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# Fast-Food Marketing Receptivity and Fast-Food Consumption Among 6-11 Year Olds

# APPROVED BY SUPERVISING COMMITTEE:

Supervisor:

Keryn E. Pasch

Mary Steinhardt

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by

Calandra Jean Lindstadt, B.S. Kin.

# Thesis

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## Abstract

# Fast-Food Marketing Receptivity and Fast-Food Consumption Among 6-11 Year Olds

Calandra Jean Lindstadt, M.S. Hlth. Ed. The University of Texas at Austin, 2015

Supervisor: Keryn Pasch

#### Abstract

Obesity is a risk factor for serious diseases such as coronary heart disease, type 2 diabetes, and stroke.<sup>1</sup> Although childhood obesity appears to have stabilized somewhat in recent years, the prevalence for 6-11 year olds remains high at 17%.<sup>2</sup> Diet is a major determinant for weight gain in children,<sup>3</sup> and child fast-food consumption has been associated with an unhealthy diet due to poor nutritional quality and excessive caloric content.<sup>4,5</sup> Unlike other industries that have been linked to negative health outcomes, such as cigarettes and alcohol, fast-food companies are under few regulations regarding marketing toward children.<sup>6</sup> The purpose of this study was to examine the relationship between children's receptivity to fast-food marketing, (as measured by awareness of advertising, collecting fast-food toys, as well as ownership/willingness to own fast-food

branded merchandise), and weekly fast-food consumption in order to better understand how receptively may be associated with fast-food consumption among 6-11 year olds.

A sample of 100 children ages 6-11 years completed a self-report survey, which included questions on exposure to fast-food advertising, whether or not they collected fast-food toys, and their ownership/willingness to own fast-food branded merchandise (such as t-shirts, water bottles, or caps). An index of receptivity was created from these responses. Parents also completed a self-report survey on several domains including child fast food consumption and demographics. Logistic regression models were run, both unadjusted and adjusted for age, race, and gender, to examine the relationship between receptivity to fast food marketing and fast food consumption. Results suggest that neither unadjusted nor adjusted models were significant (OR 1.05, C.I. 0.87 - 1.28, and OR 1.07, C.I. 0.87 - 1.30 respectively). Although results of this study suggest there is no relationship between receptivity to fast food marketing and fast food consumption, the results should be interpreted with caution due to the small size of the sample. Therefore, further research is needed with larger samples to determine if these null findings hold.

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# Background

According to the most recent estimate based on data from the National Health and Nutrition Examination Survey (NHANES), 17.7% of US children (6-11 years old) had a body mass index (BMI) score above the 95<sup>th</sup> percentile for their height and weight, classifying them as obese.<sup>2</sup> Childhood obesity has been linked to an increased risk for health outcomes such as hyperlipidemia, hypertension, glucose intolerance, hepatic steatosis, as well as low self-esteem and eating disorders.<sup>7</sup> Studies show that youth who are classified as overweight or obese children and adolescents are at an increased risk of growing up to be classified as obese adults.<sup>8,9</sup> Additionally, obese adults who were also classified obese as children are at the highest risk for developing metabolic syndrome, a frequently observed accumulation of symptoms, specifically: elevated blood pressure, fasting blood sugar, cholesterol levels, and excess abdominal fat, which can lead to increased cardiovascular risk.<sup>10</sup> Although the prevalence of obesity has seen some stabilization in children,<sup>2</sup> the condition is extremely difficult to reverse in adulthood making it a serious problem best caught early.<sup>11</sup>

While the etiology of obesity is complex, including genetic and environmental as well as behavioral factors, the literature suggests that dietary choices, such as fast-food consumption, may be particularly important to understanding this condition. Significant associations have been found between adolescent obesity and fast-food consumption making it one of several behaviors to target in order to reduce the prevalence of obesity.<sup>12,13</sup> Although there is not much conclusive evidence for 6-11 year olds, a large,

national longitudinal study, the National Longitudinal Study of Adolescent Health (NLSAH) followed 9919 adolescents aged 11-21 for five years; analysis of the data found that greater reported fast-food consumption predicted higher BMI scores at follow up measurement.<sup>13</sup> Studies such as this suggest that the negative effects of fast-food consumption may not be obvious until later in life, however the habits of consumption are likely formed much earlier in life, therefore targeting a younger population may be necessary.<sup>14</sup>

