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Parental Characteristics and Reasons Associated with Purchasing Kids' Meals for Their Children

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Abstract

Purpose—Characteristics of parents who purchased kids' meals, reasons for the purchase, and desire for healthy options were examined.

Design—Quantitative, cross-sectional study.

Setting—National.

Subjects—The SummerStyles survey data for 1147 parents (18 years).

Measures—Self-reported outcome variables were purchase of kids' meals (yes/no), reasons for the purchase (13 choices), and desire for healthy options (yes/no).

Analysis—We used multivariable logistic regression to estimate odds ratios for purchasing kids' meals based on parental sociodemographic and behavioral characteristics.

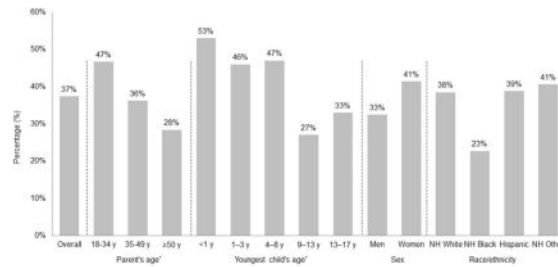
Results—Over half (51%) of parents reported purchasing kids' meals in the past month. The adjusted odds (OR) of purchasing kids' meals were significantly higher among younger parents (OR=3.44 vs. ≥50 years) and among parents who consumed sugar-sweetened beverages daily (OR=2.70 vs. none). No differences were found for race/ethnicity, income, and education. Parents who purchased kids' meals reported that the top 3 reasons for purchase were 1) because their children asked for kids' meals, 2) habit, and 3) offering of healthier sides like fruits or fruit cups. Thirty-seven percent of parents who did not purchase kids' meals expressed willingness to purchase kids' meals if healthy options were available; this willingness was highest among younger parents (47%) ($p < 0.05$).

Conclusions—Kids' meal purchases were somewhat common. Our findings on characteristics of parents who frequently bought kids' (i.e., younger parents and SSB consumers), common reasons for purchasing kids' meals, and willingness to buy healthier kids' meal can be used to inform intervention efforts to improve quality of kids' meals.

Graphical Abstract

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Keywords

Children; fast food; kids' meal; parents

Indexing Key Words

Manuscript format: Research-; Research purpose: Relationship testing; Study design: Cross-sectional; Outcome measure: Behavioral; Setting: Restaurants; Health Focus: Nutrition; Target population age: Children; Target population circumstances: Children who consume kids' meal

INTRODUCTION

The prevalence of obesity among US youth is 17%.¹ Fast food intake is associated with obesity and the prevalence of fast food consumption is high among US youth. Data from the National Health and Nutrition Examination Survey (NHANES) in 2007–2008 showed that 33% of children aged 2–11 years and 41% of adolescents aged 12–19 years consumed fast food on a given day.² Among those who consumed fast food, the average daily energy intake from fast food was 576 kcal (31% of total energy intake) among children and 988 kcal (42% of total energy intake) among adolescents.² Furthermore, consuming meals at fast food or full-service chain restaurants is associated with poorer diet quality among youth because of the higher intake of calories, solid fat, sodium, added sugars, and sugar-sweetened beverages (SSBs).^{3–5}

The portion sizes of kids' meals, which are specifically targeted to children, are generally smaller than restaurant meals targeted to adults. According to a report by the Center for Science in the Public Interest, 56% of the 50 chain restaurants that offer kids' meal did not have even one meal that met the expert nutrition standards in 2012.⁶ In the more recent years, restaurant chains have been improving the quality of kids' meals, such as providing healthier sides as the default option.⁷ For example, McDonald's™ switched to apples in place of French fries, which increased the percent of children who received fruit with their kids' meals from 28% in 2010 to 85% in 2013.⁸ Also, sales of soda among children decreased at McDonald's™ once sodas were removed as the default drink from kids' meals; soda sales were 56% of drink orders in July 2013–May 2014 and were reduced to 48% in July 2014–May 2015.⁹ In addition, all of the kids' meals at Subway® restaurants include apple slices and apple juice or low-fat milk as default option, meeting the expert and industry nutrition standards.⁶

