast food radio and outdoor media. McDonald's and Burger King dominated marketing on the internet as well with twelve of the forty websites visited most often by young people. More than 659,000 unique children and teens visited McDonald's websites every month. Several restaurants with relatively small marketing budgets also had a substantial presence on the internet. For example, Dominos.com and PizzaHut.com had more young visitors than the other fast food websites in our study. These two restaurants also placed the most banner ads on third-party websites. KFC.com and Starbucks.com also appeared in the top 10 most frequently visited fast food websites in our study. In spite of its low $29 million advertising budget, Starbucks dominated fast food social media across all platforms. With 11 million fans in 2010, Starbucks reportedly had more fans on Facebook than any other marketer.[10]

In spite of the vast amounts spent by fast food marketers, we found surprisingly little variation in their marketing messages and the products they promoted. Restaurants appeared to compete primarily by introducing new menu items and promoting the "value" of their foods. A few restaurants (notably Subway and Wendy's) promoted the quality of their food. Messages about good value or cheap food were used in almost one-half of TV ads targeting a general audience, followed by new or improved (36%) and quality food (30%). Similarly, 30% of ads viewed by children and 44% of those viewed by teens promoted individual lunch and dinner menu items, and 15% to 22% promoted restaurants' dollar/value menus and/or combo meals. Banner advertising and social media marketing also predominantly emphasized special

offers, and value/cheap and new/improved messages; and promoted new menu item introductions, dollar/value menus, and combo meals. In contrast, just 5% of general audience TV ads promoted foods as low-fat or low-calorie. Healthy menu items comprised 3% to 4% of TV ads viewed by children and teens. Main restaurant websites were the only form of marketing with any noticeable messages about health and nutrition; these appeared on 32% of main restaurant website pages.

In addition to significant amounts of marketing designed to reach a broad audience (including children and teens), we also identified a number of marketing practices used more selectively by some restaurants to reach a specific target market. We used the following three criteria to identify marketing that was targeted to children, teens, and African American and Hispanic youth:[11] 1) It was placed to reach one demographic group disproportionately more than another (i.e., children and teens compared to adults, African American compared to white youth). 2) Creative executions featured main character actors of the same age, race, and/or ethnicity as one of the targeted groups, addressed the groups directly (e.g., messages to kids to "ask their parents" or Spanish-language advertising), or promoted products specifically for these groups (e.g., kids' meals). 3) It used techniques that appealed disproportionately to one of these targeted groups (e.g., licensed characters for children, social media for teens).

Marketing targeted to children

Although eight restaurants offered kids' meals designed for children, just four used marketing to address children directly outside the restaurant: McDonald's, Burger King, Subway, and Dairy Queen (see **Table 58**). The four restaurants had websites designed specifically for children; three had child-targeted ads on TV (McDonald's, Burger King, and Subway); and three used banner ads with child-targeted content on third-party websites (McDonald's, Burger King, and Dairy Queen).

Among the four restaurants with child-targeted marketing, the two CFBAI participants (McDonald's and Burger King) had by far the most advertising targeted to children. Children viewed approximately one child-targeted ad per day for these two restaurants (in addition to ads for other products not exclusively targeted to children). Since 2007, McDonald's and Burger King have increased their TV advertising to children (6-11 years) by 26% and 10%, respectively. In addition, two McDonald's child-targeted websites were among the most frequently visited advergaming sites on the internet. Every month, 100,000 to 200,000 different children visited these two McDonald's sites. Children spent on average eleven minutes per month on HappyMeal.com. McDonald's also sponsored a website targeted to preschoolers with games to teach them numbers and letters (Ronald.com). All child-targeted websites contained numerous engaging and interactive devices to entertain children and keep them on the website. They included virtual worlds, advergames, videos, points accumulation to purchase virtual items, and tie-ins with movies, TV shows, and other promotions. McDonald's and Burger King also prominently featured their child-targeted website URLs on kids' meal packages to encourage further website visits.

Dairy Queen was the only restaurant on its child-targeted websites to blatantly promote unhealthy foods, including burgers, french fries, and Dilly and Blizzard ice cream treats. McDonald's, Burger King and Subway featured their healthy sides and beverages and their healthiest main dish options in all forms of child-targeted marketing. However, perhaps most surprising about McDonald's and Burger King's child-

Table 58. Restaurants with child-targeted marketing in 2009*

		TV ads viewed in 2009		Websites: Average unique visitors per month	Banner ads: Average views per month
	CFBAI participant	Preschoolers (2-5 years)	Children (2-11 years)	Children (2-11 years) (000)	Placed on youth websites (000)
McDonald's	X	230	262		16,366
Happymeal.com				189.3	
McWorld.com				100.9	
Ronald.com					
Burger King	X	102	125		13,464
ClubBK.com				35.2	
Subway		25	32		
SubwayKids.com				1.4	
Dairy Queen					11,200
DeeQs.com				3.4	
BlizzardFanClub.com				4.4	

Source: The Nielsen Company; comScore Inc.

targeted marketing was how frequently they did not picture or mention specific foods in their child-targeted marketing. The McDonald's Happy Meal box (with its smiling golden arch) was prominent in all forms of child-targeted marketing. However, when McDonald's "better-for-you" foods such as apple dippers and milk appeared, they were usually presented briefly and/or in the background. One-quarter of children's exposure to child-targeted McDonald's ads promoted the brand only and did not feature any food products, including Happy Meals. This approach contrasted with general audience ads, one-quarter of which prominently featured food onscreen more than half the time. Child-targeted Burger King ads did not focus on the food either. Instead, approximately half featured a kids' meal tie-in with movies, TV shows and video games. Nearly all used humor and/or a fun/cool message that appealed to children's emotions. Using licensed characters to promote unhealthy foods has been shown to increase how much preschoolers like the taste of those foods.[12] It is not surprising then that children reported liking foods presented in a McDonald's wrapper more than the same foods in a plain wrapper.[13]

These child-targeted ads are also likely to influence parents directly and increase their likelihood to take their children to fast food restaurants. Research by Grier and colleagues demonstrated that higher exposure to fast food advertising by parents was associated with increased frequency of taking their children to these restaurants because the advertising influenced their beliefs about how often other parents took their children.[14] The fact that restaurants now market healthier options for children also likely helps to alleviate parents' concerns about the nutritional quality of fast food.

Children were also exposed to significant amounts of advertising not targeted to them specifically. In fact, just one-third of the fast food ads that children viewed on TV were for kids' meals and promotions. They also viewed every day at least two fast food ads that promoted unhealthy menu items and used the value/cheap and new/improved messages designed to reach a broader general audience. Children were also frequent visitors to many restaurants' main websites including PizzaHut.com (195,000 unique under-12 viewers per month), Dominos.com (176,000 unique child viewers), BurgerKing.com (42,000 child viewers), and KFC.com, Starbucks.com, and Wendy's.com (34,000-35,000 child viewers each).

Targeting teens

With few exceptions, adolescents viewed the same number of or more fast food ads that adults viewed. On television and the internet, many fast food ads used humor, celebrities, entertainment tie-ins, and other techniques that appeal specifically to this age group. Lower fast food prices are related to higher BMI for adolescents, but not adults.[15] Therefore, the value and special pricing messages that commonly appear are also likely to negatively affect young people more than adults. In addition, most restaurants used social media extensively, a venue that most teens frequent. It can be argued, therefore, that the majority of fast food advertising is targeted to teens.

However, we did find several instances of restaurants and products that were advertised considerably more often to teens than to adults and had content designed specifically to appeal to this age group. Teens viewed more TV ads for Taco Bell and Burger King overall than adults viewed, and teens were also exposed to more Taco Bell radio ads. In addition, compared to adults, teens were exposed to more TV ads that promoted snack items from Dairy Queen, Sonic, and Domino's, and lunch/dinner items from Sonic and Subway. Content analyses of these ads highlighted frequent use of juvenile humor and movie and other entertainment tie-ins. Taco Bell, Sonic, and Burger King also promoted their late-night snack menus in several ads; and Domino's pushed its online ordering application.

On the internet, teens visited Dominos.com, PizzaHut.com, and McDonalds.com most frequently; each site averaged 160,000 or more unique teen visitors every month. In addition, banner ads for Domino's, Sonic, and Pizza Hut; as well as Taco Bell's Fruitista Freeze, Volcano menu and value menu; KFC grilled chicken (Unthink campaign); McDonald's McCafe beverages; and Wendy's hamburgers/sandwiches were placed disproportionately on youth websites. Social media also commonly promoted snack items (e.g., Wendy's Frosty and Dairy Queen Blizzard) and pricing and other food promotions.

Targeting African American and Hispanic youth

African American children and teens viewed approximately 50% more television compared to white children and teens; therefore, they were also exposed to approximately 50% more fast food ads on television. On average, African American children saw 4.1 fast food TV ads every day in 2009 and African American teens saw 5.2. In addition, African American children appeared to watch relatively more general audience television (versus children's television) than white children. Consequently, they viewed twice as many ads targeted to a general audience for nearly twenty different restaurant product categories. Hispanic children and teens were exposed to approximately one ad per day on Spanish-language television in addition to ads they viewed on English-language television. With the exception of four McDonald's child-targeted ads, the Spanish-language ads were targeted to a general audience.

McDonald's and KFC advertised disproportionately more often to African American teens who viewed 75% more advertising for both restaurants compared to white teens. Ads with higher than expected numbers of young African American viewers included ads for McDonald's lunch/dinner items, branding only, value/combo meals and breakfast, and KFC healthy options. Content analysis of general audience TV

ads confirmed that McDonald's used African American main characters in the highest proportion of its ads (23%) compared to other restaurants. KFC also used black characters to promote its under-400 calorie meal. In addition, Dairy Queen used African American characters in 19% of TV ads promoting its Blizzard ice cream treat and ice cream cake, and Subway featured African Americans in 10% of ads, including two with celebrity athletes. While we recognize the value of advertising that reflects a multicultural society, the poor nutritional quality of products sold at fast food restaurants may be even more dangerous for African American youth who face higher risk for obesity and obesity-related diseases compared to white youth.[16]

Nine fast food restaurants advertised on Spanish-language TV, but McDonald's was the most frequent advertiser, accounting for one-quarter of youth exposure to Spanish-language fast food ads. Products that were advertised relatively more frequently on Spanish-language TV compared to English-language TV included lunch/dinner items from Domino's, Burger King, McDonald's, and Sonic; value/combo meals and coffee drinks from McDonald's; and snack items from Sonic. We found few differences in the overall messages used to promote these products in Spanish, although several restaurants were more likely to use physical activity, low-fat/low-calorie, and helping the community messages in their Spanish-language ads.

As with TV advertising, African American youth were also exposed to disproportionately more fast food advertising on the internet that was not targeted to them directly. McDonald's was the only restaurant with websites specifically targeted to African American (McDonald's 365Black.com) and Hispanic (MeEncanta.com) consumers. KFC.com also featured two African American-targeted subsites, accessible through its main website, including one devoted to its Pride 360 campaign to support Historic Black Colleges and Universities (HBCU) and KFCHitmaker.com, a website that celebrated African American heritage and music. We also found 20 websites (out of 39 with data available on African American youth visitors) that were visited relatively more often by African American youth than by all youth. They included four child-targeted sites (SubwayKids.com, DeeQs.com, ClubBK.com, and BlizzardFanClub.com) and four McDonald's and three Wendy's sites. Although restaurants also target African American communities with advertising through local event sponsorships and charitable donations (e.g., see events listed on McDonald's www.365Black.com website), we do not have data to quantify these locally-targeted efforts.[17]

Fast food marketing works

According to our survey of parents of 2- to 11-year-olds, 84% reported taking their child to at least one fast food restaurant in the past week and 39% took them to more than one. An astonishing 66% of parents reported taking their child to McDonald's for lunch or dinner during the past week. According to parents, fast food restaurants fill a need for convenient and low-cost options to feed their children. More than half their fast food orders were placed at a drive-thru window and consumed in the car or at home. Less than 5% of parents who visited McDonald's, Burger King, and Wendy's reported that the main reason was the restaurants' healthy options. In contrast, one-third of parents visited Subway because of its healthy food.

Children also played a major role in parents' decision to visit these fast food restaurants: More than half of parents reported that their child had asked them to go to McDonald's, Burger King, Wendy's, Subway, and Pizza Hut, and 39% reported that the main reason they chose the restaurant was because their child likes it there. McDonald's marketing targeted specifically to children as young as 2 years old has captured the loyalty of millions of young children: 47% of parents reported that the main reason they took their child to McDonald's was because their child likes it there. This rate was 50% higher than the percentage who took their child to Burger King primarily because their child likes it and three times higher than the rate for parents who took their child to Subway or Wendy's.

In addition, 41% of parents reported that their child asked them to go to McDonald's at least once a week; and 15% of parents of preschoolers reported that their child asked them to go to McDonald's *every day*. When children view one ad for McDonald's every day, it is not surprising that many children ask their parents to take them there at least once per week. It also helps explain why they ask to go to McDonald's much more often than to other fast food restaurants. Burger King, the second most frequent advertiser to children, came in far behind McDonald's in number of requests by children to visit, but ahead of the restaurants that did not market to children directly. Although 15% to 19% of parents who went to McDonald's and Burger King reported that their child wanted the restaurant's toy, approximately half indicated that their child's main motivation was that he or she likes the food.

As African American youth were exposed to significantly more fast food marketing than white youth, it is also not surprising that African American parents were more likely than white parents to report that their child asked to visit McDonald's, Burger King, Domino's, and KFC. African American parents also were more likely to take their children to McDonald's, Burger King, KFC, Wendy's, and Pizza Hut. We found few significant differences in number of visits by Hispanic parents and youth compared to their white peers.

Unhealthy defaults in the restaurants

Once fast food restaurants have succeeded in drawing young people in, marketing inside the restaurants could be used to encourage customers to purchase the more nutritious options

on restaurant menus: Signs could promote their healthy menus and lower calorie options. Price promotions and special offers could encourage trial and repeat purchase of healthier items. Restaurant employees could suggest healthier options when customers place their orders. In our audit of more than 1,000 restaurants across the country, we found almost no evidence that restaurants engage in any marketing practices to improve the nutritional quality of the menu items that customers select.

Restaurants used signs extensively inside the restaurants to promote individual menu items and special deals. They averaged 14.6 signs per restaurant and placed more than one-third of signs at the counter so customers could view them as they waited in line. In addition, one in five of these signs featured price and other promotions to encourage sales of specific menu items. However, restaurants rarely used signs to encourage the purchase of healthier menu items. Items on restaurants' healthy menus appeared on just 4% of signs, and messages about health and nutrition appeared on 2%. Although signs about kids' meals tended to promote healthier side and beverage options, these signs appeared in fewer than 5% of restaurants. Just Subway and Taco Bell promoted health and nutrition messages in more than 5% of their menu item signs. Restaurants also frequently used value messages and short-term price promotions to encourage sales of high-calorie, poor quality foods. Many restaurants also prominently featured signs for sweet snacks in the dining areas, the ideal place to promote impulse purchases after the meal.

The results of our examination of sales practices at five restaurants demonstrated that the overwhelming default at nearly all restaurants examined was to provide french fries and a soft drink automatically whenever a kids' meal or combo meal was ordered. Subway was the only restaurant to offer healthy sides and beverages as the default in its kids' meals. Although McDonald's and Burger King pictured their healthy kids' meal options in child-targeted marketing, their employees mentioned the healthy side options in 8% of orders and the healthy beverage options in approximately one-quarter. They offered customers a healthy side or beverage with combo meals even less often. In addition, in 90% of combo meal orders at Taco Bell and in 30% of orders at all five restaurants, employees suggested a larger-sized meal.

At most fast food restaurants that we analyzed, it was possible to purchase a more nutritious meal for a reasonable price. As mentioned, many dollar/value menu items are smaller-sized than other menu items and most restaurants include a few nutritious options on these menus. In addition, healthier versions of sandwiches tended to be the same or even lower-priced than the least healthy versions (as most were also smaller-sized). However, at all the restaurants in our pricing analysis, the chicken salad tended to be the most expensive main dish item examined, priced even higher than the "mega" burgers offered at many restaurants. In addition, restaurants rarely promoted the value of their lower-calorie, more nutritious items in any form of marketing.

Therefore, at most of the restaurants in our analysis, it was possible to obtain a meal consisting of healthful items that did not exceed recommended calories for most teens and adults, and a kids' meal with a healthy side and beverage that did not exceed recommended calories for most elementary school-age children. Unfortunately, the marketing that occurred inside the restaurants did little to encourage purchases of these more nutritious options. Only the most determined parents and other customers who have studied the restaurants' menus and nutrition facts before visiting are likely to have the information and fortitude needed to purchase these options when they arrive at the restaurant.

Nutritional quality of food purchased at fast food restaurants

Not surprisingly then, young people and their parents overwhelmingly purchased the high-calorie, poor nutritional quality items at fast food restaurants. At three of the restaurants included in our survey (McDonald's, Burger King, and Wendy's), approximately two-thirds of parents who ordered a kids' meal for their child ordered french fries instead of the fruit side option. One-third to one-half ordered a soft drink. Parents of younger children were somewhat more likely to order the healthy sides and beverages. However, across all fast food restaurants, parents of young children ordered french fries 4.5 times more often than they ordered fruit.[18] In contrast, two-thirds of parents in our survey who took their child to Subway ordered fruit or yogurt and 100% ordered juice or plain milk when purchasing a kids' meal. The most popular kids' meal main dish choice for children was chicken nuggets. Interestingly, 30% of parents in our survey believed that McDonald's chicken nuggets were somewhat to very healthy, more than twice as many who believed the hamburger to be healthy. However, both menu items receive low NPI scores (48-50) and have similar calorie, fat and sodium content.

The number of calories in the average kids' meal (616) is appropriate for elementary-school children, but too high for most preschoolers. However, in three of four restaurants in our parent survey, parents of preschoolers were more likely to order a kids' meal for their child than were parents of elementary school-age children. Across all fast food restaurant visits, approximately one-third of parents ordered a kids' meal for their child under 6, and 21% ordered one for their 6- to 12-year-old.[19] Parents were more likely to order combo meals and items from the dollar/value menus for their elementary school-age child, including in 84% of visits to Subway. Across all restaurants, parents ordered these value-priced items for their older children (6-12 years) in 27% of visits.[20] Almost one-half of burgers ordered for older children were larger sized options such as McDonald's Quarter Pounder or Burger King's Whopper.[21] Pizza was also more likely to be ordered by parents for their children than by older patrons.

In addition, teens often ordered many of the highest-calorie, nutrient-poor items available at fast food restaurants.[22] For

example, teens ordered a large or extra-large size of french fries and soft drinks one-quarter of the time. More than 75% of burgers ordered by teens were larger sized options. Teens also purchased breads and sweets (including desserts and sweet breads) during 20% of visits, more often than any other age group, and coffee drinks (including iced and frozen coffees) at 9% of visits. Similarly, 26% of teen visits to fast food restaurants were for an afternoon or evening snack, compared to 21% of young adult and 17% of adult visits. Teens were also frequent patrons of dollar/value menus and combo meals, ordering these value-priced options during 39% of all fast food restaurant visits and two-thirds of visits to burger restaurants. In contrast, teens ordered healthier options, including grilled chicken sandwiches and main dish salads, in less than 5% of visits to fast food restaurants.

Compared to white and Hispanic youth, African American youth ordered more food items when they visited fast food restaurants, including more of the least healthy items on restaurant menus, such as breakfast items, desserts, breads and sweet breads, large-sized burgers, and fried chicken.[23] They were somewhat less likely to order sugar-sweetened carbonated beverages, but more likely to order juice and other sugar-sweetened beverages. African American parents were more likely to purchase dollar/value menu items for their children in place of kids' meals, and African American youth were more likely to purchase combo meals and large or extra-large beverages and french fries. African American youth consumed at least 10% more calories at McDonald's and Burger King, and at least 15% more sodium at McDonald's, Burger King, and Wendy's.

The role of marketing in young people's product choices

Fast food restaurants must take some responsibility for the influence of marketing on the products that young people and their parents choose to purchase. For example, children's "second-hand" exposure to advertising designed to reach a broad audience of consumers likely has a significant influence on what children want to eat and expect to eat at fast food restaurants. The predominance of messages about dollar/value menus and combo meals could help explain why older children are more likely to order these items at some restaurants. Similarly, when the majority of ads that children see are for less healthy menu items, it is not surprising that they prefer french fries and soft drinks over apples and plain milk. The sheer volume of fast food advertising designed to encourage customers to visit these restaurants is also likely to affect how frequently children want to consume fast food.

It is important to note that many fast food restaurants advertised their snack items to teens and that this age group purchased more afternoon and evening snacks at restaurants than other age groups. Unfortunately, snack items are among the least healthy and highest calorie options available at most fast food restaurants. With the exception of KFC's online Unthink grilled chicken campaign, we found no evidence that fast food restaurants have made any attempt to promote their healthier options to teens.

The differences found in sales practices at some restaurants also demonstrate how much restaurants can do to influence consumers' choices of healthy, lower-calorie options. For example, Subway offered or automatically provided healthy side and beverage options to customers who ordered a kids' meal. Seventy-three percent of parents in our survey reported ordering a healthy side for their child at Subway, and two-thirds ordered plain milk or juice. In contrast, employees at McDonald's and Burger King rarely offered a healthy kids' meal side or beverage. Accordingly, just 28% of parents who went to McDonald's and 37% of those who went to Burger King ordered the healthy side for their child's kids' meal; and 35% ordered juice or plain milk for their child at McDonald's and 40% at Burger King. Wendy's provided another interesting point of comparison to McDonald's and Burger King. Wendy's employees offered customers a choice of beverage two-thirds of the time, and suggested flavored milk first in 18% of orders. Wendy's also featured flavored milk on some restaurant signs. As a result, 41% of parents who took their child to Wendy's reported choosing flavored milk with their kids' meals, compared to 25% at McDonald's and 13% at Burger King. Most parents in our survey also reported that their child would consume the healthy options but just preferred the french fries and soft drinks. This finding indicates that if healthy options were the default choice, most parents would buy them.

Recommendations

Young people must consume less of the calorie-dense nutrient-poor foods served at fast food restaurants. Parents and schools can do more to teach children how to make healthy choices and consume fewer calories, and why it is important to do so. Parents can research fast food menus online. They can use the information on our website (www.fastfoodmarketing.org) to learn about healthy calorie and sodium consumption for their children and to find the best options available at restaurants. But such education will be for naught unless fast food restaurants also drastically change their current marketing practices. Children and teens should not receive continuous reminders every day about the great tasting food served by these restaurants that severely damages their health. In addition, when young people visit, the restaurants should do much more to encourage the purchase of more healthful options.

Fast food restaurants must establish meaningful standards for child-targeted marketing

- These standards should apply to all fast food restaurants, not just the two restaurants who have volunteered to participate in the CFBAI.

- The nutrition criteria for foods presented in child-targeted marketing must apply to kids' meals served, not just the items pictured in marketing.
- Child-targeted marketing must do more to persuade children to want the healthy options available, not just to encourage them to ask their parents to visit the restaurants.
- Restaurants must redefine "child-targeted" marketing to include TV ads and other forms of marketing viewed by large numbers of children, but not exclusively targeted to them.
- Restaurants must expand the definition of "advertising" to include all forms of marketing viewed by children.
- McDonald's must stop marketing directly to preschoolers.

Fast food restaurants must do more to develop and promote lower-calorie and more nutritious menu items

- The focus in all forms of marketing must be reversed to emphasize the healthier options instead of the high-calorie poor quality items now promoted most extensively.
- Marketing that reaches a high proportion of teens must meet even higher nutritional standards than other forms of marketing.
- Restaurants must increase the relative number of lower-calorie, more nutritious items on their menus.
- Popular items should be reformulated to decrease the saturated fat, sodium, and calories in the average entrée.
- Kids' meal options must be developed to meet the needs of both the preschoolers and older children who consume them. Lower-calorie kids' meal options appropriate for preschoolers are needed at most restaurants. Subway and Burger King provide healthy kids' meal main dishes, but these items may not have enough calories for older children. Subway, for example, could offer a kids' meal with a 6-inch turkey and/or veggie sandwich, apples or yogurt, and plain milk or 100% juice to encourage more parents to purchase these healthy options for their older children.

Fast food restaurants must do more to push their lower-calorie and more nutritious menu items inside the restaurants when young people and parents make their final purchase decisions

- Healthier sides and beverages must be the default option when ordering kids' meals. Parents can request the french fries and soft drink if they want, but they (not the restaurant) must make that decision. A McDonald's Hamburger Happy Meal with apple dippers (no caramel sauce) and plain milk or 100% juice contains 385 calories; the same meal with french fries and a sugar-sweetened beverage contains 600. McDonald's reports that it sells "millions" of Happy Meals every year.[24] This one change would reduce children's consumption by billions of calories every year.
- The smallest size and most healthy version should be the default option provided for all menu items.
- Portions of menu items that come in different sizes (e.g., small, medium, and large) should be consistent across restaurants. The current situation confuses customers and is potentially misleading.
- Restaurants must promote their more nutritious items on signs inside the restaurant, and use price and other promotions to encourage customers to purchase them.

All those responsible must take action to ensure that young people visit fast food restaurants less often and, when they do visit, that they consume less of the primarily calorie-dense nutrient-poor foods typically purchased. The restaurant industry can rightly claim that parents should make decisions about what to feed their children and that teens must learn how to make healthy choices. But it is disingenuous for the industry to imply that it is only responsible for making more healthful food options available for consumers who are interested in them.[25] According to the data in this report, fast food restaurants spend billions of dollars in marketing every year to increase the number of times that customers visit their restaurants, encourage visits for new eating occasions and purchases of specific menu items (rarely the healthy options), and create lifelong, loyal customers. By creating more healthful items and marketing them more effectively, fast food restaurants could attract lifelong customers who will also live longer, healthier lives.