The relationship between fast-food and obesity is a complex one and researchers are still trying to untangle the causal pathway. Eating at fast-food restaurants more frequently has been associated with greater total daily caloric consumption and a less healthy diet overall.<sup>4</sup> Powell and Nguyen found that dining at a fast-food restaurant increased total daily caloric consumption by a net of 126 kcal for children.<sup>5</sup> According to NIH.gov, consuming an extra 126 kcal per day could lead a child to a gain nearly 8.5 lbs over the course of one year.<sup>3</sup> Also, although fast-food companies have made efforts to add healthier meal items to their menus, the nutritional quality of kid's menu offerings is consistently poor in most major fast-food restaurants in the US and around the world.<sup>15,16</sup> A comprehensive study of the kid's menus at five major US fast-food chains found that the vast majority of kid's meals failed to meet dietary guidelines and consistently exceeded dietary guidelines for sodium, as well as solid fats and added sugars (SoFAS).<sup>16</sup>

While fast-food menus may be trying to feature some healthier meal options, most fast-food advertisements tend to be for unhealthy products. Despite the growing concern over the nutritional content of foods marketed toward children, studies have found that all food advertisements targeting children continues to promote an increasing amount of food high in SoFAS and sodium.<sup>17–19</sup> In fact, Powell et al. found that in spite of greater regulation, the number of food related advertisements viewed per day remained virtually unchanged for 6-11 year olds from 2003 and 2011 (>13 ads/day); they also found that these ads tended to be overwhelmingly (86%) for unhealthy foods.<sup>19</sup>

The top grossing fast-food corporations have responded to social pressure by creating and sponsoring the Children's Food and Beverage Advertising Initiative (CFBAI), a regulating body designed to encourage fast-food restaurants to incorporate a greater proportion of "healthy food items" (those that meet self-imposed nutritional criteria) into their ads.<sup>20</sup> Unfortunately, due to poor interpretation in practice and a lack of enforcement, the success of these regulations is questionable at best.<sup>21</sup> In 2010, McDonald's and Burger King began showing healthy meal items in their television ads. However, a study reviewing children's comprehension of the ads portraying healthy foods showed that the various healthy elements represented were not differentiated clearly enough for children to distinguish them from the company's unhealthy products, with 81% of the children misidentifying Burger King's images of apples as "French fries".<sup>21</sup>

Further, fast-food companies are increasingly targeting their youngest consumers: the number of fast-food advertisements shown during children's shows has steadily increased over the last 40 years.<sup>19,22</sup> A longitudinal study spanning three decades analyzed the content of ads on Saturday morning television; this study found that children saw an average of 20% more fast-food ads in 1999 than they did in 1971 and that fastfood advertisements made up 28% of all food advertising for Saturday morning commercial airtime.<sup>22</sup> In contrast, dairy products were responsible for a mere 3% and fruits and vegetables held 0% of Saturday morning commercial air-time.

The upward trend in marketing to young consumers is disturbing due to the fact that exposure to food advertising appears to be a major factor influencing food choices and eating behaviors among children and is likely a contributing factor to adiposity.<sup>23–26</sup> Viewing advertisements for unhealthy foods has been linked to a spill-over effect whereby exposure to television food advertising is correlated with an increased preference for branded unhealthy food products as well as non-branded high fat and carbohydrate rich food products.<sup>23,27</sup> Boyland et al. found that after viewing television food advertising both branded and non-branded unhealthy food items.<sup>23</sup> Although this study was cross-sectional in design, these findings imply that some children may be more vulnerable to fast-food advertising and that this vulnerability may linked with elevated weight through increased choices of unhealthy food items.

The observed influence of fast-food advertising is partially explained by the way that children tend to process advertising messages. The Elaboration Likelihood Model (ELM), developed by Petty and Cacioppo, suggests there are two pathways by which the consumer processes new information: a central pathway that calls for high attention, and a peripheral pathway that relies on positive or negative associations in order to form a response to the informational cues.<sup>28</sup> What limited testing of the ELM has been done in children indicates that children tend to process advertisements through the peripheral

pathway, relying on a network of emotions to help them make decisions.<sup>29–32</sup> Research has shown that fast-food companies are likely exploiting this peripheral processing pathway via several different methods. Bernhardt et al., tested children's recall of fastfood advertisements and found that children are just as likely to recall special promotions or movie character tie-ins as they are to recall the food content of fast-food ads.<sup>33</sup> Bernhardt and colleagues' results suggest that fast-food companies successfully associate their fast-food brand with favorite movie-characters as well as food products, effectively linking the positive associations kids have for beloved movie-characters to the fast-food brand. Theoretically these emotions will be felt every time the child sees the brand, which results in the ultimate objective of fast-food companies, insertion of the brand into the child's environment as often as possible.