Most chain restaurants offer kids' meal options and kids' meals are heavily marketed to children.^{7,10} Despite the availability and popularity of kids' meals, no studies have looked at the prevalence of kids' meal purchases and factors associated with kids' meal purchases at the national level. Furthermore, there is no information on potential reasons for why parents purchase kids' meals for their children, nor whether parents would be willing to purchase kids' meals if the meal options were healthier. This information could be used to better understand current kids' meal purchase patterns and to identify needs for intervention strategies to improve the quality of the kids' meal. Therefore, the objectives of this cross-sectional study were to examine 1) the sociodemographic and behavioral characteristics associated with parents' purchases of kids' meals, 2) parents' reasons for purchasing kids' meals, and 3) parents' willingness to purchase kids' meals if more healthy options were available at fast food and chain restaurants.

METHODS

Design

We used cross-sectional data from the summer wave of Porter Novelli's 2014 *Styles* survey (i.e., *SummerStyles*). The *Styles* survey is an annual national survey that contains a series of web-based surveys that gather information on the health-related attitudes and behaviors of American consumers. The survey participants were drawn from the KnowledgePanel^{®11}, a large-scale online panel of approximately 50,000 adults that is representative of the US population. Panel members were randomly recruited by probability-based sampling based on address, which included respondents regardless of phone or internet access. Households without a computer or no access to internet were provided with a laptop computer and internet access. CDC IRB review was not needed because CDC was not engaged in human subjects research for this analysis.

Subjects

To participate in the *SummerStyles* survey, respondents must have participated in the *SpringStyles* survey sent during April and May 2014. The spring wave of *Styles* survey was sent out to 11,018 adults aged 18 years old, and the response rate was 60.9% (n=6,713). Subsequently, during June and July 2014, the *SummerStyles* survey was randomly sent to 6,159 adults who completed *SpringStyles*. A total of 4,269 of the *SummerStyles* surveys were returned, yielding a response rate of 69.0%. The resulting data were weighted to reflect the US Current Population Survey 2014 proportions for sex, age, household income, race/ethnicity, household size, education level, census region, metro status, and internet access prior to joining the survey panel.

For the purpose of our study, we included adults aged 18 years old who reported being parents/caregivers of at least one child under the age of 18 in the household, hereafter referred to as *parents* (n=1,377). We excluded 230 participants (16.7%) who had missing data on kids' meal purchases. The final analytic sample included 1,147 adults. There were no age, sex, or race/ethnicity differences between the final analytic sample and those who were excluded.

Measures

The outcome variable was the purchase of kids' meals during the past month, which was assessed by following question: "During the past month, have you purchased kids' meals for a child at a fast food or chain restaurant (including drive-through)?" Response options were dichotomous (*yes* or *no*).

Parents responding *yes* to the question on kids' meal purchases were asked: "Did you buy any kids' meals at fast food or chain restaurants in the past month for the following reasons? Select up to 3 choices." A total of 11 response options were provided: a) There was a kids eat free or other special pricing; b) I had coupons for the kids' meals; c) They had healthier entrée options like grilled chicken; d) They had healthier beverages like low-fat milk, 100% juice, or water; e) They had healthier sides like fruits or fruit cups; f) They had free giveaways like toys or collectables; g) I saw in-store advertisements (e.g., posters) that highlighted kids' meals; h) I saw out-of-store advertisements (e.g., commercials, billboards); i) My children asked for kids' meals; j) I usually purchase kids' meals for my children; and k) None of these/Some other reason.

Parents who responded *no* to the question on kids' meal purchases were asked about their willingness to purchase kids' meals, if more healthy options were available in restaurants. This was assessed by the question, "Would you be more likely to purchase kids' meals for a child at a fast food or chain restaurant (including drive-through) if there were more healthy options?" Response options were dichotomous, *yes* or *no*.