Executive Summary

1. Bowman, S.A., Gortmaker, S.L., Ebbeling, C.B., Pereira, M.A. & Ludwig, D.S. (2004). Effects of fast food consumption on energy intake and diet quality among children in a national household survey. *Pediatrics, 113(1)*, 112-118.
2. French, S.A., Story, M., Neumark-Sztainer, D., Fulkerson, J.A. & Hannan, P. (2001). Fast food restaurant use among adolescents: Associations with nutrient intake, food choices and behavioral and psychosocial variables. *International Journal of Obesity, 25*, 1823-1833.
3. Nielsen, S.J., Siega-Riz, A.M. & Popkin, B.M. (2002). Trends in food locations and sources among adolescents and young adults. *Preventive Medicine, 35(2)*, 107-113.
4. Sebastian, R.S., Enns, C.W. & Goldman, M.A. (2009). US adolescents and MyPyramid: Associations between fast food consumption and lower likelihood of meeting recommendations. *Journal of the American Dietetic Association, 109(2)*, 226-235.
5. Bowman et al. (2004).
6. Sebastian, Enns, & Goldman (2009).
7. Federal Trade Commission [FTC] (2008). Marketing food to children and adolescents: A review of industry expenditures, activities, and self-regulation. *A report to Congress*. Retrieved from www.ftc.gov.
8. Powell, L.M., Szczpka, G. & Chaloupka, F.J. (2010). Trends in exposure to television food advertisements among children and adolescents in the United States. *Archives of Pediatric and Adolescent Medicine, 164(9)*, E1-E9.
9. Connor, S.M. (2006). Food-related advertising on preschool television: Building brand recognition in young viewers. *Pediatrics, 118*, 1478-1485.
10. Powell, Szczpka & Chaloupka (2010)
11. White House Task Force on Childhood Obesity (2010). *Solving the problem of childhood obesity within a generation*. Retrieved from www.letsmove.gov/tfco_fullreport_may2010.pdf.
12. National Restaurant Association (2010, September 13). Press release. National Restaurant Association welcomes First Lady Michelle Obama to speak about "Let's Move" Initiative. Retrieved from www.restaurant.org/pressroom/pressrelease/?ID=2003
13. Peeler, C.L., Kolish, E.D. & Enright, M. (2009). *The Children's Food and Beverage Advertising Initiative in action: A report on compliance and implementation during 2008*. Retrieved from www.bbb.org/us/storage/0/Shared%20Documents/finalbbbs.pdf.
14. National Restaurant Association (2010).
15. American Dietetic Association. Smart Snacking for Adults and Teens. Eat Right: Food, Nutrition, and Health Tips from the American Dietetic Association. Retrieved from www.eatright.org.

Introduction

1. White House Task Force on Childhood Obesity (2010). *Solving the problem of childhood obesity within a generation.* Retrieved from www.letsmove.gov/tfco_fullreport_may2010.pdf.
2. Institute of Medicine [IOM] (2006). National Academy of Sciences, Committee on Food Marketing and the Diets of Children and Youth. *Food marketing to children and youth: Threat or opportunity?*
3. World Health Organization [WHO] (2006). *Marketing of food and non-alcoholic beverages to children.* Oslo, Norway, 2-5 May 2006.
4. Livingstone, S. (2005). Assessing the research base for the policy debate over the effects of food advertising to children. *International Journal of Advertising, 24*(3), 273-296.
5. Peeler, C. L., Kolish, E. D., & Enright, M. (2009). *The Children's Food & Beverage Advertising Initiative in action: A report on compliance and implementation during 2008.* Retrieved from http://www.bbb.org/us/storage/0/Shared%20Documents/finalbbbs.pdf.
6. National Restaurant Association (2008). Restaurant Industry Facts. Retrieved from www.restaurant.org.
7. Public Law 111-148 (2010). H.R. 3590 *The Patient Protection and Affordable Care Act*. Retrieved from frwebgate.access.gpo.gov.
8. Brownell, K. D., Schwartz, M. B., Puhl, R. M., Henderson, K. E., & Harris, J. L. (2009). The need for bold action to prevent adolescent obesity. *Journal of Adolescent Health, 45*, S8-S17.
9. Bowman, S. A., Gortmaker, S. L., Ebbeling, C. B., Pereira, M. A., & Ludwig, D. S. (2004). Effects of fast-food consumption on energy intake and diet quality among children in a national household survey. *Pediatrics, 113(1)*, 112-118.
10. Nielsen, S. J., Siega-Riz, A. M., & Popkin, B. M. (2002). Trends in food locations and sources among adolescents and young adults. *Preventive Medicine, 35*(2), 107-113.
11. Federal Trade Commission [FTC] (2008). Marketing Food to Children and Adolescents. A Review of Industry Expenditures, Activities, and Self-Regulation. *A report to Congress* Retrieved from www.ftc.gov.
12. Guthrie, J. F., Lin, B. H., & Frazao, E. (2002). Role of food prepared away from home in the American diet, 1977-78 versus 1994-96: changes and consequences. *Journal of Nutrition Education and Behavior, 34*(3), 140-150.
13. Nielsen, Siega-Riz, & Popkin (2002).
14. Guthrie, Lin, & Frazao (2002).
15. Bowman et al. (2004).
16. Young, L. R., & Nestle, M. (2003). Expanding portion sizes in the US marketplace: implications for nutrition counseling. *Journal of the American Dietetic Association, 103*, 231-234.
17. Sabastian, R. S., Enns, C. W., & Goldman, M. A. (2009). US adolescents and MyPyramid: Associations between fast food consumption and lower likelihood of meeting recommendations. *Journal of the American Dietetic Association, 109*(2), 226-235.
18. Mancino, L., Todd, J. E., Guthrie, J. F., & Lin, B. H. (2010). How food away from home affects children's diet quality. USDA Economic Research Service. Retrieved from http://www.ers.usda.gov/Publications/ERR104/.
19. O'Donnell, S. I., Hoerr, S. L., Mendoza, J. A., & Goh, E. T. (2008). Nutrient quality of fast food kids meals. *American Journal of Clinical Nutrition, 88*, 1388-1395.
20. Saelens, B. E., Glanz, K., Sallis, J. F., & Frank, L. D. (2008). Nutrition environment measures study in restaurants (NEMS-R). *American Journal of Preventive Medicine, 32*(4), 273-281.
21. Young & Nestle (2003).
22. Sabastian, Enns, & Goldman (2009).
23. French, S. A., Story, M., Neumark-Sztainer, D., Fulkerson, J. A., & Hannan, P. (2001). Fast food restaurant use among adolescents: Associations with nutrient intake, food choices and behavioral and psychosocial variables. *International Journal of Obesity, 25*, 1823-1833.
24. Bowman et al. (2004).
25. French et al. (2001).
26. Nielsen, Siega-Riz, & Popkin (2002).

27. Li, F., Harmer, P., Cardinal, B. J., & Vongjaturapat, N. (2009). Built environment and changes in blood pressure in middle aged and older adults. *Preventive Medicine, 48*(3).

28. Nielsen, Siega-Riz, & Popkin (2002).

29. Bowman et al. (2004).

30. FTC (2008).

31. Nestle, M. (2007). *Politics. How the Food Industry Influences Nutrition and Health*. Berkeley: University of California Press.

32. FTC (2008).

33. Powell, L. M., Szczpka, G., & Chaloupka, F. J. (2010). Trends in exposure to television food advertisements among children and adolescents in the United States. *Archives of Pediatric and Adolescent Medicine, 164*(9), E1-E9.

34. Connor, S. M. (2006). Food-related advertising on preschool television: Building brand recognition in young viewers. *Pediatrics, 118*, 1478-1485.

35. FTC (2008).

36. Chester, J., & Montgomery, K. (2008). Interactive food & beverage marketing: Targeting children and youth in the digital age. An update. *Memo prepared for NPLAN/BMSG meeting on digital media and marketing to children*. Retrieved from www.digitalads.org.

37. FTC (2008).

38. Kumanyika, S. K., & Grier, S. A. (2006). Targeting interventions for ethnic minority and low-income populations. *The Future of Children, 16.1*, 187-207.

39. Powell, Szczpka, & Chaloupka (2010).

40. Roberts, D. F., Foehr, U. G., & Rideout, V. J. (2005). *Generation M: Media in the lives of 8–18 year-olds*: Kaiser Family Foundation. Retrieved from www.kff.org.

41. Henderson, V. R., & Kelly, B. (2005). Food advertising in the age of obesity: content analysis of food advertising on general market and African American television. *Journal of Nutrition Education and Behavior, 37*, 191-196.

42. Bell, R. A., Cassady, D., Culp, J., & Alcaly, R. (2009). Frequency and types of foods advertised on Saturday morning and weekday afternoon in English- and Spanish-Language American television programs. *Journal of Nutrition Education and Behavior, 41*(6), 406-413.

43. Yancey, A.K., Cole, B.L., Brown, R., Williams, J.D., Hillier, A., Kline, R.S., Ashe, M., Grier, S.A., Backman, D. & McCarthy, W.J. (2009). A cross-sectional prevalence study of ethnically targeted and general audience outdoor obesity-related advertising. *The Millbank Quarterly, 87*, 155-184.

44. Lewis, L. B., Sloane, D. C., Nascimento, L. C., Diamont, A. L., Guinyard, J. J., Yancey, A. K., et al. (2005). African Americans' access to healthy food options in South Los Angeles restaurants. *American Journal of Public Health, 95*, 668-673.

45. White House Task Force on Childhood Obesity (2010).

46. National Restaurant Association (2010, September 13). National Restaurant Association Welcomes First Lady Michelle Obama To Speak About "Let's Move" Initiative. Retrieved from www.restaurantnews.com.

47. *New York Times* (2010). Ad Rules Stall, Keeping Cereal a Cartoon Staple. Retrieved July 23, 2010 from www.nytimes.com.

48. Peeler, Kolish & Enright (2009).

49. *Ibid*.

50. Powell, Szczpka, & Chaloupka (2010).

51. *Ibid*.

52. *Ibid*.

53. French et al. (2001).

54. Sabastian, Enns & Goldman (2009).

55. Center for Science in the Public Interest [CSPI] (2010). CSPI to sue McDonald's if it continues using toys to market junk food to children. Retrieved June 22, 2010, from www.cspinet.org/new/201006221.html.

56. The NPD Group/CREST®/2 Years Ending December 2009.

57. NPD Group (2009). NPD finds today's kids taking a different approach to restaurant meals. Retrieved from www.npd.com/press/releases/press_090527.html.

58. Grier & Kumanyika (2008).

59. Ogden, C. L., Carroll, M. D., Curtin, L. R., McDowell, M. A., Tabak, C. J., & Flegal, K. M. (2006). Prevalence of overweight and obesity in the United States, 1999-2004. *JAMA, 295*, 1549-1555.

Methods

1. *QSR Magazine* (2009). QSR 50 by 2009 QSR 50 Rank. Retrieved from www.qsrmagazine.com/reports/qsr50/2009/charts/09rank.html.

2. Peeler, C. L., Kolish, E. D., & Enright, M. (2009). The Children's Food & Beverage Advertising Initiative in action: A report on compliance and implementation during 2008. Retrieved from www.bbb.org/us/storage/0/Shared%20Documents/finalbbbs.pdf.

3. Food Standards Agency (2007). Nutrient profiling. Retrieved from http://www.food.gov.uk/healthiereating/advertisingtochildren/nutlab/.

4. Institute of Medicine [IOM] (2010). *School Meals: Building Blocks for Healthy Children*. Washington, DC: The National Academies Press. See p. 117.

5. OFCOM (2007). Television advertising of food and drink products to children. Final statement. Retrieved from www.ofcom.org.uk/consult/condocs/foodads_new/statement/statement.pdf.

6. Food Standards Australia New Zealand (2008). Retrived from www.foodstandards.gov.au/foodmatters/healthnutritionandrelatedclaims/.

7. Scarborough, P., Rayner, M., Stockley, L. & Black, A. (2007). Nutrition professionals' perception of the "healthiness" of individual foods, *Public Health Nutrition*, 10, 346-353.

8. Harris, J.L., Schwartz, M.B., Brownell, K.D. et al. (2009). About Nutrition Scores. *Cereal FACTS: Evaluating the nutritional quality and marketing of children's cereals*. Retrieved from www.cerealfacts.org/about_nutrition_scores.aspx.

9. OFCOM (2007).

10. IOM (2010). See pp. 71, 117.

11. The NPD Group/CREST®/2 Years Ending December 2009.

12. IOM (2010). See Table 7-1, p. 117 for maximum calories and sodium by age group.

13. U.S. Department of Agriculture [USDA] (2005). MyPyramid Food Intake Pattern Calorie Levels. Retrieved from www.mypyramid.gov/professionals/index.html.

14. Institute of Medicine [IOM] (2004). *Dietary Reference Intakes for Water, Potassium, Sodium, Chloride, and Sulfate*. Washington, DC: The National Academies Press.

15. USDA/FNS (2007). *School Nutrition Dietary Assessment Study-III*. Retrieved from www.fns.usda.gov/oane/MENU/Published/CNP/cnp.htm.

16. The NPD Group/CREST®/2 Years Ending December 2009.

17. USDA (2005).

18. IOM (2010). See pp. 86-87.

19. USDA/FNS (2007).

20. Piernas, C. & Popkin, B. M. (2010). Trends in snacking among US children. *Health Affairs, 29*(3), 398-404.

21. Interagency Working Group on Food Marketed to Children (2009, December 15). Tentative Proposed Nutrition Standards. Retrieved from ftc.gov/bcp/workshops/sizingup/SNAC_PAC.pdf.

22. The Nielsen Company (2010). Nielsen Monitor Plus AdViews. www.nielsenmedia.com

23. Federal Trade Commission [FTC] (2007). *Children's Exposure to TV Advertising in 1977 and 2004*. Bureau of Economics Staff Report. Retrieved from www.ftc.gov.

24. Kantar Media (2010). Adscope. Retrieved from www.kantarmediana.com/intelligence/products/adscope.

25. Harris, J.L., Schwartz, M.B., Brownell, K.D. et al. (2009). *Cereal FACTS: Evaluating the nutritional quality and marketing of children's cereals*. Retrieved from www.cerealfacts.org.

26. Hayes, A., & Krippendorff, K. (2007). Answering the call for a standard reliability measure for coding data. *Communication Methods and Measures, 1*(1), 77-89.

27. Arbitron (2010). Arbitron company profile. Retrieved from www.reuters.com/finance/stocks/companyProfile?rpc=66&symbol=ARB.

28. Radio Advertising Bureau [RAB] (2010). Radio Revenue Trends. Retrieved from http://www.rab.com/public/pr/yearly.cfm. RAB estimates that in 2009, local spot radio accounted for 74% of all on-air radio advertising dollars.

29. Calculation made using Metro Survey Area Populations for Persons 12+ from Arbitron's *Fall 2009 Market Survey Schedule & Population Rankings*.

30. comScore (2010). Media Metrix Core Reports. Retrieved from comscore.com/Products_Services/Product_Index/Media_Metrix_Suite/Media_Metrix_Core_Reports.

31. comScore (2009). *U.S. Client Newsletter*. Retrieved from www.comscore.com/Newsletter/2009/August/US_Client_Newsletter.

32. comScore (2010). Media Metrix: Methodology Overview. Retrieved from mymetrix.comscore.com/app/HelpGuideWindow.aspx?activeTab=helpIndexTab.

33. The data used for average visits per month is comScore Media Metrix Key Measures Report's data for the measure: Average Visits per Visitor.

34. The data used for average time spent per visit is comScore Media Metrix Key Measures Report's data for the measure: Average Minutes per Visit.

35. Moore, E. S. (2006). *It's Child's Play: Advergaming and the Online Marketing of Food to Children*. Kaiser Family Foundation. Retrieved from www.kff.org/entmedia/upload/7536.pdf.

36. Lingas, E. O., Dorfman, L., & Bukofzer, E. (2009). Nutrition content of food and beverage products on websites popular with children. *American Journal of Public Health, 99*, S587-S592.

37. Chester, J., & Montgomery, K. (2007). *Interactive food and beverage marketing: Targeting children and youth in the digital age*. A report from Berkeley Media Studies Group. Retrieved from www.digitalads.org.

38. Lee, M., Choi, Y., Quilliam, E. T., & Cole, R. T. (2009). Playing with food: Content analysis of food advergames. *The Journal of Consumer Affairs, 43*(1), 129-154.

39. Moore, E. S., & Rideout, V. J. (2007). The online marketing of food to children: Is it just fun and games? *Journal of Public Policy and Marketing, 26*(2), 202-220.

40. Harris, Schwartz, Brownell et al. (2009).

41. comScore (2010). Ad Metrix. Retrieved from comscore.net/Products_Services/Product_Index/Ad_Metrix.

42. The data used for monthly unique viewers is comScore Ad Metrix Advertiser Report's data for the measure: Advertising Exposed Unique Visitors.

43. Kaplan, A. M., & Haenlein, M. (2010). Users of the world, unite! The challenges and opportunities of social media. *Business Horizons, 53*(1), 59-68.

44. Zuckerberg, M. (2010). 500 million stories. *The facebook blog*. Retrieved from blog.facebook.com/blog.php?post=409753352130.

45. Williams, E. (2010). The evolving ecosystem. *Twitter blog*. Retrieved from blog.twitter.com/2010/09/evolving-ecosystem.html.

46. comScore (2010). U.S. online video market continues ascent as Americans watch 33 billion videos in December. Retrieved from www.comscore.com/Press_Events/Press_Releases/2010/2.

47. Survey Sampling International (2010). Retrieved from www.surveysampling.com.

48. Wright, K. B. (2005). Researching Internet-based populations: Advantages and disadvantages of online survey research, online questionnaire authoring software packages, and web survey services. *Journal of Computer-Mediated Communication, 10*(3), article 11.

49. NPD (2010). NPD Group. CREST® Overview.

50. *Ibid.*

51. *Ibid.*

52. *Ibid.*

53. *Ibid.*

54. *Ibid.*

55. *Ibid.*

56. *Ibid.*

Results

1. *QSR Magazine* (2009). Top 50 by 2009 QSR 50. Retrieved from www.qsrmagazine.com/reports/qsr50/2009/charts/09rank.phtml.

2. *QSR Magazine* (2010). Top 50 by 2010 QSR 50. Retrieved from www.qsrmagazine.com/reports/qsr50/2010/chart_rank.phtml.

3. *Ibid.*

4. *QSR Magazine* (2009).

5. This kids' meal is not included in our menu analysis as it was introduced after January 15, 2010.

6. Institute of Medicine [IOM] (2010). *School Meals: Building Blocks for Healthy Children*. Washington, DC: The National Academies Press.

7. *Ibid.*

8. The NPD Group/CREST®/2 Years Ending December 2009.

9. Young, L.R. & Nestle, M. (2007). Portion sizes and obesity: Responses of fast-food companies. *Journal of Public Health Policy, 28*, 238-248.
10. *Ibid.*
11. *Ibid.*
12. Statistical analysis was conducted using a Mann-Whitney nonparametric test to compare the sum of ranks.
13. IOM (2010).
14. IOM (2010).
15. These kids' meals included a "small" or "value" sized 16 oz. soft drink that was also available on the regular menu.
16. The Nielsen Company (2010).
17. Powell, L.M., Szczpka, G. & Chaloupka, F.J. (2010). Trends in exposure to television food advertisements among children and adolescents in the United States. *Archives of Pediatric and Adolescent Medicine*, 164(9), E1-E9.
18. *Ibid.*
19. *Ibid.*
20. Peeler, C.L., Kolish, E.D., & Enright, M. (2009). *The Children's Food and Beverage Advertising Initiative in action: A report on compliance and implementation during 2008*. Retrieved from www.bbb.org/us/storage/0/Shared%20Documents/finalbbbs.pdf.
21. *Ibid.*
22. Grier, S.A. & Kumanyika, S. (2010). Targeted marketing and public health. *Annual Review of Public Health, 41*, 349-369.
23. The Nielsen Company (2010).
24. *Ibid.*
25. *Ibid.*
26. Radio Advertising Bureau [RAB] (2010, February 19). *'09 Year-End Results Confirm Positive Signs for Radio*. Retrieved from www.rab.com/dailypress/RevenueReportQ42009Final.pdf.
27. The data used for average visits per month is comScore Media Metrix Key Measures Report's data for the measure: Average Visits per Visitor.
28. The data used for average pages per month is comScore Media Metrix Key Measures Report's data for the measure: Average Pages per Visitor.
29. The data used for average time spent per visit is comScore Media Metrix Key Measures Report's data for the measure: Average Minutes per Visit.
30. The data reported for composition indices is not a measure from comScore, but instead was defined by researchers (detailed definition in Methods).
31. Data retrieved from comScore Media Metrix Audience Duplication Report (July through December 2009). The list of websites used to run this report included the following McDonald's websites: 365Black.com, AboutMcDonalds.com, HappyMeal.com, McDonalds.com, McDonaldsAllAmerican.com, McdonaldsMcCafeYourday.com, McState.com, McWorld.com, MeEncanta.com, MyInspirasian.com, Passport2Play.com, RMHC.org, and Ronald.com.
32. The data used for Average unique viewers per month is comScore Ad Metrix Advertiser Report's data for the measure: Advertising Exposed Unique Visitors.
33. The data used for average number of ads viewed per month is comScore Ad Metrix Advertiser Report's data for the measure: Average Frequency.
34. Percentage of ads viewed on youth websites and total average ads viewed on youth websites per month were not defined by comScore, but by the researchers (detailed definitions in Methods).
35. The data used for total average ads viewed on youth websites per month is comScore Ad Metrix Advertiser Report's data for the measure: Total Display Ad Views.
36. *Inside* Facebook (2010). As of September 24, 2010, Starbucks was the 8th-most popular page with a vanity URL on Facebook (behind Texas Hold'em Poker, Michael Jackson, Facebook, Lady Gaga, Family Guy, Vin Diesel, and The Twilight Saga). http://pagedata.insidefacebook.com/.
37. See http://www.youtube.com/watch?v=fom57XAEYWI.
38. See http://www.youtube.com/watch?v=6_V_r6RCjNs.
39. See http://www.youtube.com/watch?v=6_V_r6RCjNs.
40. Video is no longer available on YouTube.
41. See http://www.youtube.com/watch?v=PAWzOqQuq9M.
42. See http://www.youtube.com/watch?v=C5a5kQlu8ZY.
43. See http://www.youtube.com/watch?v=hGA_8f3tpcY.
44. Butcher, D. (2009, October 30). Pizza Hut iPhone app generates $1M in sales. *Mobile Marketer*. Retrieved from www.mobilemarketer.com/cms/news/commerce/4533.html.
45. Panchuk, K. (2010, August 13). Pizza Hut sees $7M in sales from iPhone app. *Dallas Business Journal*, Retrieved from www.bizjournals.com/dallas/stories/2 010/08/16/story3.html?b=1281931200^3792111.
46. Kats, R. (2010, August 18). Pizza Hut exec: Mobile to account for 50 percent of future orders. *Mobile Marketer*. Retrieved from www.mobilecommercedaily.com/pizza-hut-exec-claims-mobile-accounts-for-50-percent-of-orders.
47. Hillmantel, R, (2009 March). GoMobo Brings an EZ Pass Lane to Quick-Serves. *QSR*, Retrieved from www.qsrmagazine.com/articles/exclusives/0309/GoMobo-1.phtml.
48. Walters, C. (2009, January 29). Subway Launches Text Message Ordering in NYC. *The Consumerist*. Retrieved from consumerist.com/2009/01/subway-launches-text-message-ordering-in-nyc.html.
49. Koeppel, D. (2010, January 20). Subway Customers Can Now Order By Text Message. *Slash Food*, Retrieved from www.slashfood.com/2010/01/20/subway-text-messaging.
50. Pew Internet (2010, February 3). Social Media & Mobile Internet Use Among Teens and Young Adults. Retrieved from www.pewinternet.org/Reports/2010/Social-Media-and-Young-Adults.aspx
51. *Ibid.*
52. *Ibid.*
53. Fuse and the University of Massachusetts (2009, May). *Fuse's Teen Advertising Study: Spring 2009*. Retrieved from http://www.fusemarketing.com/pdfs/Fuse_UMASS_Teen_Advertising_Study.pdf.
54. *Ibid.*
55. *Ibid.*
56. The Nielsen Company (2009, June). *How teens use media: A Nielsen report on the myths and realities of teen media trends*. Retrieved from http://blog.nielsen.com/nielsenwire/reports/nielsen_howteensusemedia_june09.pdf.
57. *Ibid.*

58. Pew Internet & American Life Project (2010, April 20). Teens and Mobile Phones. Retrieved from http://www.pewinternet.org/~/media//Files/Reports/2010/PIP-Teens-and-Mobile-2010-with-topline.pdf.

59. *Ibid.*

60. The Nielsen Company (2009, September 30). Women, Teens, and Seniors Help Fuel 34% Mobile Web Spike. Retrieved from blog.nielsen.com/nielsenwire/online_mobile/mobile-web-up-34-percent-july-09.

61. Pew Internet & American Life Project (2010).

62. Data retrieved from comScore MobiLens.

63. *Ibid.*

64. The NPD Group/CREST®/Year Ending December 2009

65. Sebastian, R.S., Enns, C.W., & Goldman, M.A. (2009). U.S. adolescents and MyPyramid: Associations between fast food consumption and lower likelihood of meeting recommendations. *Journal of the American Dietetic Association, 109(2)*, 226-235.

66. The NPD Group/CREST®/Year and 2 Years Ending December 2009.

67. *Ibid.*

68. *Ibid.*

69. *Ibid.*

70. *Ibid.*

71. Reedy, J. & Krebs-Smith, S.M. (2010). Dietary sources of energy, solid fats, and added sugars among children and adolescents in the United States. *Journal of the American Dietetic Association, 110(10)*, 1477-1484.

Conclusions

1. *New York Times* (2010). Ad Rules Stall, Keeping Cereal a Cartoon Staple. Retrieved from www.nytimes.com.

2. Peeler, C.L., Kolish, E.D. & Enright, M. (2009). *The Children's Food and Beverage Advertising Initiative in action: A report on compliance and implementation during 2008.* Retrieved from www.bbb.org/us/storage/0/Shared%20Documents/finalbbbs.pdf.

3. National Restaurant Association (2010, September 13). National Restaurant Association welcomes First Lady Michelle Obama to speak about "Let's Move" Initiative. Retrieved from www.restaurant.org/pressroom/pressrelease/?ID=2003.

4. *Ibid.*

5. Reedy, J. & Krebs-Smith, S.M. (2010). Dietary sources of energy, solid fats, and added sugars among children and adolescents in the United States. *Journal of the American Dietetic Association, 110(10)*, 1477-1484.

6. Bowman, S.A., Gortmaker, S.L., Ebbeling, C.B., Pereira, M.A. & Ludwig, D.S. (2004). Effects of fast-food consumption on energy intake and diet quality among children in a national household survey. *Pediatrics, 113*(1), 112-118.

7. Sebastian, R.S., Enns, C.W., & Goldman, M.A. (2009). US adolescents and MyPyramid : Associations between fast food consumption and lower likelihood of meeting recommendations. *Journal of the American Dietetic Association, 109*(2), 226-235.

8. Lewin, A., Lindstrom, L. & Nestle, M. (2006). Food industry promises to address childhood obesity: Preliminary evaluation. *Journal of Public Health Policy, 27*, 327-348.

9. Young, L.R. & Nestle, M. (2007). Expanding portion sizes in the US marketplace: Implications for nutrition counseling. *Journal of the American Dietetic Association, 103*, 231-234.

10. Inside Facebook (2010). As of September 24, 2010, Starbucks was the 8th most popular page with a vanity URL on Facebook (behind Texas Hold'em Poker, Michael Jackson, Facebook, Lady Gaga, Family Guy, Vin Diesel, and the Twilight Saga). Retrieved from pagedata.insidefacebook.com.

11. Grier, S.E. & Kumanyika, S. (2010). Targeted marketing and public health. *Annual Review of Public Health, 31*, 349-369.