In order to maintain a constant presence, fast-food companies must spend a tremendous amount of money on marketing, including television, magazine, on-line advertising as well as promotional branded merchandise, or what the Federal Trade Commission (FTC) calls "premiums." These premiums include branded items as well as items that incorporate popular movie character tie-ins such as hats, t-shirts, water bottles, and toys. Premiums create positive, emotional feelings for the brands they represent by tapping into children's affective responses to both the items and the movie characters. Fast-food restaurants attempt to take advantage of this affective response by employing the use of premiums as a large component of their marketing tactics targeting children. For 2009, the FTC estimated that fast-food restaurants spent a total of \$714 million on all

marketing to youth; the FTC also reported that total youth-directed premiums in 2009 amounted to \$314.7 million, or 44% of all youth-directed expenditures.<sup>34</sup>

Distribution of branded premiums has been successfully employed as a marketing technique by both the tobacco and alcohol industries to cultivate adolescent users.<sup>35,36</sup> Research on youth susceptibility to the marketing practices of tobacco and alcohol companies has examined the concept of "receptivity". Receptivity has been measured as some combination of an individual's awareness of advertisements, approval or liking of advertisements, desire to own branded products, and actual ownership of branded products. Numerous studies have demonstrated that receptivity to marketing is correlated with susceptibility to use alcohol and tobacco products.<sup>37–42</sup> For both alcohol and tobacco products, research indicates that ownership of branded merchandise is correlated with increased risk for future use.<sup>36–39,43,44</sup>

Despite the potential risks of fast-food consumption and the fact that fast-food companies aggressively market to children, researchers have only recently begun considering the relationship between receptivity to fast-food marketing and fast-food consumption patterns in young consumers. McClure and colleagues are the first and currently only researchers to publish a study measuring the relationship between receptivity to fast-food marketing and obesity in youths, as measured by awareness and liking of fast-food advertisements.<sup>36</sup> A sample of 2541 young Americans aged 15-23 was shown a series of 20 still images taken from fast-food advertisements with all branding removed; individuals were scored for affective response (1 point if they reported liking the ad) and cued recall (2 points if they could identify the fast-food company who had

placed the ad). This study found that the odds of being classified as obese increased by 19% for every point increase on the TV fast-food receptivity scale (OR=1.19, 95% CI=1.01, 1.40) demonstrating that receptivity to fast-food marketing may be linked to consumer behavior.

The study conducted by McClure and colleagues is both a unique and important addition to the body of knowledge regarding the effects of fast-food marketing on youth behavior; however, this study only included older adolescents and young adults. This study also did not include any measures of fast-food branded premiums, either ownership or toy collection, even though premiums account for a significant portion of the marketing dollars fast-food companies spend targeting young consumers,<sup>34</sup> and they have been shown to be significantly related to measures of use for tobacco and alcohol.<sup>36–</sup> <sup>39,43,44</sup> Additionally, fast-food branded premiums may be particularly important for younger age groups as advertising and distributing branded merchandise to children, through kid's meals, are marketing tactics frequently used by fast-food companies. Although the effect of fast-food marketing on fast-food consumption in children remains unclear, this study seeks to determine if receptivity to fast-food marketing is associated with fast-food consumption among children aged 6-11.

#### **RESEARCH QUESTION**

Is receptivity to fast-food marketing (including awareness of ads in the environment, toy collecting, and ownership/willingness to own fast-food branded merchandise), associated with consumption of fast-food in 6-11 year olds?

# Hypothesis

Higher scores on an index of receptivity to fast-food marketing (including measures of advertising awareness, toy collecting, and ownership/willingness to own fast-food branded merchandise) will be associated with a greater likelihood of consuming fast food at least once in the past week.

## Methods

#### **STUDY DESIGN**

The data for this paper were taken from a cross-sectional study on youth attention to televised fast-food advertising and the impact of televised fast-food advertising on youth food and beverage choices, which took place from July 2013 to June 2014. Attention to the components of fast-food advertising among a sample of 100 children aged 6-11 years old was documented using eye-tracking technology and youth and parents completed a self-report survey. In particular, the surveys focused on demographic information as well as information about the child's fast-food and sugar sweetened beverage consumption, television and ad viewing. The parent survey consisted of 45 items while the youth survey consisted of 19 items.