Exposure variables included parental sociodemographic and behavioral characteristics. Sociodemographic variables were parental age (18–34, 35–49, or 50 years), sex, race/ethnicity (non-Hispanic white, non-Hispanic black, Hispanic, or non-Hispanic other races), education level (high school, some college, or college graduate), annual household income (<\$35,000, \$35,000–\$74,999, \$75,000–\$99,999, or \$100,000), geographic region (Northeast, Midwest, South, or West, based on the Census regions)¹², and marital status (married/domestic partnership or not married).

Behavioral variables included weight status, physical activity, smoking status, and SSB intake based on associations observed in previous studies.^{13,14} Weight status was classified into three categories based on the respondent's self-reported height and weight, which were used to calculate body mass index (BMI): underweight/normal weight (BMI <25 kg/m²); overweight (BMI 25 to <30 kg/m²); and obese (BMI ≥30 kg/m²).¹⁵ The weight status categories of underweight and normal weight were combined into a single category because <2% of participants were underweight. Physical activity was defined as engaging in any moderate or vigorous physical activity at least once a week (yes or no). Smoking status consisted of three categories (Current smokers reported smoking ≥100 cigarettes during their lifetime, and reported smoking every day or some days; Former smokers reported smoking ≥100 cigarettes during their lifetime but currently did not smoke; Never smokers reported smoking <100 cigarettes during their lifetime).¹⁶ SSB intake was calculated based on the response to the following question, "During the past month, how many times did you drink sodas, fruit drinks, sports or energy drinks, and other SSB (excluding 100% fruit juice, diet

drinks, and artificially sweetened drinks).” We calculated daily frequency of SSB intake and categorized totals into three levels (0, >0 to <1, or 1 time/day).

Analysis

We used descriptive statistics for examining 1) parents who purchased kids’ meals, 2) reasons that parents purchased kids’ meals, among parents who reported purchasing kids’ meals, and 3) parents’ willingness to purchase kids’ meals if more healthy options were available, among parents who did not purchase kids’ meals. Chi-square tests were used to examine the association between purchase of kids’ meals and sociodemographic and behavioral characteristics, as well as the relationship between demographic characteristics (parent’s age, sex, and race/ethnicity) and willingness to purchase kids’ meals if more healthy options were available among parents who did not purchase kids’ meals. A p-value of <0.05 was used to define statistical significance.

Multivariable logistic regression analysis was used to estimate adjusted odds ratios and 95% confidence intervals for the association between kids’ meal purchases and parental sociodemographic and behavioral variables in one model. All statistical analyses were performed with the Statistical Analysis Software (SAS) (version 9.3, SAS Institute Inc, Cary, NC) and all analyses accounted for the sample weights.

RESULTS

Among the 1,147 parents included in the analytic sample, 51% of all parents (Table 1) reported purchasing kids’ meals during the past month. Kids’ meal purchases differed significantly by parental age and parental SSB intake (χ^2 tests, $p<0.05$). Specifically, the proportion of parents who purchased kids’ meals during the past month was highest among parents aged 18–34 years and those who consumed SSBs daily (Table 1).

The adjusted odds of purchasing kids’ meals were significantly higher among younger parents (OR=3.4 for parents aged 18–34 years and OR=1.63 for those aged 35–49 years vs. 50 y) and daily sugar-sweetened beverage consumers (OR=2.7 vs. none). Kids’ meal purchase was not associated with parents’ sex, race/ethnicity, education, income, marital status, region, weight status, physical activity, or smoking.

Among parents who purchased kids’ meals (n=463), the top three reasons for purchasing them were 1) my child asked for kids’ meals (48%), 2) I usually purchase kids’ meals for my child (42%), and 3) they had healthier sides like fruits or fruit cups (25%) (Figure 1). The two least commonly reported reasons for purchasing kids’ meals were 1) I saw in-store advertisements (e.g., posters) that highlighted kids’ meals, and 2) I saw out-of-store advertisements (e.g., commercials, billboards).