12. Roberto, C.A., Baik, J., Harris, J.L. & Brownell, K.D. (2010). Influence of licensed characters on children's taste and snack preferences. *Pediatrics, 126*, 88-93.

13. Robinson, T.N., Borzekowski, D.L., Matheson, D.M., & Kraemer, H.C. (2007). Effects of fast food branding on young children's taste preferences. *Archives of Pediatric and Adolescent Medicine, 161*, 792-797.

14. Grier, S.A., Mensinger, J., Huang, S.H., Kumanyika, S.K., & Stettler, N. (2007). Fast-food marketing and children's fast food consumption: Exploring parents' influences on an ethnically diverse sample. *Journal of Public Policy and Marketing, 26*, 221-235.

15. Powell, Lisa M. (2009). Fast food costs and adolescent body mass index: Evidence from panel data. *Journal of Health Economics, 28*, 963–970.

16. Flegal, K.M., Carroll, M.D., Ogden, C.L., & Curtin, L.R. (2010). Prevalence and trends in obesity among US adults, 1999-2008. *JAMA, 303*, 235-241.

17. McDonald's 365Black What's Happening? Retrieved from www.365black.com/365black/events.jsp.

18. The NPD Group/CREST®/2 Years Ending December 2009.

19. *Ibid.*

20. *Ibid.*

21. *Ibid.*

22. *Ibid.*

23. *Ibid.*

24. MacArthur, K. (2010, September 10). McDonald's a charity cheapskate, says critic; but is chain pinching pennies? *Crain's Chicago Business.* Retrieved from www.chicagobusiness.com/article/20100922/NEWS07/100929958/mcdonalds-a-charity-cheapskate-says-critic-but-is-chain-pinching-pennies.

25. National Restaurant Association (2010).

Nutritional quality of food item categories

Ranking by percentage of items that met all three nutrition criteria and then by median NPI score

Best

Ranking	Restaurant	Menu item category	Total # of items	% met all criteria	NPI score			Calories			Sodium		
					Median	Range	% met criteria	Median	Range	% met criteria	Median	Range	% met criteria
1	Wendy's	Lunch/dinner sides	14	43%	70	64-80	100%	310	70-540	64%	340	15-1,695	50%
2	McDonald's	Lunch/dinner sides	6	33%	66	66-70	100%	168	40-500	67%	310	35-375	50%
3	KFC	Lunch/dinner sides	29	28%	58	24-86	38%	100	20-360	97%	280	0-1,060	59%
4	Taco Bell	Lunch/dinner main dishes	76	24%	64	38-78	57%	350	150-1,000	92%	855	330-2180	34%
5	Dunkin' Donuts	Lunch/dinner main dishes	9	22%	42	36-68	22%	390	230-680	100%	1,090	560-1,390	22%
6	Dairy Queen	Lunch/dinner sides	5	20%	58	48-80	40%	310	53-500	60%	640	230-1,040	20%
7	McDonald's	Snack foods	21	14%	47	18-70	14%	265	130-620	9%	185	55-830	67%
8	Burger King	Lunch/dinner sides	11	9%	54	42-74	18%	340	70-790	55%	670	35-1,190	18%
9	Subway	Lunch/dinner sides	23	9%	68	38-78	70%	140	35-340	100%	810	0-990	35%
10	Starbucks	Breakfast	12	8%	57	28-72	25%	325	190-500	92%	595	105-1,140	25%
11	Sonic	Lunch/dinner sides	26	8%	48	32-82	8%	330	35-690	58%	675	0-1,410	15%
12	McDonald's	Lunch/dinner main dishes	44	7%	48	38-74	27%	465	205-1,060	86%	1,160	490-2,320	18%
13	McDonald's	Breakfast	30	7%	40	22-70	7%	455	150-1,370	60%	1,095	180-2,335	13%
14	KFC	Lunch/dinner main dishes	84	6%	48	30-76	30%	365	80-1,040	96%	1,000	230-3,120	29%
15	Sonic	Lunch/dinner main dishes	51	6%	46	34-72	26%	610	210-980	78%	1,200	440-2,310	12%
16	Burger King	Lunch/dinner main dishes	72	4%	48	32-72	25%	520	160-1,310	68%	1,195	340-2,310	21%
17	Subway	Lunch/dinner main dishes	140	3%	66	38-78	63%	545	85-1,420	66%	1,570	410-5,520	3%
18	Subway	Breakfast	43	2%	50	42-78	19%	400	150-750	74%	1,400	440-1,650	5%
19	Dunkin' Donuts	Breakfast	58	2%	46	26-72	17%	415	150-660	78%	990	340-3,790	2%
20	Dairy Queen	Snack foods	149	1%	48	32-82	1%	610	50-1,530	23%	260	10-970	65%
21	Domino's	Lunch/dinner main dishes	162	1%	48	34-70	14%	700	249-1,120	51%	1,600	660-2,720	1%
22	Taco Bell	Lunch/dinner sides	3	0%	66	58-80	67%	180	130-270	100%	720	410-840	0%
23	Wendy's	Snack foods	6	0%	55	54-58	0%	480	440-560	0%	230	180-320	100%
24	Sonic	Snack foods	24	0%	54	46-60	0%	430	150-1,110	29%	180	55-440	88%
25	KFC	Snack foods	28	0%	49	18-68	29%	270	150-520	89%	315	90-990	57%
26	Domino's	Lunch/dinner sides	5	0%	48	38-50	0%	300	218-325	100%	573	268-960	20%
27	Dairy Queen	Breakfast	19	0%	46	20-62	0%	540	35-1,360	73%	1,420	150-3,030	16%
28	Taco Bell	Snack foods	2	0%	46	40-52	0%	240	170-310	100%	255	200-310	100%
29	Wendy's	Lunch/dinner main dishes	33	0%	44	32-80	24%	520	230-1,330	76%	1,250	500-3,150	18%
30	Pizza Hut	Lunch/dinner main dishes	123	0%	44	30-68	7%	680	400-1,590	60%	1,733	1,067-4,090	0%
31	Dairy Queen	Lunch/dinner main dishes	39	0%	42	32-76	15%	580	200-1,640	67%	1,440	450-3,690	15%
32	Burger King	Breakfast	32	0%	40	24-58	0%	420	240-680	69%	1,025	260-2,350	3%
33	Burger King	Snack foods	3	0%	40	28-42	0%	300	300-320	100%	210	210-300	100%
34	Pizza Hut	Snack foods	3	0%	40	38-46	0%	280	260-360	67%	250	210-281	100%

continued

Ranking Table 1

Ranking	Restaurant	Menu item category	Total # of items	% met all criteria	NPI score			Calories			Sodium		
					Median	Range	% met criteria	Median	Range	% met criteria	Median	Range	% met criteria
35	Pizza Hut	Lunch/dinner sides	64	0%	38	28-62	0%	318	155-790	84%	985	410-2,080	0%
36	Sonic	Breakfast	13	0%	38	24-50	0%	530	330-690	38%	1,380	490-1,770	0%
37	Starbucks	Snack foods	31	0%	36	20-38	0%	370	140-490	42%	330	75-580	55%
38	Domino's	Snack foods	2	0%	35	22-48	0%	328	299-357	50%	170	170-170	100%
39	Dunkin' Donuts	Snack foods	63	0%	31	14-50	0%	320	40-660	67%	330	60-860	67%
40	Wendy's	Breakfast	7	0%	30	24-60	0%	470	340-680	57%	1,230	920-1,770	0%
41	Subway	Snack foods	9	0%	22	18-38	0%	220	200-250	100%	160	100-290	100%

Worst

RESTAURANT RANKINGS

Ranking	Restaurant	Menu item category	Total # of items	% met all criteria	NPI score			Calories			Sodium		
					Median	Range	% met criteria	Median	Range	% met criteria	Median	Range	% met criteria
1	Taco Bell	All food items	81	22%	64	38-80	56%	340	0-550	93%	840	10-525	35%
2	Wendy's	All food items	60	10%	52	24-80	37%	445	70-1,330	63%	845	15-3,150	32%
3	McDonald's	All food items	101	10%	46	18-74	23%	410	40-1,370	78%	850	35-2,335	29%
4	KFC	All food items	141	9%	49	18-86	31%	285	20-1,040	95%	665	0-3,120	40%
5	Sonic	All food items	114	4%	48	24-82	13%	490	35-1,110	59%	935	0-2,310	27%
6	Burger King	All food items	118	3%	46	24-74	17%	450	70-1,310	68%	1,050	35-2,350	18%
7	Subway	All food items	215	3%	64	18-78	52%	460	35-1,420	73%	1,390	0-5,520	11%
8	Starbucks	All food items	43	2%	36	20-72	7%	360	140-500	56%	370	75-1,140	47%
9	Dunkin' Donuts	All food items	130	2%	40	14-72	9%	350	40-680	74%	555	60-3,790	32%
10	Domino's	All food items	169	1%	48	22-70	14%	693	218-1,120	52%	1,577	170-2,720	3%
11	Dairy Queen	All food items	212	1%	46	20-82	5%	580	35-1,640	34%	350	10-3,690	50%
12	Pizza Hut	All food items	190	0%	42	28-78	5%	583	155-1,590	68%	1,480	210-4,090	2%

Best

Worst

Nutritional quality of beverage categories

Ranking by percentage of items that met all three nutrition criteria and then by median NPI score

Best

					NPI score			Calories			Sodium		
Ranking	Restaurant	Menu item category	Total # of items	% met all criteria	Median	Range	% met criteria	Median	Range	% met criteria	Median	Range	% met criteria
1	Starbucks	Snack beverages	12	75%	74	64-74	75%	270	250-540	83%	125	115-410	92%
2	Dunkin' Donuts	Side beverages	23	74%	70	58-70	74%	15	0-480	96%	5	0-640	91%
3	Starbucks	Coffee beverages	132	62%	70	64-74	64%	180	5-550	89%	120	0-430	98%
4	Burger King	Side beverages	29	59%	70	68-76	59%	100	0-390	90%	25	0-150	100%
5	Dunkin' Donuts	Coffee beverages	90	48%	68	60-72	48%	170	0-650	88%	95	0-220	100%
6	Subway	Side beverages	51	47%	68	66-76	47%	184	0-586	78%	83	0-400	98%
7	Starbucks	Side beverages	66	47%	69	66-70	50%	190	0-530	88%	88	0-210	100%
8	Sonic	Side beverages	112	45%	67	66-76	45%	150	0-480	88%	25	0-200	100%
9	Domino's	Side beverages	10	40%	66	66-70	40%	140	0-275	100%	67	40-187.5	100%
10	McDonald's	Side beverages	33	39%	68	64-78	39%	160	0-460	91%	20	0-250	100%
11	McDonald's	Coffee beverages	113	34%	68	40-72	34%	180	40-400	99%	105	40-220	100%
12	Wendy's	Side beverages	70	30%	66	66-72	30%	135	0-310	100%	18	0-160	100%
13	KFC	Side beverages	98	27%	66	66-70	30%	220	0-880	68%	102	15-840	92%
14	Dairy Queen	Side beverages	34	26%	68	66-72	27%	185	0-360	94%	50	0-150	100%
15	Pizza Hut	Side beverages	12	25%	66	66-70	25%	248	0-440	75%	70	40-140	100%
16	Taco Bell	Side beverages	40	10%	66	66-70	10%	280	0-550	58%	95	40-525	95%
17	Burger King	Snack beverages	18	0%	62	54-58	0%	550	110-960	28%	410	10-780	39%
18	Burger King	Coffee beverages	1	0%	68	68-68	0%	340	340-340	89%	310	310-310	100%
19	Dairy Queen	Snack beverages	59	0%	60	56-66	0%	750	240-1,390	3%	350	0-770	49%
20	Dunkin' Donuts	Snack beverages	9	0%	64	60-66	0%	430	220-860	33%	75	35-340	100%
21	McDonald's	Snack beverages	12	0%	60	60-62	0%	660	420-1,160	0%	240	130-510	9%
22	Sonic	Snack beverages	138	0%	60	56-66	0%	490	190-1,040	26%	150	30-550	93%
23	Sonic	Coffee beverages	24	0%	61	58-68	0%	460	250-780	46%	230	90-440	83%
24	Taco Bell	Snack beverages	2	0%	66	66-66	0%	240	230-250	100%	33	10-55	100%
25	Wendy's	Snack beverages	19	0%	60	44-62	0%	410	150-540	21%	190	70-310	100%

Worst

continued

RESTAURANT RANKINGS

Best

Worst

Ranking	Restaurant	Menu item category	Total # of items	% met all criteria	NPI score			Calories			Sodium		
					Median	Range	% met criteria	Median	Range	% met criteria	Median	Range	% met criteria
1	Starbucks	All beverages	210	58%	70	64-74	61%	190	0-550	88%	115	0-430	98%
2	Dunkin' Donuts	All beverages	122	49%	68	58-72	49%	80	0-860	85%	25	0-640	98%
3	Subway	All beverages	51	47%	68	66-76	47%	184	0-586	78%	83	0-400	98%
4	Domino's	All beverages	10	40%	66	66-70	40%	140	0-275	100%	67	40-1,875	100%
5	Burger King	All beverages	48	35%	68	54-76	35%	190	0-960	67%	38	0-780	77%
6	McDonald's	All beverages	158	32%	68	40-78	32%	180	0-1,160	90%	105	0-510	98%
7	KFC	All beverages	98	27%	66	66-70	30%	220	0-880	68%	102	15-840	92%
8	Pizza Hut	All beverages	12	25%	66	66-70	25%	248	0-440	75%	70	40-140	100%
9	Wendy's	All beverages	89	24%	66	44-72	24%	240	0-540	83%	120	0-310	100%
10	Sonic	All beverages	274	16%	66	56-76	18%	290	0-1,040	53%	65	0-550	95%
11	Dairy Queen	All beverages	93	10%	62	56-72	10%	500	0-1,390	37%	220	0-770	68%
12	Taco Bell	All beverages	42	10%	66	66-70	10%	265	0-550	60%	95	10-525	95%

Nutritional quality of kids' Meals

Ranking of best possible kids' meal combinations by NPI score of food items.

All "Best" kids' meals were determined by selecting the items with the highest NPI score and lowest calorie content among the menu options at each restaurant. Calorie content was used to rank the final items. All beverages on the "Best" list are free of artificial sweeteners. Inclusion on the "Best" list does not necessarily indicate that the meal is healthy, only that it is the relative best choice from that restaurant.

BEST KIDS' MEAL COMBINATIONS

Best

Ranking	Restaurant	Main dish	Side dish	Beverage	Snack or dessert	Total calories (Kcal)*	Sodium (mg)	NPI score: Main dish	NPI score: Side item	NPI score: Beverage	NPI score: Snack or dessert	Calories from saturated fat	Calories from sugar
Meet all nutrition criteria for preschool-age and elementary school-age children													
1	Subway	Veggie Delite sandwich (wheat bread, no cheese)	Apple slices	100% juice		285	295	78	72	76		0	124
2	Subway	Roast beef sandwich (wheat bread, no cheese)	Apple slices	100% juice		335	515	78	72	76		9	128
3	Subway	Veggie Delite sandwich (wheat bread, no cheese)	Apple slices	Low-fat milk		345	460	78	72	72		23	108
4	Subway	Veggie Delite sandwich (wheat bread, no cheese)	Yogurt	100% juice		330	375	78	70	76		0	140
5	Subway	Veggie Delite sandwich (wheat bread, no cheese)	Yogurt	Low-fat milk		390	540	78	70	72		23	124
6	Burger King	Macaroni and cheese	Apple fries (without caramel sauce)	Fat-free milk		285	490	66	80	72		14	92
7	Burger King	Macaroni and cheese	Apple fries (without caramel sauce)	Apple juice		285	355	66	80	76		14	124
8	Subway	Veggie Delite sandwich bread, American cheese)	Apple slices	100% juice		315	485	70	72	76		18	128
9	Burger King	Macaroni and cheese	Apple fries with caramel sauce	Fat-free milk		330	525	66	74	72		14	112
10	Burger King	Macaroni and cheese	Apple fries with caramel sauce	Apple juice		330	390	66	74	76		14	144
11	Burger King	Macaroni and cheese	Apple fries (without caramel sauce)	Low-fat chocolate milk		365	480	66	80	70		27	156
12	Burger King	Macaroni and cheese	Apple fries with caramel sauce	Low-fat chocolate milk		410	515	66	74	70		27	176

continued

BEST KIDS' MEAL COMBINATIONS

Ranking	Restaurant	Main dish	Side dish	Beverage	Snack or dessert	Total calories (Kcal)*	Sodium (mg)	NPI score: Main dish	NPI score: Side item	NPI score: Beverage	NPI score: Snack or dessert	Calories from saturated fat	Calories from sugar
Meet all nutrition criteria for elementary school-age children only													
13	Subway	Roast Beef sandwich (wheat bread, no cheese)	Yogurt	100% juice		380	595	78	70	76		9	144
14	Subway	Turkey breast sandwich (wheat Bread, no cheese)	Apple slices	100% juice		325	625	76	72	76		5	128
15	Subway	Veggie Delite sandwich (white Bread, American cheese)	Yogurt	100% juice		360	565	70	70	76		18	144
Meet maximum calorie criteria for elementary school-age children only													
16	KFC	Grilled chicken drumstick	Corn on the cob	Unsweetened tea	String cheese	270	545	**60**	86	70	**36**	23	20
17	Subway	Roast beef sandwich (wheat bread, no cheese)	Apple slices	Low-fat milk		395	**680**	78	72	72		32	112
18	KFC	Grilled chicken drumstick	Cole slaw	Unsweetened tea	String cheese	310	**700**	**60**	72	70	**36**	36	56
19	Subway	Turkey breast sandwich (wheat bread, no cheese)	Apple slices	Low-fat milk		385	**790**	76	72	72		27	112
20	Sonic	Jr. Burger	Apple slices	Unsweetened tea		350	**620**	**48**	82	72		45	56
21	Sonic	Jr. Burger	Apple slices	Low-fat milk		455	**740**	**48**	82	72		59	104
22	Sonic	Chicken strips (2) with honey mustard sauce	Banana	Low-fat milk		510	**790**	**44**	78	72		41	128
23	Sonic	Corn dog	Banana	Unsweetened tea		325	540	**44**	78	70		32	76
24	KFC	Original chicken drumstick	Cole slaw	Unsweetened tea	String cheese	350	**790**	**48**	72	70	**36**	41	56
25	Burger King	Hamburger	Apple fries (without caramel sauce)	Fat-free milk		385	**670**	**50**	80	72		36	92
26	Wendy's	Crispy chicken sandwich	Mandarin orange cup	Low-fat milk		520	**815**	**62**	76	72		41	132
27	Wendy's	Crispy chicken sandwich	French fries	Low-fat milk		650	**990**	**62**	68	72		59	64
28	Burger King	Chicken tenders (4) with sweet and sour sauce	Apple fries (without caramel sauce)	Fat-free milk		350	515	**48**	80	72		18	112
29	Sonic	Corn dog	Apple slices	Low-fat milk		355	**660**	**44**	82	72		45	92
30	McDonald's	Hamburger	Apple dippers (without low-fat caramel dip)	Low-fat milk		385	**645**	**50**	78	72		45	96

continued

BEST KIDS' MEAL COMBINATIONS

Ranking	Restaurant	Main dish	Side dish	Beverage	Snack or dessert	Total calories (Kcal)*	Sodium (mg)	NPI score: Main dish	NPI score: Side item	NPI score: Beverage	NPI score: Snack or dessert	Calories from saturated fat	Calories from sugar
Meet maximum calorie criteria for elementary school-age children only													
31	Wendy's	Hamburger	Mandarin orange cup	Low-fat milk		400	635	**48**	76	72		41	136
32	Burger King	Double hamburger	Apple fries (without caramel sauce)	Fat-free milk		495	**700**	**46**	80	72		72	92
33^	Dairy Queen	Chicken strips with ketchup	Applesauce	Sugar-sweetened soft drink (Sprite)	Vanilla cone	628	**1000**	**46**	78	**68**	**58**	32	268
34	McDonald's	Hamburger	Apple dippers with low-fat caramel dip	Low-fat milk		455	**680**	**50**	66	72	45	132	
35	Burger King	Chicken tenders (6) with sweet and sour sauce	Apple fries (without caramel sauce)	Fat-free milk		485	**720**	**48**	80	72		27	152
36	McDonald's	Chicken McNuggets (4) with barbeque sauce	Apple dippers (without low-fat caramel dip)	Low-fat milk		375	**785**	**48**	78	72		32	112

Bold numbers indicate that the item does not meet minimum health NPI score and/or maximum recommended calories or sodium
* Kids' meals with fewer than 400 calories may not provide adequate nutrition for some elementary school-aged children.
^ This meal contains excessive sugar (67 grams) and sodium (1000 mg), however, this is the "healthiest" kids' meal available at Dairy Queen

continued

The worst list includes the worst three combinations from each restaurant, excluding Subway.

Each of these combinations exceed multiple nutrition recommendations for children and are never a healthful choice. The following meals are the options with the most extreme calorie, sodium, saturated fat and sugar content.

WORST KIDS' MEAL COMBINATIONS

								NPI score					
	Restaurant	Main dish	Side dish	Beverage	Snack or dessert	Total calories (Kcal)*	Sodium (mg)	Main dish	Side item	Beverage	Snack or dessert	Calories from saturated fat	Calories from sugar
	Taco Bell	Chicken soft taco	Cinnamon twists	Sugar-sweetened soft drink (Mountain Dew Baja Blast)		590	**900**	**48**	**40**	**66**		27	276
	Taco Bell	Cheese roll-up	Cinnamon twists	Sugar-sweetened soft drink (Mountain Dew Baja Blast)		**590**	**790**	**38**	**40**	**66**		45	276
	Wendy's	Chicken nuggets (4) with sweet and sour sauce	French fries	Vanilla Frosty Jr.		610	**760**	**42**	68	**60**		68	132
	Wendy's	Cheeseburger	French fries	Vanilla Frosty Jr.		630	**960**	**42**	68	**60**		86	108
	Burger King	Cheeseburger	French fries	Sugar-sweetened soft drink (Dr. Pepper)		635	**1,106**	**40**	**52**	**68**		86	140
	Burger King	Chicken tenders (4) with ranch dipping sauce	French fries	Sugar-sweetened soft drink (Dr. Pepper)		**645**	**906**	**42**	**52**	**68**		63	120
	McDonald's	Cheeseburger	French fries	Sugar-sweetened soft drink (Hi-C Orange Lavaburst)		**650**	**910**	**40**	66	**66**		68	152
	KFC	Extra crispy chicken drumstick	Potato wedges	Sugar-sweetened soft drink (Mountain Dew)	String cheese	**680**	**1,330**	**46**	**50**	**66**	**36**	54	232
	Sonic	Grilled cheese sandwich	Tots	Cherry slush		**680**	**1,305**	**28**	**50**	**64**		86	208
	Sonic	Chicken strips (2) with ranch sauce	French fries	Green apple slush		**708**	**1,012**	**40**	**60**	**64**		51	184
	McDonald's	Chicken McNuggets (6) with barbeque sauce	French fries	Sugar-sweetened soft drink (Hi-C Orange Lavaburst)		**720**	**1,025**	**44**	66	**66**		41	216

continued

WORST KIDS' MEAL COMBINATIONS

	Restaurant	Main dish	Side dish	Beverage	Snack or dessert	Total calories (Kcal)*	Sodium (mg)	NPI score: Main dish	NPI score: Side item	NPI score: Beverage	NPI score: Snack or dessert	Calories from saturated fat	Calories from sugar
	Wendy's	Chicken nuggets (4) with ranch dipping sauce	French fries	Vanilla Frosty Jr.		**720**	**860**	**38**	68	**60**		90	92
	Taco Bell	Bean burrito	Cinnamon twists	Sugar-sweetened soft drink (Mountain Dew Baja Blast)		**760**	**1,530**	68	**40**	**66**		32	284
	Sonic	Grilled cheese sandwich	French fries	Green Apple slush		**760**	**1,310**	**28**	**60**	**64**		86	208
	KFC	Popcorn chicken	Potato wedges	Sugar-sweetened soft drink (Mountain Dew)	String cheese	**820**	**1,820**	**38**	**50**	**66**	**36**	68	232
	Burger King	Double cheeseburger	French fries	Sugar-sweetened soft drink (Dr. Pepper)		**820**	**1,365**	**38**	**52**	**68**		140	180
	Dairy Queen	Hot dog	French fries	Sugar-sweetened soft drink (Mountain Dew)	Chocolate Dilly Bar	**823**	**1,300**	**40**	**58**	**66**	**36**	135	248
	McDonald's	Double cheeseburger	French fries	Sugar-sweetened soft drink (Hi-C Orange Lavaburst)		**830**	**1,315**	**40**	66	**66**		113	204
	KFC	Popcorn chicken	Biscuit	Sugar-sweetened soft drink (Mountain Dew)	String cheese	**840**	**1,610**	**38**	**24**	**66**	**36**	99	240
	Dairy Queen	Grilled cheese sandwich	French fries	Sugar-sweetened soft drink (Mountain Dew)	Chocolate Dilly Bar	**893**	**1,550**	**32**	**58**	**66**	**36**	162	240
	Dairy Queen	Original cheeseburger	French fries	Sugar-sweetened soft drink (Mountain Dew)	Chocolate Dilly Bar	**973**	**1,450**	**40**	**58**	**66**	**36**	171	268

Bold numbers indicate that the item does not meet minimum health NPI score and/or maximum recommended calories or sodium

Advertising spending

Ranking by total advertising spending*

Includes total spending in all measured media for fast food restaurants in 2009.

Most

Rank	Restaurant	Total spending: 2008	Total spending: 2009	% change vs. 2008	2009 spending by selected media			
					TV advertising	Radio	Outdoor	Spanish-language TV
1	McDonald's	$797,797	$898,077	13%	$697,934	$64,920	$73,567	$73,869
2	Subway	$410,865	$424,641	3%	$374,249	$24,697	$8,274	$20,282
3	Wendy's	$274,825	$282,552	3%	$244,438	$21,914	$6,983	$18,508
4	Burger King	$271,004	$281,614	4%	$242,646	$18,117	$10,647	$25,540
5	KFC	$279,792	$268,866	-4%	$250,299	$3,670	$2,204	$9,849
6	Taco Bell	$256,523	$243,431	-5%	$225,825	$12,262	$2,967	$13
7	Pizza Hut	$264,300	$221,842	-16%	$212,165	$657	$792	$9,880
8	Sonic	$165,538	$185,067	12%	$152,269	$5,314	$1,179	$18,944
9	Domino's	$133,227	$180,768	36%	$159,429	$3,164	$866	$23,471
10	Arby's	$140,710	$129,562	-8%	$120,900	$2,020	$2,013	$0
11	Dunkin' Donuts	$110,130	$120,877	10%	$96,806	$11,744	$4,140	$0
12	Papa John's	$124,477	$119,204	-4%	$112,698	$1,965	$297	$546
13	Jack in the Box	$122,992	$113,475	-8%	$108,456	$3,218	$1,201	$1,216
14	Hardee's	$104,174	$95,675	-8%	$89,913	$1,329	$3,733	$0
15	Dairy Queen	$77,520	$77,636	0%	$75,152	$950	$1,161	$0
16	Popeye's	$36,235	$53,575	48%	$52,754	$0	$595	$15,213
17	Quiznos	$86,969	$52,849	-39%	$48,155	$236	$965	$0
18	Starbucks	$19,943	$28,929	45%	$7,472	$675	$2,801	$0
19	Chick-fil-A	$26,196	$26,174	0%	$19,553	$480	$5,749	$0
20	Panera Bread	$13,673	$15,902	16%	$5,939	$6,931	$2,339	$0

Least

*Includes spending in 18 different media including television, magazines, radio, newspapers, free standing insert coupons, internet, and outdoor advertising

Television advertising exposure to children by product category

Ranking by ads viewed for children (ages 6-11 years)

Includes average number of advertisements viewed by children in 2009 on national (network, cable and syndicated) television.