#### **PARTICIPANTS**

Participants consisted of 100, 6-11 year olds who were recruited from the greater Austin area in several stages through flyers distributed throughout the surrounding community, including child-care centers and university summer camps. A large number of participants were successfully recruited from a community Facebook page. Subjects were screened over the phone and in a few cases via e-mail. Children were excluded from the study if they had dietary restrictions, which would prohibit them from eating at fast-food restaurants or vision problems requiring corrective devices.

Consent was collected from the parents and assent from the children. Parents were asked to sign a consent form and given a copy of the consent form for their records. Children were given the option to read the assent form themselves or have it read out loud to them; they then signed assent forms and a copy of the assent form was given to the parent for their records.

After signing the assent form, children were led to a quiet room to complete the rest of the study requirements. First their attention was recorded while they watched a short, 20-minute kid's show embedded with 5 fast-food ads from McDonald's and Burger King as well as 10 filler ads for non-food/beverage products. Upon completion of the kid's show, the children were given the survey. Finally, the children were asked several short opened ended questions about what they had just watched. Parents filled out the parent survey while their child completed the study requirements. Parents received \$10 for participation while children received \$15.

#### **MEASURES**

The youth survey included measures of fast-food consumption, sugar sweetened beverage consumption, fast-food advertising awareness, and television viewing habits, as well as fast-food toy collecting, fast-food branded merchandise ownership and willingness to own fast-food branded merchandise (see Appendix A). The parent survey included measures of demographics, as well as home-dining habits, child's fast-food consumption and sugar sweetened beverage consumption, and child television viewing (see Appendix B).

#### Independent variable: Receptivity to Fast-Food Marketing

For the present study, a receptivity index was created to assess child receptivity to fast-food marketing using four of the youth survey questions. Advertising awareness was

assessed using the question "Now think about the past seven days, have you seen or heard advertisements for fast-food? Where did you see them? This does not include the television commercials you just watched." There were up to 7 response options and responses were coded 0 for no fast-food ads, or 1 for each possible place children indicated they had seen fast-food advertising. Response options included "Billboards"=1, "Inside or outside of stores"=1, "At community events"=1, "In magazines"=1, "On television"=1, "On radio"=1, and "On computer or internet"=1. Answers were summed with a maximum possible score of 7.

Toy collecting from fast-food restaurants was assessed with the item "Do you own or collect toys from fast-food restaurants?" Answers were coded "Yes"=1 or "No"=0. Ownership of fast-food branded merchandise was assessed using the question "Not including toys, do you own or collect anything that has the name of a fast-food company on it, like a t-shirt, hat, poster, or water bottle?" The answers to this question were coded "Yes"=1 or "No"=0. Finally, willingness to own fast-food branded merchandise was assessed using the question "Not including toys, would you ever wear or use an item that has the name of a fast-food company on it, like a t-shirt, hat, poster, or water bottle?" the answers to this question were simply "Yes"=1 or "No"=0.

Total scores on the index were then summed and had a range of 0-10. Surveys where 20% or more of the response data was missing were not included, this left a sample of n=87 participants with data for the receptivity index scores.

#### **Dependent variable:** Fast-Food Consumption

Consumption of fast-food was determined using one item from the parent survey, "During a typical week, how many times does your child eat fast-food (i.e. a quick service restaurant where you order and pay at a cash register)?" Answers ranged from less than one time in a week to more than 7 times in one week and response options were coded "Less than once a week" = 0, "1-3 times per week" = 1, "4-6 times per week" = 1, and "7 or more times per week" = 1.

#### **DATA ANALYSIS**

SPSS statistics package 22.0 was used to generate descriptive statistics and run a logistic regression model in order to determine if receptivity to fast-food marketing was associated with fast-food consumption in the past week. Analyses were run unadjusted and adjusted for age, race, and gender.

#### Results

Participants were 59% female and age ranged from 6-11 (average 8.4 years). Of the children, 65% identified as white, 11% black or African American, 2% Asian, 9% other race, and 13% were of mixed race. For ethnicity, 35% identified as ethnically Hispanic or Latino. Over 50% of parents reported having a combined family income greater than \$75,000 after taxes for 2012, 68% of guardians reported holding a bachelor's degree or higher, and only 17% and 4% reported receiving either SNAP or WIC benefits in the last 12 months respectively (Table 1).

Overall, 39% of the children answered yes for toy collecting, while 23% reported collecting any items with fast-food brand names on them, and 40% said they would wear or use items with a fast-food brand on them (Table 1). As reported by the parents, 56% of the children ate fast-food more frequently than one time per week, with 46% of the sample reporting their child ate at fast-food restaurants 1-3 times per week, 5% reported 4-6 times per week, and 5% reported that their child ate at fast-food restaurants 7 or more times per week (Table 1).