Among parents who did not purchase kids’ meals (n=677), 37% responded that they were willing to purchase kids’ meals if more healthy options were available in restaurants (Figure 2). Parents’ willingness to purchase kids’ meals if more healthy options were available in the restaurants differed significantly by parental age (χ^2 tests, $p<0.05$), but not by sex or race/ethnicity. The proportion of parents who were willing to purchase kids’ meals if more

healthy options were available was highest (47%) among younger parents (18–34 years) (Figure 2).

DISCUSSION

In our sample, over half of US parents living with children 17 and under reported purchasing kids' meals during the past month and those who were younger and consume SSB daily were more likely to purchase kids' meals after adjusting for sociodemographic and behavioral characteristics. We found no differences by other characteristics often found to differ in nutrition behaviors including income, education, or race/ethnicity. To our knowledge, there is no information on the prevalence of kids' meal purchases prior to our study, a previous study reported that 1 in 3 children aged 2–11 years and 2 in 5 adolescents aged 12–19 years consumed fast food on a given day.² We found that parents aged 18–34 years were 3.44 times more likely to purchase kids' meal compared to those aged 50 years. It is possible that younger parents are more likely to have younger children who may be more attracted to kids' meals than older children. It is possible that younger parents are more likely to have younger children who may be more attracted to kids' meals than older children. Older parents may be more likely to have older children (e.g., preteens and teens) who buy their own food whereas younger parents are more likely to buy for their younger children. Further, the portion sizes of kids' meal may be perceived to be too small for preteens and teens; thus, older parents may not purchase them. For example, NPD market research found that kids' meals are the most common meals purchased by or for children age under 13 in fast food restaurants.¹⁰ Researchers found that age is correlated with SSB intake, with younger adults being higher consumers than older adults¹⁷ which may partially explain our findings.

In our study, parents reported purchasing kids' meals because their child requested it or because they habitually purchased kids' meals. Even though our study found that advertisements did not influence parents to purchase kids' meals, body of evidence have shown that advertisements are often targeted towards children, which might encourage children to ask their parents for food items.^{7,10,24–26} Experts have recommended that all foods and beverages marketed to children and adolescents aged 2–17 should support a diet that accords with the *Dietary Guidelines for Americans* in order to prevent obesity and risk factors associated with chronic diseases.²⁷ Yet, in 2008, 99% of 1,662 kids' meal combinations¹⁸ and in 2012, 97% of 3,494 of kids' meal did not meet the nutrition standards⁶ when compared to the *Dietary Guidelines for Americans*.¹⁹ Given that parents generally do not know how many calories are recommended for their child per meal²⁰ and people tend to underestimate calorie content of meals from fast food or chain restaurants²¹, improving dietary quality of kids' meal combinations to meet the nutrition standards can benefit parents looking for healthier options for their children when eating out. In attempts to provide healthier options in restaurants, the National Restaurant Association (NRA) launched Kids LiveWell in 2011, a voluntary industry program committed to providing healthful children's menu choices that meet qualifying nutrition criteria (e.g., 600 calories or less for full kids' meals; 770 mg of sodium).²² Kids LiveWell aims to improve the dietary quality of kids' meals by increasing nutrient-dense foods such as fruits and vegetables while reducing calories. At a single regional full-service chain restaurant, it was documented that

the Kids LiveWell improved the dietary quality of kids' meals without decreasing revenue by reducing the total calories children ordered by 63 kcals per meal (684 kcals vs 621 kcals), and increasing the frequency that healthy options were selected.²³ In our study, the offering of healthier sides such as fruits or fruit cups was third most common reason to purchase kids' meals, which demonstrates how industry can meet consumer demands in a healthier way.

Among parents who did not purchase kids' meals, the youngest parent group (18–34 years) was most willing to purchase kids' meals if more healthful options were available. Young parents, often described as the “Millennials,” have been reported to be more focused on what their kids eat and demand healthy kids' food when eating out.²⁸ It is possible that young parents purchase kids' meals when they perceive them as a healthier choice when eating out. This rationale is partly supported by our finding that one of the top three reasons to purchase kids' meal included ‘offerings of healthier sides such as fruits or fruit cups.’