Most

Rank	Restaurant	Product type	Advertising exposure: Preschoolers 2-5 years	Advertising exposure: Children 6-11 years	Targeted ratio: Preschoolers to adults*	Targeted ratio: Children to adults*
1	McDonald's	Kids' meals	169	192	**4.73**	**5.40**
2	Burger King	Kids' meals	102	125	**4.09**	**5.00**
3	McDonald's	Branding only	61	70	**2.58**	**2.99**
4	Pizza Hut	Lunch/dinner items	39	49	0.35	0.43
5	Taco Bell	Lunch/dinner items	36	49	0.35	0.49
6	KFC	Value/combo meals	38	48	0.34	0.44
7	Domino's	Lunch/dinner items	36	47	0.38	0.51
8	Burger King	Lunch/dinner items	34	43	0.35	0.45
9	Wendy's	Lunch/dinner items	33	42	0.36	0.46
10	Subway	Kids' meals	25	32	**5.60**	**7.23**
11	McDonald's	Lunch/dinner items	23	31	0.48	0.64
12	Subway	Value/combo meals	23	30	0.35	0.48
13	Subway	Healthy options	19	26	0.47	0.64
14	Sonic	Value/combo meals	15	20	0.36	0.50
15	Dairy Queen	Snacks	11	15	0.44	0.63
16	McDonald's	Coffee drinks	11	15	0.34	0.46
17	McDonald's	Value/combo meals	12	15	0.36	0.44
18	Subway	Lunch/dinner items	11	15	0.38	0.50
19	KFC	Lunch/dinner items	11	14	0.33	0.45
20	Pizza Hut	Value/combo meals	8	11	0.39	0.53
21	Burger King	Value/combo meals	7	8	0.33	0.43
22	Wendy's	Value/combo meals	7	8	0.41	0.50
23	Dunkin' Donuts	Snacks	6	8	0.27	0.35
24	Subway	Promotion only	6	8	0.38	0.53
25	Sonic	Snacks	5	8	0.37	0.52
26	Burger King	Promotion only	5	7	0.37	0.58
27	Dairy Queen	Value/combo meals	5	7	0.37	0.48
28	McDonald's	Promotion only	6	7	0.40	0.50
29	Domino's	Snacks	5	6	0.51	0.68
30	Sonic	Lunch/dinner Items	4	5	0.36	0.52

continued

Ranking Table 5

Rank	Restaurant	Product type	Advertising exposure: Preschoolers 2-5 years	Advertising exposure: Children 6-11 years	Targeted ratio: Preschoolers to adults	Targeted ratio: Children to adults
31	Taco Bell	Value/combo meals	4	5	0.36	0.50
32	Wendy's	Snacks	4	5	0.34	0.41
33	KFC	Healthy options	4	5	0.43	0.49
34	Taco Bell	Snacks	3	4	0.42	0.63
35	McDonald's	Breakfast	4	4	0.39	0.45
36	Burger King	Snacks	2	3	0.35	0.48
37	Dunkin' Donuts	Coffee drinks	3	3	0.27	0.35
38	McDonald's	Snacks	2	3	0.38	0.48
39	Dunkin' Donuts	Breakfast	2	3	0.29	0.38
40	Burger King	Breakfast	2	3	0.34	0.45
41	McDonald's	Healthy options	1	2	**1.82**	**2.17**
42	Dunkin' Donuts	Healthy options	1	1	0.25	0.32
43	Dairy Queen	Lunch/dinner items	1	1	0.47	0.71
44	Subway	Snacks	1	1	0.50	0.69
45	Starbucks	Coffee drinks	1	1	0.25	0.27
46	Taco Bell	Healthy options	0	1	0.40	0.62

Least

*Bold indicates higher than expected targeted ratios

continued

RESTAURANT RANKINGS

Most

Rank	Restaurant	Advertising exposure: Preschoolers 2-5 years	Advertising exposure: Children 6-11 years	Targeted ratio: Preschoolers to adults	Targeted ratio: Children to adults
1	McDonald's	309	368	**1.05**	**1.25**
2	Burger King	152	185	0.89	**1.09**
3	Subway	97	127	0.46	0.61
4	KFC	62	78	0.33	0.41
5	Pizza Hut	54	69	0.33	0.42
6	Taco Bell	50	69	0.37	0.51
7	Wendy's	46	58	0.34	0.43
8	Domino's	35	46	0.37	0.48
9	Sonic	27	37	0.33	0.44
10	Dairy Queen	20	27	0.35	0.48
11	Quiznos	18	25	0.33	0.46
12	Papa John's	19	22	0.31	0.36
13	Arby's	16	22	0.24	0.32
14	Popeye's	14	19	0.39	0.53
15	Dunkin' Donuts	11	15	0.21	0.28
16	Jack in the Box	11	14	0.37	0.44
17	Hardee's	2	3	0.18	0.26
18	Chick-fil-A	2	2	0.27	0.29
19	Starbucks	1	1	0.24	0.25
20	Panera Bread	0	0	0.19	0.20
	Twelve restaurants	865	1,079	0.54	0.68
	Top 20 restaurants	948	1,187	0.51	0.64
	All fast food restaurants	1,021	1,272	0.49	0.61

Least

Bold indicates higher than expected targeted ratios

Television advertising exposure to teens by product category

Ranking by ads viewed for teens (ages 12-17 years)

Includes average number of advertisements viewed by all teens in 2009 on national (network, cable and syndicated) television.

Most

Rank	Restaurant	Product type	Advertising exposure	Targeted ratio: Teens to adults*
1	Taco Bell	Lunch/dinner items	111	**1.10**
2	Pizza Hut	Lunch/dinner items	95	0.83
3	KFC	Value/combo meals	95	0.86
4	Burger King	Lunch/dinner items	91	0.94
5	Domino's	Lunch/dinner items	88	0.94
6	McDonald's	Kids' meals	87	**2.44**
7	Wendy's	Lunch/dinner items	84	0.92
8	Burger King	Kids' meals	59	**2.34**
9	Subway	Value/combo meals	57	0.90
10	McDonald's	Lunch/dinner items	43	0.88
11	McDonald's	Branding only	39	**1.66**
12	Sonic	Value/combo meals	39	0.95
13	Subway	Healthy options	38	0.95
14	Subway	Lunch/dinner items	31	**1.03**
15	KFC	Lunch/dinner items	30	0.93
16	McDonald's	Value/combo meals	29	0.86
17	Dairy Queen	Snacks	27	**1.11**
18	McDonald's	Coffee drinks	26	0.79
19	Pizza Hut	Value/combo meals	19	0.92
20	Burger King	Value/combo meals	18	0.94
21	Dunkin' Donuts	Snacks	17	0.77
22	Wendy's	Value/combo meals	16	0.98
23	Sonic	Snacks	15	**1.05**
24	Burger King	Promotion only	15	**1.22**
25	Subway	Promotion only	14	0.97
26	Dairy Queen	Value/combo meals	14	0.96
27	Subway	Kids' meals	14	**3.16**
28	Taco Bell	Value/combo meals	11	**1.15**
29	Sonic	Lunch/dinner Items	10	**1.02**
30	Taco Bell	Snacks	10	**1.44**
31	Domino's	Snacks	10	**1.05**
32	McDonald's	Promotion only	10	0.69

continued

Ranking Table 6

Rank	Restaurant	Product type	Advertising exposure	Targeted ratio: Teens to adults*
33	Wendy's	Snacks	9	0.77
34	Dunkin' Donuts	Coffee drinks	8	0.84
35	KFC	Healthy options	8	0.80
36	McDonald's	Breakfast	7	0.76
37	Burger King	Snacks	7	0.96
38	Burger King	Breakfast	6	0.91
39	Dunkin' Donuts	Breakfast	6	0.71
40	McDonald's	Snacks	5	0.70
41	Dunkin' Donuts	Healthy options	3	0.72
42	Dairy Queen	Lunch/dinner items	2	**1.05**
43	Subway	Snacks	1	**1.09**
44	Starbucks	Coffee drinks	1	0.52
45	Taco Bell	Healthy options	1	**1.21**
46	McDonald's	Healthy options	1	**1.46**

Least

Most

RESTAURANT RANKINGS

Rank	Restaurant	Advertising exposure	Targeted ratio: Teens to adults*
1	McDonald's	284	0.96
2	Burger King	189	**1.11**
3	Subway	177	0.84
4	KFC	146	0.77
5	Pizza Hut	125	0.76
6	Taco Bell	140	**1.04**
7	Wendy's	113	0.82
8	Domino's	85	0.88
9	Sonic	68	0.81
10	Dairy Queen	48	0.85
11	Quiznos	46	0.85
12	Papa John's	40	0.65
13	Arby's	41	0.60
14	Popeyes	35	0.95
15	Dunkin' Donuts	28	0.52
16	Jack in the Box	25	0.80
17	Hardee's	5	0.39
18	Chick-Fil-A	3	0.42
19	Starbucks	1	0.47
20	Panera Bread	1	0.31

Least

*Bold indicates higher than expected targeted ratios

Television advertising exposure: African American and Hispanic youth

Ranking by ads viewed for African American children (ages 2-11 years)

Includes average number of advertisements viewed by children and teens in 2009 on national (network, cable and syndicated) television for African American youth and by Hispanic preschoolers, children and teens on Spanish-language televison.

Most

			Advertising exposure: African American youth		Targeted ratios: African American to white*		Advertising exposure: Spanish-language TV (Hispanic youth)			Targeted ratios: Spanish-language TV (Hispanics) to all other TV (all persons)*		
Rank	Restaurant	Product	Children 2-11 years	Teens 12-17 years	Children 2-11 years	Teens 12-17 years	Preschoolers 2-5 years	Children 6-11 years	Teens 12-17 years	Preschoolers 2-5 years	Children 6-11 years	Teens 12-17 years
1	McDonald's	Kids' meals	204	133	1.14	1.70	15	11	11	0.09	0.06	0.12
2	Burger King	Kids' meals	125	82	1.12	1.57						
3	McDonald's	Branding only	81	39	1.28	1.66	12	9	9	0.19	0.13	0.24
4	Pizza Hut	Lunch/dinner items	70	128	**1.71**	1.45	17	12	11	0.44	0.24	0.11
5	Taco Bell	Lunch/dinner items	77	150	**2.04**	1.46						
6	KFC	Value/combo meals	84	157	**2.29**	**1.89**	6	5	4	0.17	0.10	0.04
7	Domino's	Lunch/dinner items	70	133	**2.02**	**1.79**	37	29	26	**1.03**	**0.62**	0.2
8	Burger King	Lunch/dinner items	69	125	**2.01**	1.45	35	28	27	**1.03**	**0.66**	0.29
9	Wendy's	Lunch/dinner items	64	118	**1.95**	1.56	19	15	13	**0.58**	**0.36**	0.15
10	Subway	Kids' meals	33	14	1.24	3.16	3	2	2	0.12	0.07	0.17
11	McDonald's	Lunch/dinner items	47	43	**1.94**	0.88	18	14	14	**0.76**	**0.46**	0.32
12	Subway	Value/combo meals	44	78	**1.75**	1.43	7	6	6	0.33	0.18	0.1
13	Subway	Healthy options	34	53	1.62	1.46	12	9	8	**0.65**	**0.35**	0.26
14	Sonic	Value/combo meals	31	57	**1.96**	1.59	11	8	7	**0.73**	**0.40**	0.19
15	Dairy Queen	Snacks	22	37	1.84	1.41						
16	McDonald's	Coffee drinks	25	44	**2.10**	**1.92**	11	10	11	**1.02**	**0.64**	**0.43**
17	McDonald's	Value/combo meals	29	29	**2.51**	0.86	13	11	11	**1.10**	**0.75**	**0.39**
18	Subway	Lunch/dinner items	22	31	**1.89**	1.03	8	7	8	**0.72**	**0.46**	0.26
19	KFC	Lunch/dinner items	26	30	**2.50**	0.93	7	5	5	**0.66**	**0.37**	0.18
20	Pizza Hut	Value/combo meals	14	25	1.68	1.43	2	2	1	0.27	0.15	0.08
21	Burger King	Value/combo meals	13	25	**2.10**	1.45						
22	Wendy's	Value/combo meals	13	26	**1.93**	**1.76**	7	6	5	**1.03**	**0.72**	0.28
23	Dunkin' Donuts	Snacks	10	18	1.59	1.14						
24	Subway	Promotion only	12	22	**1.91**	1.57						
25	Sonic	Snacks	12	23	**2.18**	1.67	9	7	6	**1.62**	**0.87**	**0.39**
26	Burger King	Promotion only	11	21	**2.30**	1.42						
27	Dairy Queen	Value/combo meals	11	20	**1.87**	1.48						

continued

Rank	Restaurant	Product	Advertising exposure: African American youth		Targeted ratios: African American to white*		Advertising exposure: Spanish-language TV (Hispanic youth)			Targeted ratios: Spanish-language TV (Hispanics) to all other TV (all persons)*		
			Children 2-11 years	Teens 12-17 years	Children 2-11 years	Teens 12-17 years	Preschoolers 2-5 years	Children 6-11 years	Teens 12-17 years	Preschoolers 2-5 years	Children 6-11 years	Teens 12-17 years
28	McDonald's	Promotion only	11	16	**1.87**	**1.88**	4	3	3	**0.64**	**0.46**	0.31
29	Domino's	Snacks	9	15	**1.95**	**1.77**	3	2	2	**0.66**	**0.39**	0.24
30	Sonic	Lunch/dinner Items	8	14	**2.13**	1.72	7	6	5	**2.00**	**1.07**	**0.5**
31	Taco Bell	Value/combo meals	7	14	**2.03**	1.42						
32	Wendy's	Snacks	7	12	**1.75**	1.37						
33	KFC	Healthy options	8	14	**2.09**	**2.30**	2	1	1	0.37	0.22	0.14
34	Taco Bell	Snacks	7	13	**2.38**	1.45						
35	McDonald's	Breakfast	7	13	**1.96**	**2.05**	3	2	2	**0.78**	**0.52**	0.31
36	Burger King	Snacks	5	9	**2.00**	1.31						
37	Dunkin' Donuts	Coffee drinks	4	9	**1.76**	1.16						
38	McDonald's	Snacks	5	7	1.69	**1.81**	2	2	2	**0.80**	**0.53**	**0.38**
39	Dunkin' Donuts	Breakfast	4	6	1.48	1.14						
40	Burger King	Breakfast	4	7	1.74	1.40						
41	McDonald's	Healthy options	2	2	1.46	**1.99**						
42	Dunkin' Donuts	Healthy options	2	3	1.46	1.10						
43	Dairy Queen	Lunch/dinner items	1	2	**1.80**	1.57						
44	Subway	Snacks	1	2	1.60	1.33						
45	Starbucks	Coffee drinks	1	2	1.50	1.68						
46	Taco Bell	Healthy options	1	2	**1.93**	1.48						

Least

Most

RESTAURANT RANKINGS

Rank	Restaurant	Product	Children 2-11 years	Teens 12-17 years	Children 2-11 years	Teens 12-17 years	Preschoolers 2-5 years	Children 6-11 years	Teens 12-17 years	Preschoolers 2-5 years	Children 6-11 years	Teens 12-17 years
1	McDonald's		414	420	1.33	**1.75**	68	46	47	0.20	0.15	0.18
2	Burger King		219	254	1.40	1.46	41	29	29	0.19	0.13	0.12
3	Subway		147	216	1.53	1.40	38	24	25	0.24	0.16	0.13
4	KFC		119	223	**2.16**	**1.76**	17	11	11	0.20	0.13	0.07
5	Taco Bell		95	181	**2.03**	1.37						
6	Pizza Hut		85	154	**1.76**	1.43	26	16	14	0.27	0.17	0.09
7	Wendy's		84	156	**1.87**	1.59	25	18	16	0.36	0.26	0.13
8	Domino's		70	133	**1.76**	1.46	25	17	15	0.51	0.39	0.24
9	Sonic		49	90	**1.94**	1.44	20	13	12	0.42	0.29	0.17
10	Dairy Queen		34	58	1.65	1.16						
11	Dunkin' Donuts		12	23	**2.12**	1.46						
12	Starbucks		1	2	**1.84**	1.22						

*Bold targeted ratios indicate higher than expected exposure for this group

Radio advertising exposure

Ranking by advertising exposure for teens*

Most

Least

Rank	Restaurant	Number of markets with advertising*	Advertising exposure: Teens 12-17 years	Advertising exposure: Young adults 18-24 years	Advertising exposure: Adults 25-49 years	Targeted ratio: Teens to adults
1	McDonald's	39	108	159	147	0.73
2	Taco Bell	34	30	40	27	1.12
3	Burger King	38	29	42	38	0.76
4	Wendy's	39	28	40	38	0.74
5	Subway	39	25	38	37	0.68
6	Dunkin' Donuts	23	24	33	37	0.66
7	Dairy Queen	5	10	15	18	0.56
8	Sonic	20	8	14	13	0.58
9	KFC	23	8	11	10	0.73
10	Domino's	29	3	5	5	0.70
11	Pizza Hut	14	2	3	4	0.62
12	Starbucks	13	2	3	3	0.68

*Markets with a minimum of 100 GRPs for at least one age group (maximum 39 markets)
The Nielsen Company; Arbitron Inc.

Restaurant website exposure

Ranking by average total visits per month by 2- to 17-year-olds*

Most

Rank	Restaurant	Website	Average unique visitors per month: 2-11 years (000)	Average unique visitors per month: 12-17 years (000)	Average visits per month	Average time spent (min)	Average pages per month
1	Domino's	Dominos.com	175.6	256.8	1.3	5.1	11.6
2	Pizza Hut	PizzaHut.com	195.3	242.4	1.2	7.6	14.0
3	McDonald's	HappyMeal.com	189.3	58.2	1.8	6.1	8.5
4	McDonald's	McDonalds.com	98.1	160.4	1.3	2.1	5.7
5	McDonald's	McWorld.com	100.9	27.0	1.8	3.2	4.7
6	Burger King	BurgerKing.com	41.8	55.8	1.3	2.0	4.0
7	KFC	KFC.com	34.9	50.5	1.3	2.2	5.6
8	Starbucks	Starbucks.com	33.9	54.5	1.2	3.6	6.5
9	Wendy's	Wendys.com	34.4	52.0	1.2	2.2	4.8
10	Subway	Subway.com	27.2	53.7	1.2	3.1	5.2
11	Sonic	SonicDriveIn.com	43.4	37.4	1.1	2.6	6.4
12	Taco Bell	TacoBell.com	16.0	51.1	1.3	2.2	5.2
13	Subway	SubwayFreshBuzz.com	17.7	34.2	1.6	5.4	16.9
14	McDonald's	McState.com	9.5	53.4	1.3	2.4	8.0
15	Burger King	ClubBK.com	35.2	14.7	1.6	7.5	13.1
16	Dunkin' Donuts	DunkinDonuts.com	25.6	32.1	1.2	3.4	7.3
17	Dairy Queen	DairyQueen.com	27.9	20.4	1.1	3.4	6.1
18	Sonic	LimeadesForLearning.com	1.4	22.2	1.1	5.4	4.8
19	Wendy's	WendysRealTime.com	3.2	19.0	1.1	1.8	2.1
20	Starbucks	StarbucksStore.com	12.4	7.0	1.2	3.0	5.7
21	McDonald's	McdonaldsMcCafeYourDay.com	8.9	1.9	1.7	1.8	2.2
22	McDonald's	AboutMcDonalds.com	2.1	13.5	1.1	1.3	2.8
23	Dairy Queen	DQSlowJam.com	8.3	5.9	1.1	0.1	1.4
24	Wendy's	WendysKids.com	9.9	1.8	1.2	3.1	2.8
25	Dairy Queen	DeeQs.com	3.4	6.0	1.2	3.2	3.4
26	KFC	KFCScholars.org	3.7	4.5	1.3	0.7	2.1
27	Burger King	SimpsonizeMe.com	1.5	6.2	1.3	1.6	2.1
28	Dairy Queen	BlizzardFanClub.com	4.4	4.3	1.1	2.0	2.6
29	McDonald's	RMHC.org	4.7	4.1	1.1	2.1	3.9
30	Wendy's	WendysHighSchoolHeisman.com	0.9	3.5	1.9	1.0	2.9
31	Subway	MySubwayCard.com	1.8	3.6	1.3	3.6	4.2
32	McDonald's	365Black.com	0.3	5.0	1.1	1.1	2.4
33	McDonald's	MeEncanta.com	1.3	3.5	1.2	1.5	2.6

continued

Least

Rank	Restaurant	Website	Average unique visitors per month: 2-11 years (000)	12-17 years (000)	Average visits per month	Average time spent (min)	Average pages per month
34	Starbucks	MyStarbucksVisit.com	2.5	1.0	1.2	7.0	23.4
35	Subway	SubwayKids.com	1.4	2.3	1.2	0.9	2.1
36	Taco Bell	TacoBellFoundationForTeens.org	2.5	1.0	1.2	1.6	1.4
37	Taco Bell	FeedTheBeat.com	0.7	2.6	1.1	1.3	2.1
38	Dunkin' Donuts	DunkinAtHome.com	1.1	1.5	1.1	1.0	1.9
39	Pizza Hut	BookItProgram.com	0.5	1.4	1.3	3.2	5.5
40	Sonic	SonicDriveInStore.com	n/a	1.2	1.1	1.9	2.5

*Data retrieved from comScore Media Metrix Key Measures Report (January-December 2009)
Includes all websites with available data from comScore

Banner advertising exposure by product

Ranking by total average ads viewed on youth websites per month*

Most

Rank	Restaurant	Product(s) advertised in ad	Contains child-targeted content (Yes/No)	Ads viewed on youth websites	Average unique viewers per month (000)	Average number of ads viewed per month	Total average ads viewed on youth websites per month (000)
1	Wendy's	Hamburgers/sandwiches	N	20%	30,309.1	4.4	27,285.3
2	Burger King	ClubBK.com	Y	**83%**	3,019.3	4.3	13,463.7
3	McDonald's	Happy Meal	Y	**57%**	5,741.3	3.6	11,696.8
4	KFC	Unthink (grilled chicken)	N	67%	6,291.6	2.2	11,360.0
5	Dairy Queen	DeeQs.com	Y	**97%**	3,541.3	2.9	11,199.5
6	McDonald's	McCafe beverages	N	27%	10,333.4	3.7	10,759.2
7	McDonald's	LineRider.com	Y	**62%**	1,650.9	4.9	5,166.1
8	McDonald's	Dollar Menu	N	16%	9,286.0	3.2	4,975.2
9	Pizza Hut	WingStreet wings	N	12%	12,621.2	2	2,917.5
10	Subway	Subway Fresh Buzz	N	4%	10,711.9	5.4	2,263.7
11	Burger King	Menu ($1 Whopper Jr.)	N	11%	5,271.0	2.1	1,277.5
12	Wendy's	Frosty	N	19%	1,560.1	2.2	1,231.8
13	McDonald's	Snack Wrap	N	12%	2,401.5	4.7	735.8
14	Taco Bell	Volcano Menu	N	36%	454.4	5.4	692.6
15	McDonald's	MeEncanta.com	N	3%	2,022.0	5.8	384.4
16	McDonald's	Chicken McNuggets	N	5%	1,053.3	14.7	196.8
17	Taco Bell	Fruitista Freeze	N	39%	108.3	4.3	111.6
18	Taco Bell	Value Menu	N	21%	84.3	6.9	97.3
19	Dunkin' Donuts	Contest	N	8%	614.7	1.4	74.2
20	McDonald's	365Black.com	N	12%	191.6	2.1	65.3
21	Taco Bell	Fourth Meal	N	11%	229.6	2.5	59.0
22	Subway	SubwayKids.com	N	12%	131.4	1.7	32.2
23	Dunkin' Donuts	Dunkin' Donuts Card	N	1%	314.1	4.5	12.7
24	McDonald's	MyInspirAsian.com	N	1%	204.5	4	6.5
25	KFC	Pride 360	N	0%	554.2	4.6	0.0
26	McDonald's	Chicken biscuit	N	0%	178.9	4.5	0.0
27	Subway	Subway Card	N	0%	1,642.9	3.8	0.0

Least

continued

RESTAURANT RANKINGS

Most

Least

Rank	Restaurant	Product(s) advertised in ad	Contains child-targeted content (Yes/No)	Ads viewed on youth websites	Average unique viewers per month (000)	Average number of ads viewed per month	Total average ads viewed on youth websites per month (000)
1	Domino's	All ads	N	33%	70,937.1	7.0	181,115.6
2	Pizza Hut	All ads	N	26%	69,617.5	7.6	141,634.3
3	McDonald's	All ads	Y	25%	49,027.2	5.5	67,802.6
4	Wendy's	All ads	N	20%	30,744.2	4.4	27,657.2
5	Burger King	All ads	Y	28%	14,570.5	3.4	13,832.1
6	Dairy Queen	All ads	Y	50%	3,541.3+	n/a	12,423.6
7	Sonic	All ads	N	26%	10,204.4	3.2	8,067.0
8	KFC	All ads	N	16%	7,939.4	4.9	7,589.0
9	Dunkin' Donuts	All ads	N	3%	28,916.7	4.2	3,381.9
10	Subway	All ads	N	2%	15,490.6	10.1	3,101.6
11	Starbucks	All ads	N	4%	14,689.0	2.9	2,212.7
12	Taco Bell	All ads	N	10%	2,138.7	4.9	1,168.6

*Data retreived from comScore Ad Metrix Advertiser Report (June 2009-March 2010)

Social media exposure

Ranking by sum of Facebook fans, Twitter followers and YouTube upload views

Most ↓ Least

Rank	Restaurant	Facebook fans (000)	Twitter followers (000)	YouTube upload views (000)
1	Starbucks	11,353.4	989.2	5,293.6
2	Dunkin' Donuts	1,820.2	55.1	1,144.6
3	Taco Bell	1,770.8	35.2	2,073.8
4	McDonald's	2,636.8	39.5	115.6
5	KFC	1,653.2	15.1	980.4
6	Domino's	538.5	14.4	3,805.9
7	Dairy Queen	1,619.7	7.8	243.8
8	Subway	3,088.1	22.8	0.0
9	Pizza Hut	1,414.8	31.3	16.8
10	Wendy's	978.4	10.2	110.6
11	Burger King	n/a	n/a	195.6
12	Sonic	297.0	7.2	62.5

Data as of July 30, 2010

Restaurant signs and nutritional quality

Ranking by number of featured menu items on signs per store

Most

Least

Rank	Restaurant	Signs per store	% of featured menu items with healthy NPI score	Weighted average per menu item			
				Total calories	Sugar calories	Sat fat calories	Sodium (mg)
1	Wendy's	21.4	29%	455	105	71	909
2	Dairy Queen	21.3	4%	566	204	103	512
3	McDonald's	19.5	36%	349	124	58	413
4	Burger King	18.8	16%	435	53	75	821
5	Dunkin' Donuts	16.4	30%	249	131	22	262
6	Taco Bell	15.7	35%	331	147	23	556
7	Sonic	15.2	13%	397	112	62	625
8	Pizza Hut	13.2	17%	512	38	80	1,297
9	KFC	11.5	39%	411	60	53	956
10	Subway	8.7	65%	355	47	37	963
11	Starbucks	6.9	32%	247	115	26	238
12	Domino's	6.2	10%	574	51	103	1,237

Table A1. Adjustments to restaurant menus for menu standardization

McDonald's	For the ten-piece chicken nuggets and the six-piece chicken strips, we included two packets of sauce, as one packet is typically consumed with the smaller serving sizes.
	We included one-half of a dressing packet for side salads and one packet for main dish salads.
Subway	Subway provided nutrition data for most of its sandwiches with 9-grain wheat bread, lettuce, tomatoes, onions, green peppers and cucumbers, but no condiments. We included two versions of each sandwich: The healthiest version of the sandwich as presented in Subway's nutrition facts; and the least healthy version, which included parmesan oregano bread, American cheese, and mayonnaise. If the sandwich listed in the nutrition facts included cheese, we did not add the extra cheese.
	Egg sandwiches were offered with regular eggs or egg whites. We included these two versions of all egg sandwiches.
	Subway did not provide nutrition information for its fountain beverages. Subway's website indicated that it offered Coca Cola fountain beverages. We obtained nutrition information from cocacola.com and minutemaid.com for Subway's fountain beverages.
Burger King	For the six-piece and eight-piece chicken tenders, the twelve-piece chicken fries, and the medium and large size onion rings, we included two packets of sauce, as one packet is typically consumed with the smaller serving sizes.
	We included one-half of a dressing packet for side salads and one packet for main dish salads.
KFC	KFC listed all of its pieces of chicken individually. As it is unlikely that individuals dining at KFC consumed just one piece of chicken, we combined pieces to create two-piece entrees. The specifications for "plated meals" on KFC's website were used as a guide.
	We included one-half of a dressing packet for side salads and one packet for main dish salads.
Taco Bell	We used the MPEDS database to assess the fruit, vegetable, and nut content of Taco Bell's menu items. The database provided the amount, in cups, of tomatoes, legumes (beans), and other vegetables (for the majority of Taco Bell items, this was assumed to be shredded lettuce) in each item. We converted cups into grams using the USDA National Nutrient Database and summed these numbers to determine an overall fruit, vegetable, and nut weight. Dividing this number by the total gram weight of the item, we were able to determine the percentage of each item that was fruit, vegetables, or nuts.
Sonic	The Chicken Strip Dinner included four chicken strips, fries, an onion ring, toast, and gravy. This dinner differed from other combo meals, as these items were always sold and advertised together. Thus, nutrition information is presented for the entire dinner.
	We calculated the nutrition profile for the 4 oz. jumbo popcorn chicken with one dipping sauce and the 6 oz. size with two packets of sauce.
Dairy Queen	Dairy Queen's Chicken Strip Basket, Iron Grilled Quesadilla Basket and Popcorn Shrimp Basket were always advertised and sold together. Thus, nutrition information is presented for the entire basket meal.
	Dairy Queen did not provide nutrition information for dipping sauces available with kids' chicken strips; therefore, we included one packet of ketchup in the nutrition information.
	Dairy Queen did not include its kids' size (12 oz) beverages on its January menu pdf. Therefore, we added a kids' 12 oz. beverage to its kids' meals. Nutrition information was calculated by computing 75% of the 16 ounce version.
	One-half of a dressing packet was included in the nutrition profile for side salads, and one packet for main dish salads.
Domino's	Domino's nutrition calculator on its website provided nutrition information for one slice of pizza. As a typical individual consumes more than 1 slice of pizza per meal, we calculated nutrition information for pizzas based on the following assumptions: A small pizza serves two people, a medium serves three, a large serves three and a half, and an extra large serves four. Similarly, Domino's provided nutrition information for two-liter sodas based on an 8 oz. serving size. We assumed that a typical person consumes 12 oz. as a typical serving and used this in our nutrition analysis.
	Domino's nutrition calculator was able to calculate nutrition information for thousands of pizza topping combinations. We calculated nutrition information for all promoted specialty pizza combinations, as well as for regular cheese and pepperoni with regular cheese pizzas. For each topping combination and size, we provided nutrition information for the healthiest and least healthy crusts. If two crusts had the same NPI score, we used calories to determine the healthiest and least healthy varieties.
	We assumed that any items intended for family consumption (e.g., a bucket of wings) provided four servings, and calculated the nutrition profiles based on this assumption. When dipping sauce was appropriate to include with the item, one-fourth of a serving of sauce was included. The only exception to this rule was for salads. Domino's listed salad nutrition information for a half bowl. We calculated salad nutrition information for an entire bowl plus one dressing.
	Nutrition information for non-pizza options was from the January 2010 menu. All pizza nutrition data was obtained from Domino's website in April 2010, except the America's Favorite Feast pizzas, which were obtained in May 2010 and "healthy menu" Lighter Options pizzas, which were obtained in June 2010.
	We retrieved nutrition information for Coca Cola products and Minute Maid Orangeade at cocacola.com and minutemaid.com respectively. Domino's online nutrition calculator was not working properly during the collection of beverage nutrition information. A Domino's customer service representative referred us to these beverage websites for accurate beverage nutrition information.

Adjustments to restaurant menus for menu standardization

Pizza Hut	Pizza Hut provided nutrition information for one slice of pizza. As a typical individual consumes more than one slice of pizza per meal, we calculated nutrition information for pizzas based on the following assumptions: a medium pizza provided three servings and a large pizza provided four servings.
	We assumed that any items intended for family consumption (e.g., a bucket of wings) provided four servings, and calculated the nutrition profiles based on this assumption.
	Tuscani pastas were an exception to this rule. Pizza Hut indicated that a single pan serves two; therefore, we assumed that one serving size was one-half a pan of pasta.
	We also assumed that one-half of a P'Zone was a single serving and one Pizza Roller was a single serving, based on gram weight serving sizes indicated by Pizza Hut.
	We added dipping sauces shown with one item proportionally. For example, for one-half of a P'Zone, we added one-half of a dipping sauce; and for one pizza roller which usually comes in a pack of four, we added one-fourth of a side of dipping sauce.
Wendy's	We included one-half of a dressing packet in the nutrition profile for side salads and one packet for main dish salads.
	We included two sauce packets with the ten-piece chicken nuggets and one packet with the five-piece chicken nuggets.
	No sauce was included with boneless wings.
Dunkin' Donuts	Dunkin' Donuts provided nutrition information per item (e.g., one donut); they did not provide serving sizes in grams. To calculate NPI scores, we purchased individual menu items from the local Dunkin' Donuts and weighed them to obtain average serving sizes by weight.
	All bagels are listed as two menu items: a plain bagel and a bagel with regular cream cheese.
Starbucks	Starbucks did not provide a pdf with nutrition information on its website. Researchers visited a local Starbucks to obtain brochures with nutrition information for beverages and foods available at Starbucks nationally.

Table A2. Kids' meal menu items and their nutrient information

Healthy NPI score	Artifical sweeteners[a]	Restaurant	Meal name	Part of kids' meal	Individual item	Serving size (g)	Serving size (oz)	Total calories (Kcal)	Energy density (kcal/g)	Energy density beverages (% sugar by weight)	Total fat (g)	Saturated fat (g)	Trans fat (g)	Sugar (g)	Sodium (mg)	Fiber (g)	Protein (g)	NPI Score
		McDonald's	Happy Meal	Main Dish	Hamburger	100	-	250	2.5	-	9	3.5	0.5	6	520	2	12	50
		McDonald's	Happy Meal	Main Dish	Cheeseburger	114	-	300	2.6	-	12	6	0.5	6	750	2	15	40
		McDonald's	Happy Meal	Main Dish	Chicken McNuggets (4 piece) with hot mustard sauce	92	-	250	2.7	-	14.5	2	0	6	650	2	11	70
		McDonald's	Happy Meal	Main Dish	Chicken McNuggets (4 piece) with barbeque sauce	92	-	240	2.6	-	12	2	0	10	660	0	10	70
•		McDonald's	Happy Meal	Side Dish	Apple dippers (without low fat caramel dip)	68	-	35	0.5	-	0	0	0	6	-	0	0	78
•		McDonald's	Happy Meal	Side Dish	Apple dippers with low fat caramel dip	89	-	105	1.2	-	0.5	0	0	15	35	0	0	66
•		McDonald's	Happy Meal	Side Dish	French fries- small	71	-	230	3.2	-	11	1.5	0	0	160	3	3	66
•		McDonald's	Happy Meal	Beverage	1% low fat milk jug	236	8	100	0.4	5%	2.5	1.5	0	12	125	0	8	72
•		McDonald's	Happy Meal	Beverage	1% low fat chocolate milk jug	236	8	170	0.7	11%	3	1.5	0	25	150	1	9	70
•		McDonald's	Happy Meal	Beverage	Minute Maid apple juice box	200	6.8	100	0.5	11%	0	0	0	22	15	0	0	76
		McDonald's	Happy Meal	Beverage	Coca-Cola Classic	355	12	110	0.3	8%	0	0	0	29	5	0	0	68
	•	McDonald's	Happy Meal	Beverage	Diet Coke	355	12	0	0.0	0%	0	0	0	0	15	0	0	70
		McDonald's	Happy Meal	Beverage	Sprite	355	12	110	0.3	8%	0	0	0	28	30	0	0	68
		McDonald's	Happy Meal	Beverage	Hi-C Orange Lavaburst	355	12	120	0.3	9%	0	0	0	32	-	0	0	66
		McDonald's	Happy Meal	Beverage	Powerade Moutain Blast	355	12	70	0.2	5%	0	0	0	16	65	0	0	68
•		McDonald's	Happy Meal	Beverage	Iced tea	355	12	0	0.0	0%	0	0	0	0	5	0	0	70
		McDonald's	Happy Meal	Beverage	Sweet tea	355	12	90	0.3	6%	0	0	0	23	5	0	0	68
		McDonald's	Happy Meal	Dessert	Kiddie cone[b]	29	-	45	1.6	-	1	0.5	0	6	20	0	1	62
		McDonald's	Mighty Kids Meal	Main Dish	Double cheeseburger	165	-	440	2.7	-	23	11	1.5	7	1,150	2	25	40
		McDonald's	Mighty Kids Meal	Main Dish	Chicken McNuggets (6 piece) with hot mustard sauce	123	-	340	2.8	-	19.5	3	0	6	850	2	15	70
		McDonald's	Mighty Kids Meal	Main Dish	Chicken McNuggets (6 piece) with barbeque sauce	123	-	330	2.7	-	17	3	0	10	860	0	14	70
•		McDonald's	Mighty Kids Meal	Side Dish	Apple dippers with low fat caramel dip	89	-	105	1.2	-	0.5	0	0	15	35	0	0	66
•		McDonald's	Mighty Kids Meal	Side Dish	French fries- small	71	-	230	3.2	-	11	1.5	0	0	160	3	3	66
•		McDonald's	Mighty Kids Meal	Beverage	1% low fat milk jug	236	8	100	0.4	5%	2.5	1.5	0	12	125	0	8	72
•		McDonald's	Mighty Kids Meal	Beverage	1% low fat chocolate milk jug	236	8	170	0.7	11%	3	1.5	0	25	150	1	9	70
•		McDonald's	Mighty Kids Meal	Beverage	Minute Maid apple juice box	200	6.8	100	0.5	11%	0	0	0	22	15	0	0	76
		McDonald's	Mighty Kids Meal	Beverage	Coca-Cola Classic	473	16	150	0.3	8%	0	0	0	40	10	0	0	68
	•	McDonald's	Mighty Kids Meal	Beverage	Diet Coke	473	16	0	0.0	0%	0	0	0	0	20	0	0	70
		McDonald's	Mighty Kids Meal	Beverage	Sprite	473	16	150	0.3	8%	0	0	0	39	40	0	0	68
		McDonald's	Mighty Kids Meal	Beverage	Hi-C Orange Lavaburst	473	16	160	0.3	9%	0	0	0	44	5	0	0	66

Source: Menu composition analysis (January 2010)

Kids' meal menu items and their nutrient information

Healthy NPI score	Artifical sweeteners[a]	Restaurant	Meal name	Part of kids' meal	Individual item	Serving size (g)	Serving size (oz)	Total calories (Kcal)	Energy density (kcal/g)	Energy density beverages (% sugar by weight)	Total fat (g)	Saturated fat (g)	Trans fat (g)	Sugar (g)	Sodium (mg)	Fiber (g)	Protein (g)	NPI Score
•		McDonald's	Mighty Kids Meal	Beverage	Powerade Moutain Blast	473	16	100	0.2	4%	0	0	0	21	85	0	0	70
•		McDonald's	Mighty Kids Meal	Beverage	Iced tea	473	16	0	0.0	0%	0	0	0	0	10	0	0	70
		McDonald's	Mighty Kids Meal	Beverage	Sweet tea	473	16	120	0.3	6%	0	0	0	30	10	0	0	68
		McDonald's	Mighty Kids Meal	Dessert	Kiddie cone	29	-	45	1.6	-	1	0.5	0	6	20	0	1	62
•		Subway	Fresh Fit for Kids	Main Dish	Kids' Veggie Delite sandwich (wheat bread, no cheese)	101	-	150	1.5	-	1.5	0	0	3	280	3	6	78
•		Subway	Fresh Fit for Kids	Main Dish	Kids' black forest ham sandwich (wheat bread, no cheese)	129	-	180	1.4	-	2.5	0.5	0	4	670	3	10	72
•		Subway	Fresh Fit for Kids	Main Dish	Kids' roast beef sandwich (wheat bread, no cheese)	138	-	200	1.4	-	3	1	0	4	500	4	15	78
•		Subway	Fresh Fit for Kids	Main Dish	Kids' turkey breast sandwich (wheat bread, no cheese)	138	-	190	1.4	-	2.5	0.5	0	4	610	3	12	76
•		Subway	Fresh Fit for Kids	Main Dish	Kids' Veggie Delite sandwich (white bread, american cheese)	107	-	180	1.7	-	5	2	0	4	470	1	8	70
•		Subway	Fresh Fit for Kids	Main Dish	Kids' black forest ham sandwich (white bread, american cheese)	135	-	210	1.6	-	6	2.5	0	5	860	1	12	64
•		Subway	Fresh Fit for Kids	Main Dish	Kids' roast beef sandwich (white bread, american cheese)	144	-	230	1.6	-	6.5	3	0	5	690	2	17	68
•		Subway	Fresh Fit for Kids	Main Dish	Kids' turkey breast sandwich (white bread, american cheese)	144	-	220	1.5	-	6	2.5	0	5	800	1	14	66
•		Subway	Fresh Fit for Kids	Side Dish	Apple slices	71	-	35	0.5	-	0	0	0	7	-	2	0	72
•		Subway	Fresh Fit for Kids	Side Dish	Yogurt Dannon light & fit	170	-	80	0.5	-	0	0	0	11	80	0	5	70
•		Subway	Fresh Fit for Kids	Beverage	100% juice box	177	6	100	0.6	12%	0	0	0	21	15	0	0	76
•		Subway	Fresh Fit for Kids	Beverage	Low fat milk	355	12	160	0.5	5%	3.5	2.5	2.5	17	180	0	12	72
		Burger King	BK Kids Meal	Main Dish	Hamburger[e]	110	-	260	2.4	-	11	4	0	5	520	1	14	50
		Burger King	BK Kids Meal	Main Dish	Double hamburger[f]	147	-	370	2.5	-	19	8	1	5	550	1	23	46
		Burger King	BK Kids Meal	Main Dish	Cheeseburger[e]	121	-	310	2.6	-	15	7	0.5	6	740	1	16	40
		Burger King	BK Kids Meal	Main Dish	Double cheeseburger[f]	171	-	460	2.7	-	27	13	1	6	990	1	27	38
		Burger King	BK Kids Meal	Main Dish	Chicken tenders (4 piece) with sweet and sour sauce[e]	90	-	225	2.5	-	11	2	0	10	365	0	9	48
		Burger King	BK Kids Meal	Main Dish	Chicken tenders (4 piece) with ranch sauce[e]	90	-	320	3.6	-	26	4.5	0	1	540	0	10	42

Source: Menu composition analysis (January 2010)

Kids' meal menu items and their nutrient information

Healthy NPI score	Artifical sweeteners[a]	Restaurant	Meal name	Part of kids' meal	Individual item	Serving size (g)	Serving size (oz)	Total calories (Kcal)	Energy density (kcal/g)	Energy density beverages (% sugar by weight)	Total fat (g)	Saturated fat (g)	Trans fat (g)	Sugar (g)	Sodium (mg)	Fiber (g)	Protein (g)	NPI Score
		Burger King	BK Kids Meal	Main Dish	Chicken tenders (6 piece) with sweet and sour dipping sauce (2 packets)[f]	149	-	360	2.4	-	16	3	0	20	570	0	14	48
		Burger King	BK Kids Meal	Main Dish	Chicken tenders (6 piece) with ranch dipping sauce (2 packets)[f]	149	-	550	3.7	-	31	8	0	2	920	0	16	40
•		Burger King	BK Kids Meal	Main Dish	Kraft macaroni and cheese[e]	113	-	160	1.4	-	5	1.5	0	5	340	1	7	66
•		Burger King	BK Kids Meal	Side Dish	Apple fries (without caramel sauce)	53	-	25	0.5	-	0	0	0	5	-	1	0	80
•		Burger King	BK Kids Meal	Side Dish	Apple fries with caramel sauce	71	-	70	1.0	-	0.5	0	0	10	35	1	0	74
		Burger King	BK Kids Meal	Side Dish	French fries- value	74	-	220	3.0	-	11	2.5	0	0	340	2	2	52
•		Burger King	BK Kids Meal	Beverage	Hershey's fat free milk	235	8	100	0.4	6%	0	0	0	13	150	0	9	72
•		Burger King	BK Kids Meal	Beverage	Hershey's 1% low fat chocolate milk	235	8	180	0.8	12%	2.5	1.5	0	29	140	1	9	70
•		Burger King	BK Kids Meal	Beverage	Minute Maid apple juice	196	6.67	100	0.5	11%	0	0	0	21	15	0	0	76
		Burger King	BK Kids Meal	Beverage	Coca-Cola Classic	355	12	105	0.3	8%	0	0	0	29	-	0	0	68
		Burger King	BK Kids Meal	Beverage	Coca-Cola Classic	471	16	140	0.3	8%	0	0	0	39	-	0	0	68
	•	Burger King	BK Kids Meal	Beverage	Diet Coke	355	12	0	0.0	0%	0	0	0	0	11	0	0	70
	•	Burger King	BK Kids Meal	Beverage	Diet Coke	471	16	0	0.0	0%	0	0	0	0	15	0	0	70
		Burger King	BK Kids Meal	Beverage	Sprite	355	12	105	0.3	8%	0	0	0	29	23	0	0	68
		Burger King	BK Kids Meal	Beverage	Sprite	471	16	140	0.3	8%	0	0	0	39	30	0	0	68
		Burger King	BK Kids Meal	Beverage	Dr. Pepper	355	12	105	0.3	8%	0	0	0	29	26	0	0	68
		Burger King	BK Kids Meal	Beverage	Dr. Pepper	471	16	140	0.3	8%	0	0	0	39	35	0	0	68
		Wendy's	Kids' Meal	Main Dish	Hamburger- kids'	92	-	220	2.4	-	8	3	0	5	500	1	12	48
		Wendy's	Kids' Meal	Main Dish	Cheeseburger- kids'	103	-	260	2.5	-	11	5	0.5	5	700	1	15	42
		Wendy's	Kids' Meal	Main Dish	Crispy chicken sandwich- kids'	135	-	340	2.5	-	15	3	0	4	680	2	15	62
		Wendy's	Kids' Meal	Main Dish	Chicken nuggets (4 piece) with sweet & sour nugget sauce	88	-	240	2.7	-	13	3	0	11	500	0	9	42
		Wendy's	Kids' Meal	Main Dish	Chicken nuggets (4 piece) with heartland ranch dipping sauce	88	-	350	4.0	-	30	5.5	0	1	600	0	9	38
•		Wendy's	Kids' Meal	Side Dish	French fries- kids'	71	-	210	3.0	-	10	2	0	0	190	3	3	68
•		Wendy's	Kids' Meal	Side Dish	Mandarin orange cup	142	-	80	0.6	-	0	0	0	17	15	1	1	76
•		Wendy's	Kids' Meal	Beverage	Nesquik low fat white milk	244	8	100	0.4	5%	2.5	1.5	0	12	120	0	8	72
•		Wendy's	Kids' Meal	Beverage	Nesquik low fat chocolate milk	251	8	170	0.7	11%	2.5	1.5	0	28	160	1	8	68
	•	Wendy's	Kids' Meal	Beverage	Diet Coke	235	8	0	0.0	0%	0	0	0	0	10	0	0	70
		Wendy's	Kids' Meal	Beverage	Sprite	245	8	80	0.3	8%	0	0	0	20	20	0	0	68

Source: Menu composition analysis (January 2010)

Kids' meal menu items and their nutrient information

Healthy NPI score	Artifical sweeteners[a]	Restaurant	Meal name	Part of kids' meal	Individual item	Serving size (g)	Serving size (oz)	Total calories (Kcal)	Energy density (kcal/g)	Energy density beverages (% sugar by weight)	Total fat (g)	Saturated fat (g)	Trans fat (g)	Sugar (g)	Sodium (mg)	Fiber (g)	Protein (g)	NPI Score
		Wendy's	Kids' Meal	Beverage	Coca-Cola Classic	245	8	80	0.3	9%	0	0	0	22	-	0	0	68
	•	Wendy's	Kids' Meal	Beverage	Minute Maid light lemonade	236	8	0	0.0	0%	0	0	0	0	-	0	0	70
		Wendy's	Kids' Meal	Beverage	Hi-C Flashin' Fruit Punch	246	8	90	0.4	9%	0	0	0	22	10	0	0	68
		Wendy's	Kids' Meal	Beverage	Barq's root beer	247	8	90	0.4	10%	0	0	0	25	20	0		66
		Wendy's	Kids' Meal	Beverage	Fanta orange	247	8	90	0.4	10%	0	0	0	25	10	0	0	66
		Wendy's	Kids' Meal	Beverage	Pibb Xtra	245	8	80	0.3	9%	0	0	0	22	10	0	0	68
	•	Wendy's	Kids' Meal	Beverage	Coke Zero	235	8	0	0.0	0%	0	0	0	0	-	0	0	70
		Wendy's	Kids' Meal	Beverage	Dr. Pepper	234	8	90	0.4	11%	0	0	0	26	25	0	0	66
		Wendy's	Kids' Meal	Beverage	Sweet tea	324	8	60	0.2	5%	0	0	0	15	5	0	0	68
		Wendy's	Kids' Meal	Beverage	Chocolate Frosty Jr.	113	6	150	1.3	19%	4	2.5	0	22	70	0	4	60
		Wendy's	Kids' Meal	Beverage	Vanilla Frosty Jr.	113	6	160	1.4	19%	4	2.5	0	22	70	0	4	60
		Taco Bell	Kid's Meal	Main Dish	Cheese roll-up	64	-	200	3.1	-	10	5	0	1	530	2	9	38
•		Taco Bell	Kid's Meal	Main Dish	Crunchy taco	78	-	170	2.2	-	10	3.5	0	1	330	3	8	68
		Taco Bell	Kid's Meal	Main Dish	Chicken soft taco	99	-	200	2.0	-	8	3	0	1	640	1	12	48
		Taco Bell	Kid's Meal	Main Dish	Soft taco - beef	99	-	210	2.1	-	9	4	0	2	620	3	10	52
•		Taco Bell	Kid's Meal	Main Dish	Bean burrito	198	-	370	1.9	-	10	3.5	0	3	1,270	11	14	68
		Taco Bell	Kid's Meal	Dessert	Cinnamon twists	35	-	170	4.9	-	7	0	0	10	200	1	1	40
		Taco Bell	Kid's Meal	Beverages	Mountain Dew	473	16	220	0.5	12%	0	0	0	58	70	0	0	66
		Taco Bell	Kid's Meal	Beverages	Mug root beer	473	16	200	0.4	12%	0	0	0	58	80	0	0	66
		Taco Bell	Kid's Meal	Beverages	Pepsi	473	16	200	0.4	11%	0	0	0	54	50	0	0	66
	•	Taco Bell	Kid's Meal	Beverages	Diet Pepsi	473	16	0	0.0	0%	0	0	0	0	50	0	0	70
		Taco Bell	Kid's Meal	Beverages	Sierra Mist	473	16	200	0.4	11%	0	0	0	54	40	0	0	66
		Taco Bell	Kid's Meal	Beverages	Tropicana fruit punch	473	16	220	0.5	13%	0	0	0	60	50	0	0	66
		Taco Bell	Kid's Meal	Beverages	Tropicana pink lemonade	473	16	200	0.4	11%	0	0	0	54	210	0	0	66
		Taco Bell	Kid's Meal	Beverages	Lipton raspberry iced tea	473	16	160	0.3	9%	0	0	0	42	50	0	0	68
		Taco Bell	Kid's Meal	Beverages	Dr. Pepper	473	16	200	0.4	11%	0	0	0	54	70	0	0	66
		Taco Bell	Kid's Meal	Beverages	Mountain Dew Baja Blast	473	16	220	0.5	12%	0	0	0	58	60	0	0	66
		KFC	Kids Laptop Meal	Main Dish	Original recipe chicken drumstick	53	-	120	2.3	-	7	1.5	0	0	340	0	12	48
		KFC	Kids Laptop Meal	Main Dish	Extra crispy chicken drumstick	59	-	150	2.5	-	10	2	0	0	360	0	12	46
		KFC	Kids Laptop Meal	Main Dish	Grilled chicken drumstick	42	-	80	1.9	-	3.5	1	0	0	250	0	10	60
		KFC	Kids Laptop Meal	Main Dish	Popcorn chicken- kids'	85	-	290	3.4	-	19	3.5	0	0	850	2	16	38
•		KFC	Kids Laptop Meal	Side Dish	Green beans	98	-	25	0.3	-	0	0	0	1	380	2	1	76
		KFC	Kids Laptop Meal	Side Dish	Mashed potatoes with gravy	153	-	130	0.8	-	4.5	1	0	0	550	1	2	62
		KFC	Kids Laptop Meal	Side Dish	Macaroni and cheese	137	-	180	1.3	-	9	3	0	4	990	2	6	50
		KFC	Kids Laptop Meal	Side Dish	Potato wedges	102	-	260	2.5	-	13	2.5	0	0	740	3	4	50