To our knowledge, this is the first study to examine the prevalence of purchasing of kids' meals among parents, parental characteristics associated with purchase of kids' meals, reasons for the purchase, and desire for healthier meal options. However, this study has several limitations. First, our findings may not be generalizable to all US parents because a convenience sample of adults from an online consumer panel survey was used. However, data were weighted to match the U.S. Current Population Survey proportions for sex, age, household income, race/ethnicity, household size, education level, census region, metro status, and whether or not a respondent had internet access prior to joining the panel. Second, the *SummerStyles* data include self-reported information, which could be subject to recall and reporting biases. Third, no reliability or validity data is available on the instruments that were used to measure kids' meals purchase. Fourth, our study measured recall of kids' meals purchased by parents and not actual consumption of kids' meals by their children. Lastly, our study only focused on lack of healthier options as the reason for not purchasing kids' meals because of the potential public health benefit that consuming healthier kids' meals would have. It is possible that there are other important reasons why parents do not purchase kids' meals, such as: limited options that don't appeal to their children, portion sizes that are too small for older children, pricing factors (e.g., cheaper to split an adult meal), or lack of ethnic food options in kids' meal offerings. Future research exploring reasons for not purchasing kids' meals can help understand parent's desires in terms of kids' meals and inform industry to make changes.

In conclusion, kids' meal purchases were somewhat common; about 1 in 2 US parents living with children aged 17 y and under reported purchasing kids' meals in the past month. Younger parents and parents who consumed SSB at least once a day were more likely to purchase kids' meals in fast food and chain restaurants. Nearly half of parents who purchased the meals, purchased them as a result of their children's request and more than one third of parents who did not purchase the meals were willing to purchase kids' meals if more healthy options were available. Our findings suggest that intervention efforts to improve quality of kids' meals may benefit both children's health and industry profits because of the high prevalence of kids' meal purchases and because a substantial proportion of parents were willing to purchase kids' meals if more healthy options were available.

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SO WHAT? Implications for Health promotion Practitioners and Researchers

What is already known on this topic?

Kids' meals are options that parents can choose to purchase for their children in fast food or chain restaurants. Although few kids' meal combinations meet recommended nutrition standards, the industry has been implementing positive changes such as providing fruits as default sides and removing SSB from the default beverage options.

What does this article add?

Younger parents and parents who consume SSB daily were more likely to purchase kids' meals for their children. Nearly half of parents who purchased the meals, purchased them as a result of their children's request and more than one third of parents who did not purchase the meals were willing to purchase kids' meals if more healthy options were available, especially, the younger parents.

What are the implications for health promotion practice or research?

Encouraging fast food and chain restaurants to improve the nutritional quality of kids' meals could benefit parents who are looking for healthier options for their children when eating out. Further research could help identify why younger parents and daily SSB consumers are more likely to purchase kids meals.

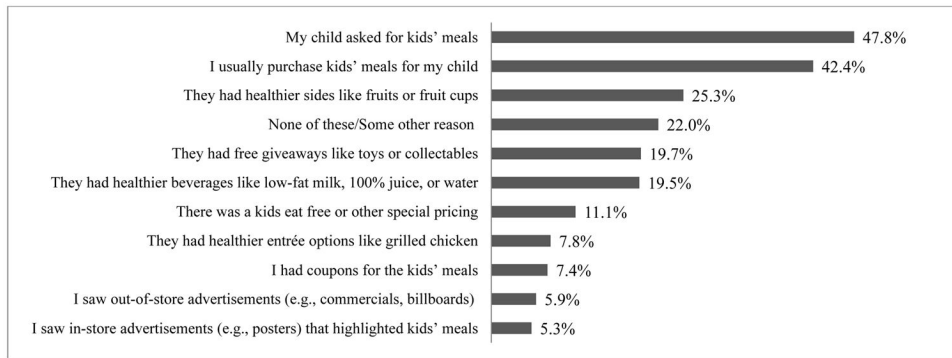


Figure 1. Reasons for purchasing kids' meals at fast food or chain restaurants among parents who reported purchasing kids' meals (n=463)^a

^aPercent can sum to more than 100% because up to 3 reasons were reported.