Source: Menu composition analysis (January 2010)

Kids' meal menu items and their nutrient information

Healthy NPI score	Artifical sweeteners[a]	Restaurant	Meal name	Part of kids' meal	Individual item	Serving size (g)	Serving size (oz)	Total calories (Kcal)	Energy density (kcal/g)	Energy density beverages (% sugar by weight)	Total fat (g)	Saturated fat (g)	Trans fat (g)	Sugar (g)	Sodium (mg)	Fiber (g)	Protein (g)	NPI Score
•		KFC	Kids Laptop Meal	Side Dish	3" corn on the cob	71	-	70	1.0	-	0.5	0	0	3	-	2	2	86
•		KFC	Kids Laptop Meal	Side Dish	5.5" corn on the cob	146	-	140	1.0	-	1	0	0	5	5	4	5	86
•		KFC	Kids Laptop Meal	Side Dish	BBQ baked beans	130	-	200	1.5	-	1.5	0	0	18	680	9	8	78
		KFC	Kids Laptop Meal	Side Dish	Potato salad	128	-	200	1.6	-	10	2	0	5	540	3	2	62
•		KFC	Kids Laptop Meal	Side Dish	Cole slaw	130	-	180	1.4	-	11	1.5	0	14	160	2	1	72
		KFC	Kids Laptop Meal	Side Dish	Biscuit	54	-	180	3.3	-	8	6	0	2	530	1	4	24
		KFC	Kids Laptop Meal	Snack	Sargento light string cheese[c]	21	-	50	2.4	-	2.5	1.5	0	0	160	0	6	36
		KFC	Kids Laptop Meal	Beverage	Capri Sun Roarin' Waters Tropical Fruit	177	6	30	0.2	5%	0	0	0	8	15	0	0	68
		KFC	Kids Laptop Meal	Beverage	Pepsi	473	16	200	0.4	11%	0	0	0	54	50	0	0	66
	•	KFC	Kids Laptop Meal	Beverage	Diet Pepsi	473	16	0	0.0	0%	0	0	0	0	50	0	0	70
		KFC	Kids Laptop Meal	Beverage	Wild Cherry Pepsi	473	16	200	0.4	12%	0	0	0	56	40	0	0	66
		KFC	Kids Laptop Meal	Beverage	Sierra Mist	473	16	200	0.4	11%	0	0	0	54	50	0	0	66
	•	KFC	Kids Laptop Meal	Beverage	Diet Sierra Mist	473	16	0	0.0	0%	0	0	0	0	100	0	0	70
		KFC	Kids Laptop Meal	Beverage	Mirinda strawberry	473	16	220	0.5	12%	0	0	0	58	50	0	0	66
	•	KFC	Kids Laptop Meal	Beverage	Manzanita Sol	473	16	220	0.5	12%	0	0	0	56	60	0	0	66
•		KFC	Kids Laptop Meal	Beverage	Lipton Brisk tea	473	16	0	0.0	0%	0	0	0	0	130	0	0	70
		KFC	Kids Laptop Meal	Beverage	Lipton Brisk lemon tea	473	16	160	0.3	9%	0	0	0	44	140	0	0	66
	•	KFC	Kids Laptop Meal	Beverage	Lipton Brisk green with peach tea	473	16	0	0.0	0%	0	0	0	0	50	0	0	70
		KFC	Kids Laptop Meal	Beverage	Lipton Brisk peach tea	473	16	160	0.3	9%	0	0	0	42	50	0	0	68
		KFC	Kids Laptop Meal	Beverage	Lipton Brisk raspberry tea	473	16	160	0.3	9%	0	0	0	42	50	0	0	68
		KFC	Kids Laptop Meal	Beverage	Mountain Dew	473	16	220	0.5	12%	0	0	0	58	70	0	0	66
	•	KFC	Kids Laptop Meal	Beverage	Diet Mountain Dew	473	16	0	0.0	0%	0	0	0	0	80	0	0	70
		KFC	Kids Laptop Meal	Beverage	Code Red Mountain Dew	473	16	220	0.5	13%	0	0	0	62	70	0	0	66
		KFC	Kids Laptop Meal	Beverage	Tropicana lemonade	473	16	200	0.4	11%	0	0	0	54	210	0	0	66
	•	KFC	Kids Laptop Meal	Beverage	Tropicana sugar free lemonade	473	16	0	0.0	0%	0	0	0	0	130	0	0	70
		KFC	Kids Laptop Meal	Beverage	Tropicana pink lemonade	473	16	200	0.4	11%	0	0	0	54	210	0	0	66
		KFC	Kids Laptop Meal	Beverage	Tropicana fruit punch	473	16	220	0.5	13%	0	0	0	60	50	0	0	66
		KFC	Kids Laptop Meal	Beverage	Tropicana Twister orange	473	16	220	0.5	13%	0	0	0	60	50	0	0	66
		KFC	Kids Laptop Meal	Beverage	Mug root beer	473	16	200	0.4	11%	0	0	0	52	30	0	0	66
		KFC	Kids Laptop Meal	Beverage	Dr. Pepper	473	16	200	0.4	11%	0	0	0	54	70	0	0	66
	•	KFC	Kids Laptop Meal	Beverage	Diet Dr. Pepper	473	16	0	0.0	0%	0	0	0	0	70	0	0	70
		KFC	Kids Laptop Meal	Beverage	7up	473	16	200	0.4	11%	0	0	0	50	52	0	0	66

Source: Menu composition analysis (January 2010)

Kids' meal menu items and their nutrient information

Healthy NPI score	Artifical sweeteners[a]	Restaurant	Meal name	Part of kids' meal	Individual item	Serving size (g)	Serving size (oz)	Total calories (Kcal)	Energy density (kcal/g)	Energy density beverages (% sugar by weight)	Total fat (g)	Saturated fat (g)	Trans fat (g)	Sugar (g)	Sodium (mg)	Fiber (g)	Protein (g)	NPI Score
		Sonic	Wacky Pack Kids' Meal	Main Dish	Corn dog	74	-	210	2.8	-	11	3.5	0	4	530	2	6	44
		Sonic	Wacky Pack Kids' Meal	Main Dish	Jr. burger	117	-	310	2.6	-	15	5	0.5	7	610	3	15	48
		Sonic	Wacky Pack Kids' Meal	Main Dish	Chicken strips (2 piece) with honey mustard sauce	98	-	290	3.0	-	18	3	0	5	660	1	14	44
		Sonic	Wacky Pack Kids' Meal	Main Dish	Chicken strips (2 piece) with ranch sauce	98	-	328	3.3	-	24.8	4.2	0	0	712	1	14	40
		Sonic	Wacky Pack Kids' Meal	Main Dish	Grilled cheese sandwich	110	-	380	3.5	-	20	8	0.5	6	1,010	2	12	28
•		Sonic	Wacky Pack Kids' Meal	Side Dish	Fresh banana	120	-	110	0.9	-	0	0	0	15	-	3	1	78
•		Sonic	Wacky Pack Kids' Meal	Side Dish	Apple slices with fat-free caramel dipping sauce	96	-	120	1.3	-	0	0	0	23	60	2	0	66
		Sonic	Wacky Pack Kids' Meal	Side Dish	French fries- small	71	-	200	2.8	-	8	1.5	0	0	270	2	2	60
		Sonic	Wacky Pack Kids' Meal	Side Dish	Tots- small	44	-	130	3.0	-	8	1.5	0	0	270	1	1	50
•		Sonic	Wacky Pack Kids' Meal	Side Dish	Apple slices	68	-	35	0.5	-	0	0	0	7	-	2	0	82
•		Sonic	Wacky Pack Kids' Meal	Beverage	1% milk	244	-	110	0.5	-	2.5	1.5	0	12	130	0	8	72
•		Sonic	Wacky Pack Kids' Meal	Beverage	1% chocolate milk	244	-	160	0.7	-	2.5	1.5	0	25	210	0	8	70
		Sonic	Wacky Pack Kids' Meal	Beverage	Hi-C fruit punch	278	12	120	0.4	11%	0	0	0	31	10	0	0	66
	•	Sonic	Wacky Pack Kids' Meal	Beverage	Minute Maid light lemonade	267	12	5	0.0	0%	0	0	0	1	5	0	0	70
		Sonic	Wacky Pack Kids' Meal	Beverage	Powerade Mountain Blast	273	12	70	0.3	7%	0	0	0	19	60	0	0	68
•		Sonic	Wacky Pack Kids' Meal	Beverage	Minute Maid apple juice	275	12	120	0.4	11%	0	0	0	29	15	0	0	76
		Sonic	Wacky Pack Kids' Meal	Beverage	Minute Maid cranberry	279	12	130	0.5	13%	0	0	0	35	15	0	0	68
•		Sonic	Wacky Pack Kids' Meal	Beverage	Minute Maid orange juice	282	12	130	0.5	10%	0	0	0	27	20	0	2	76
		Sonic	Wacky Pack Kids' Meal	Beverage	Limeade	284	12	110	0.4	10%	0	0	0	29	25	0	0	66

Source: Menu composition analysis (January 2010)

Kids' meal menu items and their nutrient information

Healthy NPI score	Artifical sweeteners[a]	Restaurant	Meal name	Part of kids' meal	Individual item	Serving size (g)	Serving size (oz)	Total calories (Kcal)	Energy density (kcal/g)	Energy density beverages (% sugar by weight)	Total fat (g)	Saturated fat (g)	Trans fat (g)	Sugar (g)	Sodium (mg)	Fiber (g)	Protein (g)	NPI Score
	•	Sonic	Wacky Pack Kids' Meal	Beverage	Lo-cal diet lime limeade	273	12	5	0.0	0%	0	0	0	0	5	0	0	70
		Sonic	Wacky Pack Kids' Meal	Beverage	Cherry limeade	290	12	140	0.5	12%	0	0	0	36	30	0	0	66
	•	Sonic	Wacky Pack Kids' Meal	Beverage	Lo-cal diet cherry limeade	277	12	10	0.0	0%	0	0	0	1	10	0	0	70
		Sonic	Wacky Pack Kids' Meal	Beverage	Strawberry limeade	286	12	140	0.5	12%	0	0	0	33	30	0	0	66
		Sonic	Wacky Pack Kids' Meal	Beverage	Minute Maid cranberry limeade	284	12	120	0.4	11%	0	0	0	32	25	0	0	66
		Sonic	Wacky Pack Kids' Meal	Beverage	Lemon real fruit slush	344	12	170	0.5	13%	0	0	0	44	25	0	0	66
		Sonic	Wacky Pack Kids' Meal	Beverage	Lemon-berry real fruit slush	345	12	180	0.5	13%	0	0	0	45	30	0	0	66
		Sonic	Wacky Pack Kids' Meal	Beverage	Lime real fruit slush	342	12	170	0.5	13%	0	0	0	44	25	0	0	66
		Sonic	Wacky Pack Kids' Meal	Beverage	Strawberry real fruit slush	336	12	180	0.5	13%	0	0	0	45	30	0	0	66
		Sonic	Wacky Pack Kids' Meal	Beverage	Cherry slush	335	12	170	0.5	14%	0	0	0	46	25	0	0	64
		Sonic	Wacky Pack Kids' Meal	Beverage	Grape slush	335	12	170	0.5	13%	0	0	0	45	30	0	0	66
		Sonic	Wacky Pack Kids' Meal	Beverage	Orange slush	335	12	170	0.5	13%	0	0	0	45	30	0	0	66
		Sonic	Wacky Pack Kids' Meal	Beverage	Blue coconut slush	335	12	170	0.5	13%	0	0	0	44	25	0	0	66
		Sonic	Wacky Pack Kids' Meal	Beverage	Watermelon slush	335	12	170	0.5	13%	0	0	0	45	30	0	0	66
		Sonic	Wacky Pack Kids' Meal	Beverage	Green apple slush	336	12	180	0.5	14%	0	0	0	46	30	0	0	64
		Sonic	Wacky Pack Kids' Meal	Beverage	Bubble gum slush	335	12	170	0.5	13%	0	0	0	45	30	0	0	66
		Sonic	Wacky Pack Kids' Meal	Beverage	Minute Maid cranberry juice slush	335	12	170	0.5	13%	0	0	0	45	25	0	0	66
		Sonic	Wacky Pack Kids' Meal	Beverage	Powerade Mountain Blast slush	336	12	170	0.5	14%	0	0	0	46	45	0	0	64
	•	Sonic	Wacky Pack Kids' Meal	Beverage	Diet Coke	266	12	0	0.0	0%	0	0	0	0	10	0	0	70

Source: Menu composition analysis (January 2010)

Kids' meal menu items and their nutrient information

Healthy NPI score	Artifical sweeteners[a]	Restaurant	Meal name	Part of kids' meal	Individual item	Serving size (g)	Serving size (oz)	Total calories (Kcal)	Energy density (kcal/g)	Energy density beverages (% sugar by weight)	Total fat (g)	Saturated fat (g)	Trans fat (g)	Sugar (g)	Sodium (mg)	Fiber (g)	Protein (g)	NPI Score
	•	Sonic	Wacky Pack Kids' Meal	Beverage	Diet Dr. Pepper	266	12	0	0.0	0%	0	0	0	0	55	0	0	70
	•	Sonic	Wacky Pack Kids' Meal	Beverage	Sprite Zero	266	12	5	0.0	0%	0	0	0	0	5	0	0	70
		Sonic	Wacky Pack Kids' Meal	Beverage	Coca-Cola	277	12	110	0.4	11%	0	0	0	30	5	0	0	66
		Sonic	Wacky Pack Kids' Meal	Beverage	Dr. Pepper	278	12	100	0.4	10%	0	0	0	29	35	0	0	66
		Sonic	Wacky Pack Kids' Meal	Beverage	Sprite	277	12	110	0.4	11%	0	0	0	29	25	0	0	66
		Sonic	Wacky Pack Kids' Meal	Beverage	Barq's root beer	281	12	130	0.5	12%	0	0	0	34	25	0	0	66
		Sonic	Wacky Pack Kids' Meal	Beverage	Fanta orange	269	12	120	0.4	12%	0	0	0	33	5	0	0	66
		Sonic	Wacky Pack Kids' Meal	Beverage	Minute Maid strawberry soda	278	12	130	0.5	13%	0	0	0	35	-	0	0	66
		Sonic	Wacky Pack Kids' Meal	Beverage	Mello Yello	278	12	120	0.4	12%	0	0	0	33	10	0	0	66
		Sonic	Wacky Pack Kids' Meal	Beverage	Ocean Water	278	12	120	0.4	12%	0	0	0	32	25	0	0	66
		Sonic	Wacky Pack Kids' Meal	Beverage	Sweet iced tea	277	12	120	0.4	11%	0	0	0	30	5	0	0	66
•		Sonic	Wacky Pack Kids' Meal	Beverage	Cranberry tea	267	12	20	0.1	2%	0	0	0	5	10	0	0	70
•		Sonic	Wacky Pack Kids' Meal	Beverage	Iced tea	266	12	5	0.0	0%	0	0	0	0	10	0	0	70
	•	Sonic	Wacky Pack Kids' Meal	Beverage	Raspberry iced tea	266	12	5	0.0	0%	0	0	0	0	15	0	0	70
	•	Sonic	Wacky Pack Kids' Meal	Beverage	Peach iced tea	266	12	5	0.0	0%	0	0	0	0	15	0	0	70
	•	Sonic	Wacky Pack Kids' Meal	Beverage	Diet green tea	251	12	0	0.0	0%	0	0	0	0	5	0	0	70
		Dairy Queen	DQ Kids Meal	Main Dish	All-beef hot dog	96	-	250	2.6	4%	14	5	0	4	770	1	9	40
		Dairy Queen	DQ Kids Meal	Main Dish	Original cheeseburger	156	-	400	2.6	6%	18	9	0.5	9	920	1	19	40
		Dairy Queen	DQ Kids Meal	Main Dish	Original hamburger	142	-	350	2.5	6%	14	7	0.5	8	680	1	17	44
		Dairy Queen	DQ Kids Meal	Main Dish	Chicken strips with ketchup	94	-	285	3.0	-	10	1	0	2	880	2	16	46
		Dairy Queen	DQ Kids Meal	Main Dish	Iron grilled cheese sandwich	103	-	320	3.1	-	13	8	0	2	1,020	1	13	70
•		Dairy Queen	DQ Kids Meal	Side Dish	Applesauce	114	-	90	0.8	15%	0	0	0	17	30	3	0	78

Source: Menu composition analysis (January 2010)

Kids' meal menu items and their nutrient information

Healthy NPI score	Artifical sweeteners[a]	Restaurant	Meal name	Part of kids' meal	Individual item	Serving size (g)	Serving size (oz)	Total calories (Kcal)	Energy density (kcal/g)	Energy density beverages (% sugar by weight)	Total fat (g)	Saturated fat (g)	Trans fat (g)	Sugar (g)	Sodium (mg)	Fiber (g)	Protein (g)	NPI Score
		Dairy Queen	DQ Kids Meal	Side Dish	French fries- kids'	71	-	190	2.7	0%	8	1	0	0	400	2	2	58
		Dairy Queen	DQ Kids Meal	Beverage	Coca-Cola Classic	360	12	120	0.3	9%	0	0	0	32	8	0	0	68
		Dairy Queen	DQ Kids Meal	Beverage	Pepsi	353	12	120	0.3	9%	0	0	0	33	30	0	0	66
	•	Dairy Queen	DQ Kids Meal	Beverage	Diet Coca-Cola	353	12	0	0.0	0%	0	0	0	0	8	0	0	70
	•	Dairy Queen	DQ Kids Meal	Beverage	Diet Pepsi	365	12	0	0.0	0%	0	0	0	0	23	0	0	70
		Dairy Queen	DQ Kids Meal	Beverage	Sprite	364	12	112.5	0.3	9%	0	0	0	32	30	0	0	68
		Dairy Queen	DQ Kids Meal	Beverage	Sierra Mist	353	12	120	0.3	9%	0	0	0	32	30	0	0	68
		Dairy Queen	DQ Kids Meal	Beverage	Barq's root beer	365	12	135	0.4	10%	0	0	0	36	30	0	0	66
		Dairy Queen	DQ Kids Meal	Beverage	Mug root beer	361	12	120	0.3	10%	0	0	0	35	49	0	0	66
		Dairy Queen	DQ Kids Meal	Beverage	Dr. Pepper	360	12	120	0.3	9%	0	0	0	32	41	0	0	68
		Dairy Queen	DQ Kids Meal	Beverage	Mountain Dew	365	12	142.5	0.4	10%	0	0	0	38	60	0	0	66
		Dairy Queen	DQ Kids Meal	Dessert	Chocolate dipped cone[d]- kids'	93	-	190	2.0	19%	8	3.5	0	18	65	0	4	56
		Dairy Queen	DQ Kids Meal	Dessert	Butterscotch dipped cone[d]- kids'	93	-	190	2.0	19%	9	4.5	1.5	18	65	0	4	54
		Dairy Queen	DQ Kids Meal	Dessert	Cherry dipped cone[d]- kids'	93	-	190	2.0	19%	9	6	0.5	18	65	0	4	46
		Dairy Queen	DQ Kids Meal	Dessert	Vanilla cone[d]- kids'	86	-	140	1.6	19%	4	2.5	0	16	60	0	4	58
		Dairy Queen	DQ Kids Meal	Dessert	Chocolate cone[d]- kids'	86	-	150	1.7	17%	4.5	3	0	15	70	0	4	58
		Dairy Queen	DQ Kids Meal	Dessert	Chocolate mint Dilly Bar[d]	87	-	240	2.8	23%	15	9	0	20	70	1	4	36
		Dairy Queen	DQ Kids Meal	Dessert	Chocolate Dilly Bar[d]	87	-	240	2.8	23%	15	9	0	20	70	1	4	36
		Dairy Queen	DQ Kids Meal	Dessert	Heath Dilly Bar[d]	87	-	220	2.5	25%	13	10	0	22	95	0	3	32
		Dairy Queen	DQ Kids Meal	Dessert	Cherry Dilly Bar[d]	88	-	210	2.4	23%	12	8	0	20	80	0	3	36
		Dairy Queen	DQ Kids Meal	Dessert	Butterscotch Dilly Ba[d]	87	-	210	2.4	23%	11	9	0	20	105	0	3	32
		Dairy Queen	DQ Kids Meal	Dessert	DQ sandwich[d]	85	-	190	2.2	21%	5	3	0	18	135	1	4	56

[a] *Items with artificial sweeteners were excluded from the analysis*

[b] *McDonald's desserts are not included in the Kids' Meal*

[c] *KFC Kid's Meals include a snack item*

[d] *Dairy Queen Kids Meals include a dessert*

[e] *Item comes with a 12 oz. soft drink*

[f] *Item comes with a 16 oz. soft drink*

Source: Menu composition analysis (January 2010)

Table B1. Exposure data by demographic group

GRPs by age group

	GRPs: 2008					GRPs: 2009				
Restaurant	2-5 years	6-11 years	12-17 years	18-24 years	25-49 years	2-5 years	6-11 years	12-17 years	18-24 years	25-49 years
McDonald's	27,511	31,683	24,009	19,761	23,364	30,914	36,785	28,424	24,595	29,523
Subway	10,460	13,184	17,152	17,303	18,896	9,688	12,723	17,714	18,432	20,964
Burger King	13,911	16,792	17,720	16,266	14,578	15,173	18,490	18,925	18,053	17,013
Starbucks	7	8	12	13	35	71	72	136	187	290
Wendy's	5,013	7,001	13,739	14,501	13,107	4,610	5,830	11,271	13,088	13,678
Taco Bell	4,185	5,606	13,023	14,866	12,738	5,048	6,875	14,021	15,338	13,501
Pizza Hut	6,496	8,207	15,850	17,910	19,191	5,433	6,919	12,473	14,152	16,377
Dunkin' Donuts	1,118	1,525	3,354	3,812	4,123	1,127	1,483	2,751	3,379	5,310
KFC	4,995	6,334	12,037	14,062	16,427	6,154	7,774	14,587	16,917	18,851
Sonic	2,471	3,407	6,880	7,786	7,990	2,744	3,723	6,839	7,683	8,414
Arby's	2,605	3,659	6,522	7,196	8,956	1,604	2,178	4,083	4,787	6,799
Jack in the Box	1,006	1,178	1,921	2,247	2,620	1,128	1,353	2,473	2,865	3,088
Domino's	2,298	2,836	5,882	6,761	6,886	3,547	4,591	8,487	9,297	9,643
Chick-Fil-A	147	180	270	371	580	171	187	271	391	643
Panera Bread	7	14	19	33	73	38	39	61	81	197
Dairy Queen	2,149	3,113	5,963	6,143	6,121	1,992	2,678	4,766	5,221	5,614
Papa John's	2,056	2,578	4,700	5,547	6,899	1,914	2,246	4,025	4,834	6,212
Hardee's	313	475	729	901	1,545	238	346	523	641	1,329
Quiznos	2,122	2,748	5,292	6,473	6,980	1,814	2,484	4,610	5,185	5,435
Popeyes	1,040	1,203	75	2,098	1,979	1,422	1,936	3,467	3,548	3,655
Twelve restaurants	80,613	99,694	135,620	139,183	143,456	86,502	107,944	140,395	146,343	159,179
Top 20 fast food restaurants	89,909	111,729	155,148	164,050	173,087	94,831	118,714	159,908	168,675	186,536
All fast food restaurants	97,881	120,833	169,578	181,972	197,943	102,138	127,163	172,281	184,085	209,521

Source: © The Nielsen Company

GRPs by age group

	Spanish-language GRPs: 2008					Spanish-language GRPs: 2009				
Restaurant	2-5 years	6-11 years	12-17 years	18-24 years	25-49 years	2-5 years	6-11 years	12-17 years	18-24 years	25-49 years
McDonald's	6,779	4,606	4,697	7,049	9,974	7,889	6,379	6,434	9,262	13,462
Subway	3,846	2,395	2,463	3,696	5,345	3,122	2,451	2,714	3,827	5,233
Burger King	4,123	2,922	2,890	4,225	5,939	3,522	2,828	2,678	4,019	5,976
Starbucks	-	-	-	-	-	-	-	-	-	-
Wendy's	2,490	1,795	1,628	2,526	3,695	2,603	2,089	1,738	2,663	4,228
Taco Bell	1	1	2	2	3	0	0	0	1	1
Pizza Hut	2,635	1,578	1,446	2,447	3,749	1,971	1,376	1,239	1,981	2,972
Dunkin' Donuts	-	-	-	-	-	-	-	-	-	-
KFC	1,681	1,112	1,103	1,755	2,379	1,507	1,112	1,058	1,669	2,563
Sonic	2,012	1,330	1,217	1,880	2,866	2,024	1,532	1,386	2,059	3,395
Arby's	-	-	-	-	-	-	-	-	-	-
Jack in the Box	17	10	14	22	39	140	145	304	271	209
Domino's	2,453	1,700	1,516	2,595	3,585	3,713	2,943	2,615	3,870	5,839
Chick-Fil-A	-	-	-	-	-	-	-	-	-	-
Panera Bread	-	-	-	-	-	-	-	-	-	-
Dairy Queen	-	-	-	-	-	-	-	-	-	-
Papa John's	11	12	12	24	28	41	28	35	94	95
Hardee's	-	-	-	-	-	-	-	-	-	-
Quiznos	-	-	-	-	-	-	-	-	-	-
Popeyes	810	661	2,680	1,023	1,181	2,509	2,027	1,990	2,817	4,244
Twelve restaurants	26,020	17,439	16,962	26,174	37,534	26,351	20,710	19,862	29,352	43,670
Top 20 fast food restaurants	26,859	18,122	19,666	27,244	38,782	29,042	22,911	22,191	32,534	48,218
All fast food restaurants	26,859	18,122	19,666	27,244	38,782	29,042	22,911	22,191	32,534	48,218

Source: © The Nielsen Company

GRPs by race

	GRPs: 2008								GRPs: 2009							
	2-11 years		12-17 years		18-24 years		25-49 years		2-11 years		12-17 years		18-24 years		25-49 years	
Restaurant	African American	White	African American	White	African American	White	African American	White	African American	White	African American	White	African American	White	African American	White
Dairy Queen	3,524	2,139	6,063	5,232	6,387	5,394	6,085	4,568	3,407	1,844	5,821	4,064	6,167	4,474	5,829	4,057
Burger King	20,268	14,502	23,570	16,116	21,088	15,411	19,145	13,624	21,900	15,796	25,354	17,203	23,574	16,639	21,529	15,311
Subway	15,096	9,857	19,661	14,022	19,334	14,326	18,698	13,450	14,677	9,209	21,641	14,570	21,378	15,312	20,884	15,045
Domino's	3,346	1,899	6,890	4,715	7,773	5,652	7,446	5,218	6,982	3,455	13,297	7,423	14,081	8,429	14,287	8,689
McDonald's	35,412	26,599	32,448	18,516	27,957	14,349	25,818	15,007	41,397	30,404	42,020	21,783	36,523	18,286	34,576	19,762
Sonic	3,971	2,051	7,836	5,447	8,668	6,291	8,111	5,164	4,912	2,438	9,027	5,595	9,598	6,419	9,521	5,877
Wendy's	9,699	5,187	19,177	12,073	19,653	13,389	17,840	11,714	8,414	4,362	15,611	9,918	17,017	12,041	17,092	11,649
KFC	8,479	3,925	16,148	9,152	18,341	11,131	19,521	11,678	11,915	5,140	22,348	11,721	24,142	14,178	25,259	14,464
Pizza Hut	10,362	5,881	19,273	13,525	21,976	15,795	23,478	15,872	8,518	4,991	15,419	10,649	16,901	12,431	19,194	13,373
Taco Bell	7,413	3,659	15,312	11,196	16,862	13,397	15,104	10,705	9,542	4,788	18,100	12,490	18,465	13,983	16,451	11,506
Dunkin' Donuts	1,663	783	3,625	2,484	4,025	3,017	3,264	2,183	1,234	775	2,274	1,977	2,888	2,577	3,238	2,722
Starbucks	12	7	13	10	18	14	53	30	86	57	181	108	237	161	320	224
Twelve restaurants	119,245	76,488	170,016	112,488	172,082	118,164	164,563	109,214	132,984	83,259	191,092	117,500	190,971	124,929	188,179	122,679
Top 20 fast food restaurants	130,418	83,261	189,186	127,691	193,616	136,405	187,413	126,831	144,864	88,985	212,781	131,096	214,008	140,767	211,605	138,127
All fast food restaurants	136,742	87,677	197,776	135,665	205,425	146,840	203,197	139,061	149,945	92,525	220,070	137,007	222,840	147,963	222,659	146,639

Source: © The Nielsen Company

Table B2. Content analysis of general audience TV ads

Selling points in general audience TV ads

Restaurant	Total # ads	New/improved	Value/cheap	Health/nutrition	Quality food	Comparison/ unique	Filling/ lots of food	Convenience	Low-fat/Low-cal	Helping the community	Limited time special offers
McDonald's	86	16%	13%	0%	31%	3%	7%	1%	3%	5%	19%
Subway	78	36%	49%	4%	82%	8%	8%	0%	18%	3%	32%
Burger King	67	13%	42%	0%	12%	27%	18%	0%	0%	0%	25%
Starbucks	8	38%	0%	0%	13%	25%	0%	0%	0%	50%	50%
Wendy's	54	35%	33%	0%	63%	43%	6%	0%	0%	7%	7%
Taco Bell	43	61%	42%	2%	7%	9%	28%	0%	2%	2%	28%
Pizza Hut	38	53%	82%	3%	26%	21%	47%	5%	0%	3%	29%
Dunkin' Donuts	25	20%	60%	0%	12%	8%	0%	0%	8%	0%	20%
KFC	47	53%	70%	2%	15%	23%	13%	0%	13%	0%	23%
Sonic	85	41%	61%	4%	9%	9%	9%	0%	0%	4%	13%
Domino's	23	57%	83%	0%	9%	35%	4%	17%	0%	0%	39%
Dairy Queen	16	38%	25%	0%	19%	81%	0%	0%	0%	31%	25%
Total ads	570	36%	47%	2%	30%	19%	13%	1%	5%	4%	23%

Source: Television advertising content analysis 2009

Product associations in general audience TV ads

Restaurant	Total # ads	Physical activity	Fun/cool	Humor	Adults as negative	Family bonding
McDonald's	86	2%	35%	46%	1%	7%
Subway	78	19%	23%	40%	1%	0%
Burger King	67	2%	19%	84%	5%	5%
Starbucks	8	0%	13%	50%	0%	0%
Wendy's	54	2%	17%	72%	0%	2%
Taco Bell	43	5%	21%	61%	0%	0%
Pizza Hut	38	0%	21%	26%	3%	0%
Dunkin' Donuts	25	4%	4%	56%	0%	4%
KFC	47	4%	6%	53%	2%	6%
Sonic	85	0%	6%	62%	0%	0%
Domino's	23	0%	4%	83%	0%	0%
Dairy Queen	16	0%	0%	94%	13%	13%
Total ads	570	4%	17%	58%	2%	3%

Source: Television advertising content analysis 2009

Target audience in general audience TV ads

Restaurant	Total # ads	Male	Female	Both	White	Black	Hispanic	Asian	Multi-ethnic
McDonald's	86	26%	15%	50%	25%	23%	8%	2%	33%
Subway	78	37%	5%	30%	24%	10%	0%	1%	36%
Burger King	67	45%	5%	28%	49%	0%	0%	3%	24%
Starbucks	8	13%	0%	38%	13%	0%	0%	0%	38%
Wendy's	54	54%	4%	32%	35%	2%	0%	0%	50%
Taco Bell	43	54%	5%	16%	51%	2%	0%	0%	19%
Pizza Hut	38	24%	8%	53%	50%	5%	0%	0%	29%
Dunkin' Donuts	25	28%	16%	28%	44%	8%	0%	0%	20%
KFC	47	23%	17%	47%	36%	6%	2%	2%	40%
Sonic	85	44%	11%	18%	59%	6%	0%	0%	7%
Domino's	23	44%	0%	39%	57%	0%	0%	0%	26%
Dairy Queen	16	50%	0%	38%	25%	19%	0%	0%	6%
Total ads	570	38%	8%	34%	40%	8%	1%	1%	28%

Source: Television advertising content analysis 2009

Featured third parties, brand characters, and spokespeople in general audience TV ads

Restaurant	Total # ads	Spokesperson	Celebrities	Brand characters	Movie/TV/ video games	Licensed characters	Charities	Other sports	Other entertainment	Other food brands
McDonald's	86	1%	7%	2%	5%	2%	3%	0%	13%	6%
Subway	78	6%	19%	0%	4%	0%	0%	3%	13%	12%
Burger King	67	2%	10%	25%	21%	9%	2%	3%	2%	19%
Starbucks	8	0%	0%	0%	0%	0%	25%	0%	0%	0%
Wendy's	54	2%	2%	9%	7%	0%	6%	0%	4%	0%
Taco Bell	43	2%	5%	0%	2%	0%	2%	9%	5%	9%
Pizza Hut	38	0%	0%	0%	0%	0%	3%	0%	3%	11%
Dunkin' Donuts	25	0%	4%	0%	0%	0%	0%	0%	4%	4%
KFC	47	6%	0%	0%	4%	2%	0%	6%	11%	15%
Sonic	85	1%	1%	0%	6%	0%	2%	0%	9%	12%
Domino's	23	17%	0%	0%	0%	0%	0%	0%	4%	9%
Dairy Queen	16	0%	0%	88%	0%	0%	31%	0%	0%	6%
Total ads	570	3%	6%	7%	6%	2%	3%	2%	7%	9%

Source: Television advertising content analysis 2009

Eating behaviors in general audience TV ads

Restaurant	Total # ads	Family meals	Food as primary focus	Food is consumed	In restaurant	At the table (not in restaurant)	Front of TV/ computer	In the car	Consumed other place	Breakfast	Lunch	Anytime	Snack	Unclear time
McDonald's	86	2%	17%	69%	14%	15%	2%	5%	36%	3%	1%	1%	2%	51%
Subway	78	0%	24%	18%	3%	5%	0%	3%	6%	0%	0%	4%	0%	17%
Burger King	67	2%	15%	34%	2%	18%	0%	2%	18%	3%	0%	2%	0%	34%
Starbucks	8	0%	0%	13%	13%	0%	0%	0%	25%	0%	0%	0%	0%	25%
Wendy's	54	2%	17%	56%	9%	28%	0%	0%	19%	0%	2%	0%	0%	50%
Taco Bell	43	0%	30%	44%	0%	12%	0%	0%	30%	0%	2%	0%	0%	42%
Pizza Hut	38	5%	34%	63%	13%	24%	0%	0%	29%	0%	0%	0%	0%	55%
Dunkin' Donuts	25	4%	32%	44%	0%	8%	0%	0%	40%	8%	0%	0%	0%	40%
KFC	47	9%	32%	66%	4%	11%	0%	0%	51%	0%	0%	0%	0%	53%
Sonic	85	1%	35%	58%	0%	1%	1%	54%	1%	2%	0%	6%	0%	41%
Domino's	23	0%	13%	13%	4%	9%	0%	0%	4%	0%	4%	0%	0%	13%
Dairy Queen	16	0%	31%	19%	13%	0%	0%	0%	6%	0%	0%	0%	0%	19%
Total ads	570	2%	25%	47%	5%	12%	1%	9%	21%	2%	1%	2%	1%	39%

Source: Television advertising content analysis 2009

Table B3. Content analysis of child-targeted TV ads

Selling points in child-targeted TV ads

Restaurant	Total # ads	New/improved	Value/cheap	Health/ nutrition	Quality food	Comparison/ unique	Filling/ lots of food	Convenience	Low-fat/Low-cal	Helping the community	Limited time special offers
McDonald's	31	3%	0%	0%	0%	0%	0%	0%	3%	0%	48%
Subway	3	0%	0%	33%	100%	33%	0%	0%	0%	0%	33%
Burger King	23	4%	0%	0%	22%	0%	0%	0%	0%	4%	70%
Total ads	57	4%	0%	2%	14%	2%	0%	0%	2%	2%	54%

Source: Television advertising content analysis 2009

Product associations in child-targeted TV ads

Restaurant	Total # ads	Physical activity	Fun/cool	Humor	Adults as negative	Family bonding
McDonald's	31	0%	69%	31%	3%	3%
Subway	3	67%	33%	33%	0%	0%
Burger King	23	4%	57%	91%	65%	9%
Total ads	57	5%	63%	56%	28%	5%

Source: Television advertising content analysis 2009

Target audience in child-targeted TV ads

Restaurant	Total # ads	Male	Female	Both	White	Black	Hispanic	Asian	Multi-ethnic
McDonald's	31	39%	21%	21%	36%	7%	0%	3%	38%
Subway	3	0%	33%	0%	33%	0%	0%	0%	0%
Burger King	23	9%	17%	74%	74%	0%	0%	0%	22%
Total ads	57	26%	19%	40%	53%	4%	0%	2%	28%

Source: Television advertising content analysis 2009

Featured third parties, brand characters and spokespeople in child-targeted TV ads

Restaurant	Total # ads	Spokesperson	Celebrities	Brand characters	Movie/TV/ video games	Licensed characters	Charities	Other sports	Other entertainment	Other food brands
McDonald's	31	0%	0%	7%	38%	28%	0%	3%	28%	3%
Subway	3	0%	0%	0%	0%	0%	0%	0%	67%	0%
Burger King	23	0%	0%	0%	44%	44%	0%	0%	22%	70%
Total ads	57	0%	0%	4%	37%	32%	0%	2%	26%	32%

Source: Television advertising content analysis 2009

Eating behaviors in child-targeted TV ads

	Total # ads	Family meals	Food as primary focus	Food is consumed	In restaurant	At the table (not in restaurant)	Front of TV/ computer	In the car	Consumed other place	Breakfast	Lunch	Dinner	Late at night	Anytime	Snack	Unclear time
McDonald's	31	3%	0%	72%	14%	31%	3%	0%	24%	0%	0%	0%	0%	0%	0%	66%
Subway	3	0%	0%	33%	33%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Burger King	23	13%	0%	83%	4%	48%	4%	4%	22%	0%	0%	0%	0%	4%	0%	61%
Total ads	57	7%	0%	74%	11%	35%	4%	2%	21%	0%	0%	0%	0%	2%	0%	60%

Source: Television advertising content analysis 2009

Table B4. Content analysis of Spanish-language TV ads

Selling points in Spanish-language TV ads

Restaurant	Total # ads	New/improved	Value/cheap	Health/nutrition	Quality food	Comparison/ unique	Filling/ lots of food	Convenience	Low-fat/Low-cal	Helping the community	Limited time special offers
McDonald's	35	11%	11%	0%	43%	6%	3%	0%	0%	11%	17%
Subway	16	50%	38%	6%	81%	0%	31%	0%	44%	13%	6%
Burger King	16	13%	50%	0%	19%	13%	44%	0%	0%	0%	6%
Wendy's	10	40%	50%	0%	80%	20%	0%	0%	0%	0%	10%
Taco Bell	2	100%	100%	0%	0%	0%	0%	0%	0%	0%	0%
Pizza Hut	10	60%	70%	0%	40%	10%	20%	0%	0%	0%	20%
KFC	7	100%	100%	0%	0%	0%	14%	0%	14%	0%	43%
Sonic	13	23%	31%	0%	0%	0%	0%	0%	0%	0%	8%
Domino's	22	73%	91%	0%	9%	0%	23%	5%	0%	0%	27%
Total ads	131	40%	48%	1%	34%	5%	16%	1%	6%	5%	16%

Source: Television advertising content analysis 2009

Product associations in Spanish-language TV ads

Restaurant	Total # ads	Physical activity	Fun/cool	Humor	Adults as negative	Family bonding
McDonald's	35	6%	34%	17%	0%	6%
Subway	16	31%	69%	38%	0%	6%
Burger King	16	6%	44%	88%	6%	13%
Wendy's	10	10%	30%	70%	0%	0%
Taco Bell	2	0%	0%	100%	0%	50%
Pizza Hut	10	10%	0%	20%	0%	0%
KFC	7	0%	57%	29%	0%	0%
Sonic	13	8%	39%	0%	0%	23%
Domino's	22	14%	14%	59%	0%	9%
Total ads	131	11%	34%	40%	1%	8%

Source: Television advertising content analysis 2009

Target audience in Spanish-language TV ads

Restaurant	Total # ads	Male	Female	Both	White	Black	Hispanic	Asian	Multi-ethinic
McDonald's	35	23%	31%	43%	0%	0%	94%	0%	3%
Subway	16	6%	0%	63%	0%	0%	69%	0%	0%
Burger King	16	69%	13%	13%	0%	0%	94%	0%	0%
Wendy's	10	50%	10%	10%	0%	0%	6%	10%	0%
Taco Bell	2	100%	0%	0%	0%	0%	100%	0%	0%
Pizza Hut	10	20%	0%	30%	10%	0%	40%	0%	0%
KFC	7	14%	29%	57%	0%	0%	100%	0%	0%
Sonic	13	46%	8%	46%	0%	0%	100%	0%	0%
Domino's	22	23%	5%	46%	0%	0%	64%	0%	9%
Total ads	131	31%	14%	39%	1%	0%	80%	1%	2%

Source: Television advertising content analysis 2009

Featured third parties, brand characters and spokespeople in Spanish-language TV ads

	Total # ads	Spokesperson	Celebrities	Brand characters	Movie/TV/ video games	Licensed characters	Charities	Other sports	Other entertainment	Other food brands
McDonald's	35	0%	0%	6%	6%	0%	0%	0%	17%	6%
Subway	16	0%	0%	0%	0%	0%	13%	0%	0%	25%
Burger King	16	13%	0%	6%	6%	6%	0%	0%	0%	0%
Wendy's	10	0%	0%	0%	0%	0%	0%	0%	0%	0%
Taco Bell	2	0%	0%	0%	0%	0%	0%	0%	0%	0%
Pizza Hut	10	0%	0%	0%	0%	0%	0%	0%	0%	0%
KFC	7	0%	0%	0%	0%	0%	0%	0%	0%	0%
Sonic	13	0%	0%	0%	0%	0%	0%	0%	0%	0%
Domino's	22	0%	0%	0%	9%	0%	0%	0%	0%	5%
Total ads	131	2%	0%	2%	4%	1%	2%	0%	5%	5%

Source: Television advertising content analysis 2009

Eating behaviors in Spanish-language TV ads

	Total # ads	Family meals	Food as primary focus	Food is consumed	In restaurant	At the table (not in restaurant)	Front of TV/ computer	In the car	Consumed other place	Breakfast	Lunch	Dinner	Late at night	Anytime	Snack	Unclear time
McDonald's	35	3%	29%	63%	11%	9%	3%	0%	43%	0%	0%	0%	0%	0%	0%	51%
Subway	16	6%	50%	63%	63%	0%	0%	0%	19%	0%	0%	0%	0%	0%	0%	56%
Burger King	16	6%	13%	19%	0%	6%	0%	0%	13%	0%	0%	0%	0%	0%	0%	13%
Wendy's	10	0%	30%	50%	0%	40%	0%	0%	10%	0%	0%	0%	0%	0%	0%	50%
Taco Bell	2	0%	0%	100%	0%	0%	0%	0%	100%	0%	0%	0%	0%	0%	0%	100%
Pizza Hut	10	0%	70%	40%	0%	0%	10%	0%	30%	0%	0%	0%	0%	0%	0%	40%
KFC	7	14%	14%	57%	0%	14%	0%	14%	29%	0%	0%	0%	0%	0%	0%	14%
Sonic	13	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Domino's	22	5%	18%	27%	0%	14%	5%	0%	18%	0%	0%	5%	0%	0%	0%	9%
Total ads	131	4%	27%	43%	11%	9%	2%	1%	24%	2%	0%	1%	0%	0%	0%	33%

Source: Television advertising content analysis 2009

Table B5. Nutritional quality of TV ads by age and race or ethnicity

Nutritional quality of TV ads: By age

Preschoolers (2-5 years)					
Restaurant	Calories per ad	Sodium per ad	% unhealthy products	% of calories from sugar and saturated fat	Calories viewed per day
McDonald's	459	804	20%	38%	281
KFC	1,310	2,039	37%	65%	188
Burger King	407	608	19%	37%	155
Subway	488	1,390	14%	21%	102
Pizza Hut	725	1,835	94%	22%	93
Domino's	796	1,704	95%	23%	78
Wendy's	636	1,523	78%	28%	76
Taco Bell	570	1,373	82%	17%	66
Sonic	745	953	59%	40%	46
Dairy Queen	780	643	100%	53%	34
Dunkin' Donuts	251	481	49%	36%	5
Total ads	582	1,111	40%	37%	1,124

Children (6-11 years)					
Restaurant	Calories per ad	Sodium per ad	% unhealthy products	% of calories from sugar and saturated fat	Calories viewed per day
McDonald's	457	800	23%	38%	330
KFC	1,242	2,008	38%	62%	227
Burger King	407	607	19%	37%	192
Subway	493	1,399	14%	21%	137
Pizza Hut	728	1,843	94%	22%	119
Domino's	799	1,707	95%	23%	103
Wendy's	631	1,518	79%	28%	95
Taco Bell	566	1,367	83%	17%	92
Sonic	763	978	58%	40%	65
Dairy Queen	777	623	100%	54%	47
Dunkin' Donuts	249	472	50%	36%	6
Total ads	582	1,122	42%	36%	1,414

Source: © The Nielsen Company; Menu composition analysis (January 2010)

Nutritional quality of TV ads: By age

	Teens (12-17 years)				
Restaurant	Calories per ad	Sodium per ad	% unhealthy products	% of calories from sugar and saturated fat	Calories viewed per day
KFC	1,196	1,967	40%	61%	431
McDonald's	454	821	52%	35%	248
Subway	635	1,854	19%	20%	239
Pizza Hut	730	1,847	94%	22%	226
Taco Bell	570	1,374	83%	17%	208
Burger King	439	742	43%	30%	191
Domino's	789	1,691	95%	23%	190
Wendy's	626	1,491	79%	27%	187
Sonic	752	959	61%	41%	124
Dairy Queen	775	632	100%	53%	87
Dunkin' Donuts	241	453	48%	36%	13
Total ads	657	1,336	61%	34%	2,144

Source: © The Nielsen Company; Menu composition analysis (January 2010)

Nutritional quality of TV ads: By age and race

	Black children (2-11 years)				
Restaurant	Calories per ad	Sodium per ad	% unhealthy products	% of calories from sugar and saturated fat	Calories viewed per day
KFC	1,253	2,001	38%	63%	401
McDonald's	457	809	32%	37%	400
Burger King	417	646	26%	35%	227
Subway	533	1,531	16%	21%	192
Pizza Hut	731	1,846	93%	22%	168
Domino's	796	1,693	95%	23%	151
Wendy's	641	1,536	79%	27%	147
Taco Bell	566	1,365	83%	17%	143
Sonic	760	968	59%	41%	101
Dairy Queen	792	665	100%	53%	72
Dunkin' Donuts	242	460	48%	36%	7
Total ads	617	1,197	48%	37%	2,009

	White children (2-11 years)				
Restaurant	Calories per ad	Sodium per ad	% unhealthy products	% of calories from sugar and saturated fat	Calories viewed per day
McDonald's	458	798	20%	38%	293
KFC	1,304	2,050	36%	64%	180
Burger King	405	601	18%	37%	165
Subway	491	1,394	13%	21%	112
Pizza Hut	723	1,833	94%	22%	97
Wendy's	636	1,525	78%	28%	75
Domino's	798	1,712	95%	23%	75
Taco Bell	567	1,367	83%	17%	70
Sonic	752	968	57%	40%	49
Dairy Queen	776	624	100%	54%	38
Dunkin' Donuts	258	501	49%	35%	5
Total ads	575	1,099	39%	37%	1,160

Source: © The Nielsen Company; Menu composition analysis (January 2010)

Nutritional quality of TV ads: By age and race

	Black teens (12-17 years)				
Restaurant	Calories per ad	Sodium per ad	% unhealthy products	% of calories from sugar and saturated fat	Calories viewed per day
KFC	1,202	1,960	39%	61%	723
McDonald's	456	831	56%	34%	417
Subway	628	1,833	20%	20%	326
Pizza Hut	733	1,849	93%	22%	305
Domino's	788	1,679	95%	23%	286
Taco Bell	567	1,364	82%	17%	277
Wendy's	630	1,485	78%	27%	268
Burger King	437	735	42%	30%	261
Sonic	761	971	61%	41%	185
Dairy Queen	787	675	100%	52%	122
Dunkin' Donuts	234	445	49%	36%	14
Total ads	666	1,099	61%	35%	3,184

	White teens (12-17 years)				
Restaurant	Calories per ad	Sodium per ad	% unhealthy products	% of calories from sugar and saturated fat	Calories viewed per day
KFC	1,207	1,973	40%	61%	380
Subway	643	1,879	19%	20%	226
McDonald's	452	815	52%	35%	216
Pizza Hut	730	1,847	94%	22%	210
Taco Bell	570	1,372	83%	17%	192
Burger King	442	750	44%	30%	178
Wendy's	627	1,498	78%	27%	169
Domino's	791	1,695	95%	23%	160
Sonic	752	963	60%	40%	113
Dairy Queen	771	620	100%	54%	83
Dunkin' Donuts	245	465	48%	36%	12
Total ads	657	1,337	61%	34%	1,939

Source: © The Nielsen Company; Menu composition analysis (January 2010)

Nutritional quality of TV ads: Spanish-language TV ads by age

	Spanish-language TV: Preschoolers (2-5 Years)				
Restaurant	Calories per ad	Sodium per ad	% unhealthy products	% of calories from sugar and saturated fat	Calories viewed per day
McDonald's	461	878	76%	32%	76
Domino's	748	1,685	96%	22%	75
Subway	668	2,041	26%	20%	56
Burger King	532	951	51%	24%	51
Sonic	811	929	66%	42%	43
Wendy's	557	1,363	65%	23%	40
Pizza Hut	618	1,671	100%	23%	32
KFC	401	1,106	74%	14%	17
Total ads	588	1,290	69%	26%	390

	Spanish-language TV: Children (6-11 Years)				
Restaurant	Calories per ad	Sodium per ad	% unhealthy products	% of calories from sugar and saturated fat	Calories viewed per day
McDonald's	456	869	77%	32%	61
Domino's	748	1,683	96%	22%	60
Subway	671	2,050	26%	20%	43
Burger King	532	957	53%	24%	41
Wendy's	596	1,427	64%	24%	34
Sonic	817	944	64%	42%	33
Pizza Hut	617	1,661	100%	23%	23
KFC	406	1,116	74%	15%	12
Total ads	591	1,292	69%	26%	307

	Spanish-language TV: Teens (12-17 Years)				
Restaurant	Calories per ad	Sodium per ad	% unhealthy products	% of calories from sugar and saturated fat	Calories viewed per day
McDonald's	449	844	78%	33%	60
Domino's	751	1,689	96%	22%	53
Subway	672	2,049	27%	20%	48
Burger King	525	945	52%	25%	39
Sonic	814	942	68%	42%	30
Wendy's	590	1,434	65%	24%	28
Pizza Hut	622	1,673	100%	23%	20
KFC	392	1,081	75%	15%	11
Total ads	584	1,287	69%	26%	289

Source: © The Nielsen Company; Menu composition analysis (January 2010)

Table C1. Content analysis of child-targeted websites

Engagement techniques on child-targeted websites

	Percentage of pages using engagement technique											
Website	Fun	Flash animation	Music	Games	Advergames (branded games)	Viral marketing	Downloadable content	Customization of page	Behavioral targeting	Other advertising (TV commercials, Facebook)	Unbranded games	Video
McWorld.com	99%	87%	84%	44%	14%	1%	4%	7%	2%	n/a	30%	n/a
HappyMeal.com	98%	84%	30%	44%	41%	40%	25%	39%	27%	1%	3%	2%
Ronald.com	97%	77%	63%	77%	77%	n/a	49%	9%	n/a	n/a	n/a	n/a
SubwayKids.com	97%	47%	20%	15%	15%	69%	42%	3%	12%	51%	n/a	16%
ClubBK.com	67%	79%	10%	18%	16%	n/a	14%	5%	5%	n/a	2%	3%
SonicZooTots.com	70%	60%	60%	10%	n/a	n/a	n/a	10%	30%	n/a	10%	n/a
DeeQs.com	100%	89%	89%	29%	29%	7%	7%	7%	7%	n/a	n/a	n/a
BlizzardFanClub.com	67%	20%	27%	7%	7%	80%	n/a	7%	20%	33%	n/a	40%
All child-targeted websites	91%	74%	45%	34%	26%	25%	21%	13%	11%	11%	8%	5%

**Other features that appeared on fewer than 5% of pages included: quizzes or polls, incentive for product purchases, chat features, the ability to create an avatar, photos, parental approval, and other cross-promotions such as famous actors.*

Source: Website content analysis (March/April 2010)