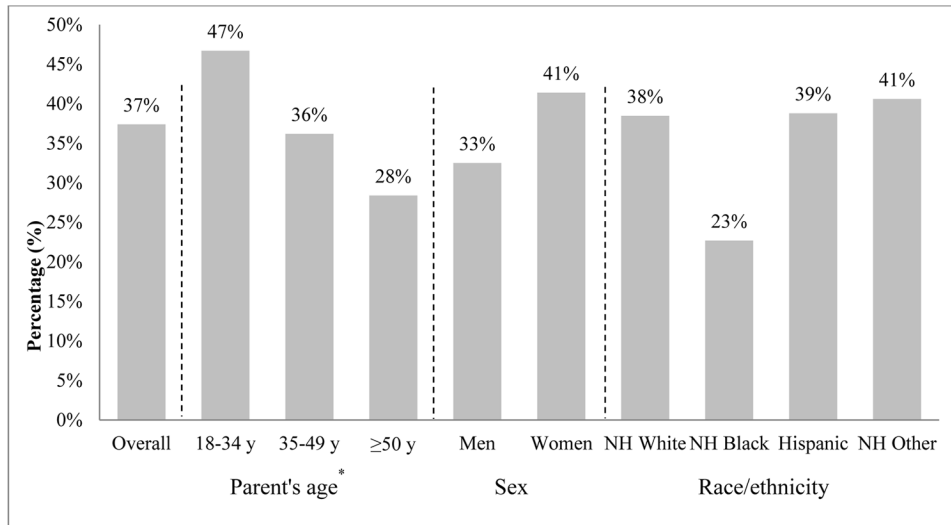


Figure 2. Willingness to purchase if more healthy options were available by age, sex, and race/ethnicity among parents who did not purchase kids' meals at fast food or chain restaurants, (n=677).

**P value* <0.05 based on chi-square test.

Table 1

Characteristics of parents and their associations with kids' meal purchases at fast food or chain restaurants —
SummerStyles Survey, 2014

Parental Characteristics	Overall n (%) ^a	Kids' Meal Purchases at Fast Food or Chain Restaurants		
		Bivariate Analysis ^b		Multivariate Analysis
		Yes	No	Yes
		(% ± SE)	(% ± SE)	Adjusted OR (95% CI) ^c
Total sample	1,147 (100.0)	51.2 ± 1.9	48.8 ± 1.9	
Age (n=1,147)				
18–34 y	207 (34.7)	63.5 ± 3.8 ^b	36.5 ± 3.8 ^b	3.44 (2.12 – 5.57)
35–49 y	661 (50.9)	47.7 ± 2.4 ^b	52.3 ± 2.4 ^b	1.63 (1.11 – 2.41)
50 y	279 (14.3)	34.0 ± 3.8 ^b	66.0 ± 3.8 ^b	Reference
Sex (n=1,147)				
Male	502 (43.2)	49.5 ± 2.8	50.5 ± 2.8	Reference
Female	645 (56.8)	52.5 ± 2.5	47.5 ± 2.5	1.02 (0.74 – 1.42)
Race/ethnicity (n=1,147)				
White, non-Hispanic	833 (63.9)	49.8 ± 2.2	50.2 ± 2.2	Reference
Black, non-Hispanic	89 (8.4)	53.4 ± 6.5	46.6 ± 6.5	1.14 (0.60 – 2.15)
Hispanic	151 (19.3)	51.8 ± 5.1	48.2 ± 5.1	0.89 (0.56 – 1.41)
Other, non-Hispanic	74 (8.3)	58.5 ± 7.5	41.5 ± 7.5	1.43 (0.76 – 2.70)
Education level (n=1,147)				
High school	271 (30.2)	53.4 ± 3.8	46.6 ± 3.8	1.06 (0.68 – 1.65)
Some college	397 (30.7)	50.9 ± 3.2	49.1 ± 3.2	1.09 (0.75 – 1.59)
College graduate	479 (39.1)	49.8 ± 3.0	50.2 ± 3.0	Reference
Annual household income (n=1,147)				
\$34,999	237 (21.3)	46.1 ± 4.2	53.9 ± 4.2	0.61 (0.35 – 1.07)
\$35,000–\$74,999	403(33.8)	55.9 ± 3.2	44.1 ± 3.2	0.97 (0.63 – 1.50)
\$75,000–\$99,999	208 (18.2)	49.6 ± 4.4	50.4 ± 4.4	0.88 (0.55 – 1.41)
\$100,000	299 (26.6)	50.4 ± 3.7	49.6 ± 3.7	Reference
Marital status (n=1,147)				
Married/domestic partnership	186 (15.5)	44.3 ± 5.0	55.7 ± 5.0	Reference
Not married	961 (84.5)	52.4 ± 2.0	47.6 ± 2.0	0.67 (0.41 – 1.09)
Geographic regions (n=1,147)				
Northeast	150 (12.1)	48.3 ± 5.3	51.7 ± 5.3	1.07 (0.64 – 1.77)
Midwest	313 (23.3)	52.6 ± 3.6	47.4 ± 3.6	1.08 (0.73 – 1.59)
South	421 (39.2)	51.2 ± 3.1	48.8 ± 3.1	References
West	263 (25.3)	51.2 ± 4.0	48.8 ± 4.0	1.01 (0.66 – 1.53)
Weight status^d (n=1,147)				
Underweight/normal weight	388 (37.4)	53.6 ± 3.2	46.4 ± 3.2	Reference