Featured third parties on child-targeted websites

	Percentage of pages featuring third parties							
Website	Charity tie-ins	Other entertainment tie-ins (park, zoo, etc.)	Movie/TV show/video game	Spokes-character	Licensed character	Other food brand	Company spokesperson	Other sports tie-ins
McWorld.com	3%	n/a	10%	7%	8%	n/a	n/a	n/a
HappyMeal.com	82%	56%	29%	5%	12%	n/a	n/a	n/a
Ronald.com	17%	n/a	n/a	100%	n/a	n/a	n/a	n/a
SubwayKids.com	4%	47%	1%	n/a	n/a	7%	28%	4%
ClubBK.com	13%	95%	21%	n/a	25%	19%	n/a	27%
SonicZooTots.com	n/a	100%	n/a	n/a	n/a	n/a	n/a	n/a
DeeQs.com	100%	n/a	n/a	n/a	n/a	4%	n/a	n/a
BlizzardFanClub.com	n/a	n/a	n/a	n/a	n/a	100%	n/a	7%
All child-targeted websites	30%	19%	12%	11%	8%	8%	5%	5%

Source: Website content analysis (March/April 2010)

Products and health messages promoted on child-targeted websites

	Percentage of pages promoting product or health message						
Website	Branding only	Any food (branded or not)	Branded food product	Kids' meal	Individual menu item	Health and nutrition	Physical activity
McWorld.com	93%	19%	2%	2%	n/a	6%	13%
HappyMeal.com	89%	2%	2%	3%	1%	1%	8%
Ronald.com	100%	9%	n/a	n/a	n/a	n/a	20%
SubwayKids.com	35%	43%	35%	8%	1%	61%	30%
ClubBK.com	70%	37%	30%	21%	n/a	14%	n/a
SonicZooTots.com	90%	100%	90%	n/a	n/a	90%	n/a
DeeQs.com	89%	57%	57%	n/a	11%	n/a	25%
BlizzardFanClub.com	n/a	100%	93%	n/a	100%	n/a	n/a
Avg: All child-targeted websites	75%	27%	21%	6%	5%	17%	13%

**Other items that appeared on fewer than 5% of pages included: nutrition information as a static list, nutrition information as an individual customizable list, nutrition calculator, and combo meal.*

Source: Website content analysis (March/April 2010)

Table C2. Content analysis of main restaurant websites

Most common products and selling points appearing on main restaurant websites

	Percentage of pages with product or selling point											
Website	Any food mention	Individual menu items	Quality of food	Health/ nutrition	Value	Weight loss	Special offer/ limited time	New/ improved	Fills you up	Better than other restaurants	Online convenience/ ordering	Help your community
McDonalds.com	67%	32%	34%	26%	6%	16%	5%	20%	7%	5%	2%	20%
SubwayFreshBuzz.com	94%	43%	93%	39%	52%	29%	2%	20%	27%	2%	2%	5%
BurgerKing.com	59%	44%	24%	35%	18%	6%	4%	3%	13%	7%	3%	1%
Starbucks.com	92%	62%	70%	50%	2%	24%	11%	12%	n/a	2%	9%	15%
Wendys.com	98%	43%	69%	26%	17%	17%	4%	6%	4%	11%	n/a	7%
PizzaHut.com	93%	36%	11%	18%	71%	4%	50%	11%	4%	4%	75%	n/a
KFC.com	83%	30%	19%	27%	40%	10%	33%	3%	8%	5%	3%	10%
Dominos.com	96%	80%	56%	20%	36%	16%	92%	28%	8%	92%	64%	n/a
All main restaurant websites	85%	46%	46%	32%	24%	15%	14%	12%	10%	9%	9%	9%

**Messages appearing on fewer than 5% of adult pages included time of day (snack, late night menu), family bonding, family meals, and safety.*

Source: Website content analysis (March/April 2010)

Most common messages appearing on main restaurant websites

	Percentage of pages with message					
Website	Cool/hip	Fun	Physical activity	Motivation	Humor	Personal stories
McDonalds.com	7%	15%	13%	n/a	12%	10%
SubwayFreshBuzz.com	37%	53%	50%	85%	5%	25%
BurgerKing.com	27%	8%	15%	1%	26%	2%
Starbucks.com	6%	n/a	n/a	2%	5%	6%
Wendys.com	n/a	17%	4%	n/a	6%	n/a
PizzaHut.com	7%	7%	7%	n/a	n/a	n/a
KFC.com	32%	11%	3%	11%	n/a	8%
Dominos.com	92%	4%	n/a	4%	n/a	n/a
All main restaurant websites	22%	17%	15%	15%	11%	8%

Source: Website content analysis (March/April 2010)

Engagement techniques on main restaurant websites

	Percentage of pages using engagement technique											
Website	Flash animation	Integrated advertising	Viral marketing	Customization of page	Downloadable content	Music	Mobile	Video	Purchase giftcards	Newsletter	Online purchasing	Behavioral targeting
McDonalds.com	41%	10%	5%	16%	14%	14%	n/a	11%	2%	n/a	2%	2%
SubwayFreshBuzz.com	86%	86%	89%	5%	5%	18%	83%	25%	n/a	1%	n/a	7%
BurgerKing.com	72%	20%	55%	35%	47%	34%	4%	11%	1%	n/a	4%	4%
Starbucks.com	9%	100%	100%	12%	5%	14%	8%	14%	5%	n/a	n/a	3%
Wendys.com	39%	87%	11%	89%	9%	9%	2%	6%	87%	83%	n/a	4%
PizzaHut.com	57%	4%	n/a	36%	18%	4%	21%	4%	7%	n/a	75%	36%
KFC.com	40%	2%	3%	n/a	16%	32%	n/a	6%	2%	2%	3%	8%
Dominos.com	20%	88%	n/a	84%	28%	n/a	12%	n/a	8%	n/a	60%	8%
All main restaurant websites	51%	43%	40%	27%	20%	20%	16%	12%	10%	8%	8%	6%

Source: Website content analysis (March/April 2010)

Featured third parties on main restaurant websites

	Percentage of pages featuring third parties						
Website	Other foods	Company spokesperson	Movie/TV show/video game	Famous athlete	Other entertainment tie-ins (zoo, park, etc.)	Spokes-character	Charity tie-in
McDonalds.com	28%	2%	2%	3%	8%	11%	34%
SubwayFreshBuzz.com	33%	86%	82%	89%	12%	5%	9%
BurgerKing.com	15%	n/a	7%	13%	5%	23%	1%
Starbucks.com	53%	n/a	n/a	n/a	6%	n/a	97%
Wendys.com	39%	100%	2%	n/a	85%	96%	7%
PizzaHut.com	93%	n/a	n/a	4%	4%	n/a	n/a
KFC.com	43%	100%	n/a	5%	25%	n/a	n/a
Dominos.com	96%	n/a	92%	n/a	n/a	n/a	n/a
All main restaurant websites	37%	33%	19%	18%	16%	9%	20%

Source: Website content analysis (March/April 2010)

Products and nutrition promoted on main restaurant websites

	Percentage of pages promoting product or nutrition					
Website	Food present	Individual menu item	Branding only	Individual customizable feature	Nutrition information: Static list	Kids' meal
McDonalds.com	67%	32%	35%	2%	12%	10%
SubwayFreshBuzz.com	94%	43%	22%	5%	4%	2%
BurgerKing.com	59%	44%	13%	31%	2%	1%
Starbucks.com	92%	62%	26%	3%	18%	n/a
Wendys.com	98%	43%	31%	4%	11%	11%
PizzaHut.com	93%	36%	54%	n/a	7%	0%
KFC.com	83%	30%	14%	n/a	5%	2%
Dominos.com	96%	80%	16%	n/a	8%	0%
All main restaurant websites	79%	43%	24%	9%	8%	4%

**Other items that appeared on fewer than 5% of main company pages included combo meals, and nutrition calculators.*

Source: Website content analysis (March/April 2010)

Table C3. Content analysis of banner ads on third-party websites

Banner ads by product type

		Percentage of ads promoting product type							
Restaurant	Number of ads	Individual menu items	Non-food promotion	Value/combo menu	Branding only	Time of day	Restaurant website	Kids' meal	Healthy menu
McDonald's	61	46%	31%	23%	3%	8%	7%	3%	n/a
Subway	17	29%	59%	n/a	6%	n/a	n/a	6%	n/a
Burger King	18	33%	17%	28%	6%	22%	17%	n/a	n/a
Starbucks	14	71%	57%	n/a	7%	n/a	7%	n/a	n/a
Wendy's	16	69%	13%	n/a	n/a	n/a	n/a	n/a	n/a
Taco Bell	25	28%	24%	8%	12%	16%	n/a	n/a	8%
Pizza Hut	12	25%	33%	34%	n/a	n/a	n/a	n/a	n/a
Dunkin' Donuts	21	52%	19%	20%	10%	n/a	n/a	5%	n/a
KFC	14	21%	43%	57%	14%	n/a	n/a	n/a	n/a
Sonic	12	25%	25%	17%	n/a	n/a	n/a	17%	n/a
Domino's	8	63%	38%	n/a	n/a	n/a	n/a	n/a	n/a
Dairy Queen	13	31%	15%	15%	23%	n/a	15%	n/a	n/a
Twelve restaurants	231	42%	30%	19%	6%	6%	4%	3%	1%

Source: Banner ad content analysis (June 2009-March 2010)

Selling points on restaurant banner ads

		Percentage of ads with selling point						
Restaurant	Number of ads	Special offer	Value/cheap	New/limproved	Quality food	Filling/indulgent	Better than other restaurants	Weight loss
McDonald's	61	31%	30%	21%	10%	5%	10%	n/a
Subway	17	59%	24%	12%	24%	6%	n/a	n/a
Burger King	18	17%	50%	n/a	28%	17%	n/a	n/a
Starbucks	14	79%	n/a	36%	7%	14%	n/a	n/a
Wendy's	16	19%	38%	50%	44%	19%	6%	n/a
Taco Bell	25	28%	12%	24%	n/a	16%	n/a	12%
Pizza Hut	12	42%	42%	25%	8%	25%	n/a	n/a
Dunkin' Donuts	21	43%	33%	14%	n/a	n/a	10%	n/a
KFC	14	36%	43%	21%	14%	n/a	7%	7%
Sonic	12	50%	17%	8%	8%	8%	n/a	n/a
Domino's	8	75%	38%	n/a	13%	n/a	n/a	n/a
Dairy Queen	13	15%	31%	n/a	n/a	n/a	8%	n/a
Twelve restaurants	231	37%	29%	19%	12%	9%	5%	2%

Excludes selling points that appeared in fewer than 1% of ads: health/nutrition, convenience , kids like it, help your community.

Source: Banner ad content analysis (June 2009-March 2010)

Table D1. Average number of featured items on signs by special menu and food category

Restaurant	Kids menu/item	Value menu/item	Lunch/dinner items	Healthy items	Snack items	Coffee drinks	Breakfast
McDonald's	2.2	1.4	7.8	0.0	6.1	1.3	0.8
Subway	1.4	0.4	4.1	1.1	0.2	0.0	1.5
Burger King	1.8	1.1	10.2	0.0	2.4	0.0	3.3
Starbucks	0.0	0.0	0.6	0.6	4.3	1.1	0.3
Wendy's	1.5	0.0	13.3	0.0	6.3	0.0	0.3
Taco Bell	0.5	2.2	6.6	1.6	4.8	0.0	0.0
Pizza Hut	0.0	2.0	9.5	0.1	1.7	0.0	0.0
Dunkin' Donuts	0.0	0.0	1.1	1.8	0.9	9.2	3.5
KFC	1.7	2.7	6.2	0.6	0.2	0.0	0.0
Sonic	0.4	0.3	10.1	1.1	2.3	0.2	0.8
Domino's	0.0	0.2	5.0	0.1	0.9	0.0	0.0
Dairy Queen	0.4	0.7	6.4	0.0	13.8	0.0	0.0

Source: Restaurant signs audit (June 2010)

Table D2. Individual menu item pricing analysis

Average price of kids' and combo meals

	Kids' meal		Combo meal	
Restaurant	Main dish in kids' meal	Price	Main dish in combo meal	Price
McDonald's	Hamburger	$2.97	Quarter Pounder	$5.49
Subway	Roast beef sandwich	$4.05	Roast beef sandwich - 6"	$6.80
Burger King	Hamburger	$3.00	Whopper	$5.80
Wendy's	Hamburger	$3.01	Quarter pound single hamburger	$5.31
Taco Bell	Crunchy taco - beef	$2.91	Crunchy taco - beef	$4.47
All restaurants	Average	$3.19	Average	$5.57

Source: Pricing analysis (June 2010)

Average price, calories and NPI scores of healthy and unhealthy food items

	Healthiest chicken sandwich				Least healthy chicken sandwich			
Restaurant	Specific item	Price	Calories	NPI score	Specific item	Price	Calories	NPI score
McDonald's	Premium grilled chicken classic sandwich	$3.89	420	66	Premium crispy chicken club sandwich	$4.37	630	50
Subway	Oven roasted chicken breast sandwich - 6"	$3.62	400	70	n/a	n/a	n/a	n/a
Burger King	Tendergrill chicken sandwich	$4.21	435	67	Tendercrisp chicken sandwich	$4.20	695	57
Wendy's	Ultimate chicken grill sandwich	$4.07	350	70	Chicken club sandwich	$4.89	620	48
Taco Bell	Fresco burrito supreme - chicken	$2.86	340	72	n/a	n/a	n/a	n/a
KFC	Tender Roast sandwich	$3.70	350	70	Double Crunch crispy sandwich	$4.47	460	64
Sonic	Grilled chicken sandwich	$3.69	400	68	Crispy chicken sandwich	$3.70	550	62
Dairy Queen	Grilled chicken sandwich	$3.78	370	66	Crispy chicken sandwich with cheese	$3.79	610	50
All restaurants	Average	$3.73	383	69	Average	$4.24	594	55

	Healthiest side				Least healthy side			
Restaurant	Specific item	Price	Calories	NPI score	Specific item	Price	Calories	NPI score
McDonald's	Apple dippers w/ low fat caramel dipping sauce	$1.08	105	66	French fries - medium	$1.62	380	66
Subway	Apple slices	$1.18	35	72	Doritos - 1 bag	$1.03	250	46
Burger King	Apple fries w/ caramel sauce	$1.42	70	74	French fries - medium	$1.76	440	54
Wendy's	Side salad	$1.41	125	78	French fries - medium	$1.81	420	66
Taco Bell	Pintos 'n cheese	$0.99	180	80	Nachos	$0.96	330	52
KFC	Corn on the cob - 3"	$1.68	70	86	Biscuit - 1	$0.58	180	24
Sonic	Apple slices w/ fat-free caramel dipping sauce	$1.29	120	66	Tots - medium	$1.52	200	52
Dairy Queen	Side salad	$1.71	102	80	French fries - medium	$1.73	310	58
All restaurants	Average	$1.35	101	75	Average	$1.37	314	52

	Salad with chicken			
Restaurant	Specific item	Price	Calories	NPI score
McDonald's	Premium caesar salad with grilled chicken	$4.79	410	70
Subway	Oven roasted chicken breast salad	$5.02	313	76
Burger King	Tendergrill chicken salad	$4.96	375	71
Wendy's	Mandarin chicken salad	$5.08	550	80
Taco Bell	Chicken ranch taco salad	$5.33	910	70
KFC	Crispy chicken caesar salad	$3.96	650	66
Sonic	Grilled chicken salad	$4.72	363	70
Dairy Queen	Grilled chicken salad	$4.95	393	73
All restaurants	Average	$4.85	495	72

Source: Pricing analysis (June 2010)

Average price, calories and NPI scores of healthy and unhealthy food items

	Healthiest red meat sandwich				Least healthy red meat sandwich			
Restaurant	Specific item	Price	Calories	NPI score	Specific item	Price	Calories	NPI score
McDonald's	Hamburger	$0.93	250	50	Angus bacon and cheese burger	$4.08	790	42
Subway	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Burger King	Whopper - no cheese	$3.24	595	66	BK Quad Stacker	$4.50	930	32
Wendy's	Single hamburger - no cheese	$3.06	470	64	Triple Baconator	$6.98	1330	32
Taco Bell	Fresco soft taco - beef	$1.00	180	64	Volcano burrito	$3.03	800	48
KFC	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Sonic	SONIC burger	$2.75	590	65	SuperSONIC cheeseburger	$4.13	923	45
Dairy Queen	Classic Grillburger	$3.14	470	50	Flame Thrower Grillburger - 1/2 lb.	$4.46	1060	38
All restaurants	Average	$2.35	426	60	Average	$4.53	972	40

	Moderately unhealthy red meat sandwich			
Restaurant	Specific item	Price	Calories	NPI score
McDonald's	Big Mac	$3.31	540	48
Subway	Spicy italian sandwich - 6"	$3.59	580	42
Burger King	Double cheeseburger	$1.27	460	38
Wendy's	Bacon Deluxe - single	$4.05	640	44
Taco Bell	Soft taco - beef	$1.07	210	52
KFC	n/a	n/a	n/a	n/a
Sonic	Chili cheeseburger	$3.87	660	46
Dairy Queen	Bacon Cheddar Grillburger - 1/4 lb.	$3.51	650	38
All restaurants	Average	$2.95	534	44

Source: Pricing analysis (June 2010)

Table E1. Menu importance for all quickserve restaurants

							All youth (under 18 years)		
	Total	< 6 yrs	6-12 yrs	13-17 yrs	18-24 yrs	25-49 yrs	White	Hispanic	African American
Total traffic	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Total foods and beverages	244.0	233.7	243.4	247.6	242.4	245.6	237.1	246.9	264.2
Total foods	166.8	167.3	173.9	168.3	166.6	167.1	165.3	173.0	191.0
All breakfast-oriented foods	14.9	8.4	8.5	11.2	11.4	16.9	8.4	9.8	15.0
All lunch/dinner main dishes	81.2	83.2	86.6	84.6	88.7	80.7	83.0	87.3	93.2
All burgers	23.0	16.8	21.2	21.5	23.3	24.4	19.0	20.4	24.5
All hamburgers	5.6	4.8	5.3	4.5	4.6	5.4	4.7	5.6	5.2
All cheeseburgers	17.4	12.0	15.9	17.0	18.7	19.1	14.3	14.8	19.3
Regular burgers/cheeseburgers	6.1	12.3	10.1	4.8	4.8	5.2	8.8	9.0	8.4
Large burgers/cheeseburgers	16.6	4.1	10.7	16.5	18.2	18.9	9.9	11.1	15.7
All other sandwiches (excluding burgers)	22.8	10.2	15.0	24.7	27.4	23.6	17.1	16.5	18.6
All breaded chicken sandwiches (except wraps)	5.6	1.8	3.9	7.6	8.2	5.9	4.1	5.0	7.4
All grilled/broiled/roasted chicken sandwiches (except wraps)	2.7	0.5	1.1	3.0	3.7	3.0	1.6	1.7	1.6
All chicken/turkey main dishes	12.2	32.3	23.4	12.1	11.2	9.6	21.0	23.4	25.6
Fried chicken	2.6	2.7	3.8	1.8	1.4	2.4	2.0	3.2	6.2
Non-fried chicken	0.8	0.7	1.0	0.5	0.6	0.7	0.7	1.5	0.7
Nuggets/strips	7.3	27.6	16.9	7.9	7.1	4.9	17.0	16.6	15.4
Chicken wings	1.0	0.7	1.2	1.2	1.2	1.1	0.7	1.2	2.6
Mexican (including nachos)	10.1	6.9	8.3	11.3	13.4	11.4	9.5	8.8	6.5
Pasta	1.4	2.3	2.3	1.6	1.4	1.2	2.1	2.1	2.2
Pizza	7.7	13.1	14.6	10.1	8.8	6.6	12.4	13.6	12.2
Main dish salads	1.9	0.4	0.6	1.6	1.6	2.1	0.9	1.0	1.1
All other main dishes/entrees	2.1	1.2	1.2	1.7	1.6	1.8	1.0	1.5	2.5
All appetizers and sides	42.0	51.1	49.4	38.7	38.4	42.3	45.0	46.6	50.8
All potatoes (including chips)	28.6	36.0	36.6	26.6	26.2	29.5	32.2	32.6	36.6
Chips, pretzels, crackers, etc.	4.2	2.4	3.0	5.2	5.3	4.2	3.6	3.8	3.8
All french fries (including sweet potatoes)	20.8	29.7	29.5	20.0	19.7	20.8	25.6	26.1	28.8
All fruit	1.6	6.6	2.8	1.4	1.1	1.1	3.5	3.3	3.2
All appetizer-sized green salads	1.1	0.5	0.6	0.8	0.8	1.1	0.6	0.7	0.9
All non-fried vegetables	1.1	1.4	1.4	0.6	0.7	1.0	1.0	1.3	1.7
Yogurt (non-frozen)	0.7	0.9	0.4	0.6	0.8	0.7	0.6	0.7	0.8

Source: The NPD Group/CREST®/2 Years Ending December 2009

Menu importance for all quickserve restaurants

							All youth (under 18 years)		
	Total	< 6 yrs	6-12 yrs	13-17 yrs	18-24 yrs	25-49 yrs	White	Hispanic	African American
All breads/sweet rolls	16.0	13.2	14.9	17.2	15.2	15.7	14.9	14.8	16.5
Biscuits	2.7	2.8	3.3	1.9	1.7	2.5	2.2	3.1	5.1
Breadsticks	1.4	2.7	2.8	1.7	1.9	1.1	2.4	2.4	1.9
Donuts and sweet rolls	4.8	4.3	4.9	5.7	4.3	4.5	5.0	4.5	5.1
All dessert-oriented and frozen sweets	10.3	9.5	13.2	14.0	10.4	9.0	12.1	12.4	13.4
All beverages (excluding tap water)	74.0	63.0	66.5	75.9	72.2	75.9	68.3	70.9	70.4
All coffee	14.2	0.8	1.3	9.3	9.7	16.0	4.3	3.9	3.5
Coffee, iced/frozen/slushes	3.2	0.3	0.6	4.6	4.0	3.6	2.1	1.7	1.5
Juice	3.4	10.4	4.6	3.2	3.4	2.9	5.0	7.2	8.6
All milk	2.7	15.8	7.4	2.0	1.4	1.2	8.7	7.0	4.4
Flavored milk	1.1	8.7	3.6	0.6	0.5	0.3	4.4	3.2	2.3
Plain milk	1.6	7.1	3.8	1.4	0.9	0.9	4.3	3.8	2.1
All shakes/malts/floats	2.6	1.4	3.0	4.1	3.0	2.2	2.9	2.6	2.8
All soft drinks (including non-carbonated)	39.3	29.0	43.4	43.4	41.6	41.1	38.9	40.7	39.9
Regular carbonated soft drinks	25.6	19.0	33.0	31.4	30.7	27.2	28.5	29.2	25.8
Diet carbonated soft drinks	8.7	1.5	2.9	4.0	4.0	9.7	3.4	2.1	0.9
Frozen soft drinks/slushes	1.3	1.1	2.0	2.5	1.7	1.2	1.8	2.1	2.4
Iced tea	6.2	2.3	2.6	6.1	6.0	7.0	3.7	3.3	4.7

Source: The NPD Group/CREST®/2 Years Ending December 2009

Table E2. Average calories and sodium per visit

Average calories and sodium per visit: By age

	Preschoolers (under 6 years)					Children (6-12 years)				
Restaurant	Calories per item	Total calories per visit	Total calories from sat fat	Total calories from sugar	Total sodium (mg)	Calories per item	Total calories per visit	Total calories from sat fat	Total calories from sugar	Total sodium (mg)
McDonald's	243	627	63	127	1,031	270	717	81	156	1,168
Subway	325	683	73	147	1,617	363	754	82	176	1,856
Burger King	255	647	75	123	1,043	279	756	98	146	1,247
Starbucks	319	453	62	168	363	276	436	42	210	321
Wendy's	236	602	74	105	971	269	722	96	114	1,224
Taco Bell	254	505	57	92	1,213	253	540	59	116	1,241
Pizza Hut	488	1095	163	161	2,487	493	1,141	169	170	2,600
Dunkin' Donuts	255	460	69	104	670	267	477	69	119	678
KFC	187	670	90	120	1,789	190	731	97	150	1,879
Sonic	258	546	69	134	910	292	688	88	172	1,126
Domino's	567	992	174	78	2,167	552	1,043	179	90	2,247
Dairy Queen	411	863	114	188	1,313	430	848	122	251	1,037

	Teens (13-17 years)				
Restaurant	Calories per item	Total calories per visit	Total calories from sat fat	Total calories from sugar	Total sodium (mg)
McDonald's	352	985	115	197	1,561
Subway	408	897	89	204	2,231
Burger King	430	1,226	164	204	2,009
Starbucks	230	372	33	180	308
Wendy's	383	1,089	146	203	1,866
Taco Bell	329	910	95	234	1,936
Pizza Hut	501	1,403	207	219	3,248
Dunkin' Donuts	282	651	98	151	1,035
KFC	239	833	94	245	1,869
Sonic	399	981	130	281	1,473
Domino's	546	1,201	208	113	2,618
Dairy Queen	542	1,199	181	369	1,394

Source: The NPD Group/CREST®/2 Years Ending December 2009 and menu composition analysis (January 2010)

Average calories and sodium per visit: By race or ethnicity

	White youth (under 18 years)					African American youth (under 18 years)				
Restaurant	Calories per item	Total calories per visit	Total calories from sat fat	Total calories from sugar	Total sodium (mg)	Calories per item	Total calories per visit	Total calories from sat fat	Total calories from sugar	Total sodium (mg)
McDonald's	318	837	87	172	1,269	337	945	105	179	1,468
Subway	394	838	83	186	2,075	424	892	96	162	2,238
Burger King	367	981	117	176	1,545	407	1,087	143	160	1,816
Starbucks	247	383	38	177	307	268	418	37	200	357
Wendy's	341	917	116	181	1,411	364	1,005	133	161	1,691
Taco Bell	316	736	78	188	1,561	314	769	80	191	1,640
Pizza Hut	495	1,162	173	172	2,647	493	1,297	189	197	3,049
Dunkin' Donuts	269	535	79	123	816	286	677	104	173	1,032
KFC	222	820	101	195	2,014	226	782	94	224	1,801
Sonic	376	871	111	229	1,352	403	881	107	253	1,223
Domino's	562	1,048	183	85	2,275	533	1,192	203	125	2,600
Dairy Queen	509	1,067	154	310	1,313	501	1,050	166	298	1,326

	Hispanic youth (under 18 years)				
Restaurant	Calories per item	Total calories per visit	Total calories from sat fat	Total calories from sugar	Total sodium (mg)
McDonald's	319	862	92	174	1,326
Subway	388	900	87	198	2,213
Burger King	371	1,024	121	173	1,649
Starbucks	265	442	44	203	347
Wendy's	352	928	118	169	1,479
Taco Bell	312	697	74	179	1,509
Pizza Hut	496	1,226	177	209	2,758
Dunkin' Donuts	265	560	86	143	829
KFC	220	885	105	234	2,055
Sonic	371	858	104	200	1,393
Domino's	550	1,105	191	104	2,390
Dairy Queen	514	1,217	162	338	1,591

Source: The NPD Group/CREST®/2 Years Ending December 2009 and menu composition analysis (January 2010)