Parental Characteristics	Overall n (%) ^a	Kids' Meal Purchases at Fast Food or Chain Restaurants		
		Bivariate Analysis ^b		Multivariate Analysis
		Yes	No	Yes
		(% ± SE)	(% ± SE)	Adjusted OR (95% CI) ^c
Overweight	374 (30.2)	48.6 ± 3.4	51.4 ± 3.4	0.87 (0.59 – 1.28)
Obese	385 (32.3)	50.8 ± 3.3	49.2 ± 3.3	0.96 (0.65 – 1.42)
Engaging in any physical activity^e (n=1,147)				
No	260 (23.9)	54.1 ± 3.9	45.9 ± 3.9	1.24 (0.84 – 1.81)
Yes	887 (76.1)	50.3 ± 2.2	49.7 ± 2.2	Reference
Smoking status (n=1,142)				
Current	163 (15.2)	50.3 ± 5.2	49.7 ± 5.2	0.84 (0.52 – 1.36)
Former	298 (25.6)	48.7 ± 3.7	51.3 ± 3.7	0.89 (0.60 – 1.32)
Never	681 (59.2)	52.3 ± 2.4	47.7 ± 2.4	Reference
SSB consumption^f (n=1,139)				
None	336 (25.7)	43.3 ± 3.6 ^b	56.7 ± 3.6 ^b	Reference
>0 to <1 time/day	567 (52.3)	48.3 ± 2.7 ^b	51.7 ± 2.7 ^b	1.12 (0.77 – 1.62)
1 time/day	236 (22.0)	66.3 ± 3.6 ^b	33.7 ± 3.6 ^b	2.70 (1.70 – 4.28)

^aUnweighted sample size and weighted percent are presented. Weighted percent may not add up to 100% because of rounding.

^b χ^2 test was used for each variable to examine differences across categories, and p value was <0.05.

^cAll parental characteristics were included in one multivariable logistic regression model (n=1,134).

^dWeight status categories were defined using calculated BMI (kg/m²). Underweight/normal weight BMI<25.0; 25.0 Overweight<30.0; Obese 30.

^eEngaging in moderate or vigorous physical activity at least once a week.

^fSSB consumption: “During the past month, how many times did you drink sodas, fruit drinks, sports or energy drinks, and other sugar-sweetened drinks? Do not include 100% fruit juice, diet drinks, or artificially sweetened drinks.”

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