Table 1: Sample Descriptives (n=87)						
Measures	% or <i>m</i> (SD)					
Age	8.43 (1.72)					
Gender						
Female	59%					
Race						
White	65%					
Black/African American	11%					
Asian	2%					
Other	8%					
Mixed race	13%					
Ethnicity child						
Hispanic/Latino	35%					
In the last 12 months did anyone in your household receive						
SNAP	17%					
WIC	4%					
Combined family income						
<\$75,000	47%					
Child frequency eating FF in past week						
Less than 1 times	44%					
1-3 times	46%					
4-6 times	5%					
7 or more times	5%					
Seen or heard ads for FF	86%					
Own or collect FF toys	39%					
Own or collect anything that has a FF name on it	23%					
Would wear or use anything that has a FF name on it	40%					

The unadjusted relationship between the Fast-Food Marketing Receptivity Index and Weekly Fast-Food Consumption was not significant (OR 1.056, 95%CI 0.870 -1.281) (Table 2) suggesting that a greater score on the fast-food marketing receptivity index was not associated with an increased likelihood of fast-food consumption in the past week. The relationship remained non-significant when controlling for the gender,

age, and race of the child (Table 2).

 

 Table 2: Relationship Between Fast-Food Marketing Receptivity Index and Weekly Fast-Food Consumption Among 6-11 year olds

Table 2: Relationship Between Fast-Food Marketing Receptivity Index and         Weekly Fast-Food Consumption Among 6-11 Year Olds (n=87)								
	Unadjusted Adjusted							
	OR	95% C.I.	OR	95% C.I.				
Receptivity Index	1.05	0.87 - 1.28	1.07	0.87 - 1.30				
Gender			1.53	0.61 - 3.79				
Age			0.82	0.61 - 1.07				
Race			1.05	0.87 - 1.25				

## Discussion

This study examined the hypothesis that receptivity to fast-food marketing is associated with weekly fast-food consumption in 6-11 year olds. For receptivity, we measured advertising awareness as well as ownership of fast-food branded merchandise. A high proportion of the children (86%) reported that they had seen fast-food advertising in the past week. This finding supports the current literature, suggesting that even young children are aware of the fast-food advertising surrounding them.<sup>36,37,40–45</sup> Nearly half of the children indicated that they collected fast-food toys, and more than 60% of the children said that they either owned or were willing to use fast-food branded merchandise. The fact that most of the children own or would be willing to own fast-food premiums strengthens the emerging hypothesis that receptivity to fast-food marketing may be an important variable in the relationship between fast-food marketing and fastfood consumption. Although not supportive of our hypothesis, the findings of this study do lend support to the current literature by demonstrating that 6-11 year olds are highly exposed to fast-food advertising and a large number are interested in branded merchandise.

Although more than half of the children (66%) were reported to eat at fast-food restaurants at least one time per week, the present study found no relationship between fast-food marketing receptivity and fast-food consumption. While one previous study has found that a measure of receptivity may be predictive for fast-food consumption for adolescents,<sup>36</sup> receptivity has yet to be demonstrated as a factor related to fast-food

consumption in children aged 6-11 years. The lack of a relationship between receptivity to fast-food marketing and weekly fast-food consumption for 6-11 year olds may be partially explained by the fact that, unlike adolescents who are beginning to have more control over what they eat, 6-11 year olds tend to have little agency in the decisions of what they eat, generally depending on caregivers for their meals.<sup>46</sup> This age group also eats many meals at school, which diminishes their opportunities for off-campus fast-food meals, unlike adolescents who may have the option to leave the school campus in search meals.

Another possible explanation for the lack of an apparent relationship between fast-food marketing receptivity and fast-food consumption in 6-11 year olds may be due to the complicated relationship between fast-food marketing and general food consumption behaviors for this age group. Unlike receptivity to alcohol and tobacco advertising, which several studies have linked to an increase in susceptibility to future alcohol and tobacco consumption,<sup>37–42</sup> fast-food marketing appears to create a spill-over effect whereby viewing fast-food advertisements does not lead straight to fast-food consumption but instead drives consumption of unhealthy foods in general.<sup>23,27</sup>

The findings of the present study are surprising as they contradict the literature in the area of marketing to youth. Practical observation requires consideration of the millions of dollars spent by fast-food companies on branded premiums. It is reasonable to assume that they would only spend these sums of money on branded premiums aimed at children (\$714 million per year) if these premiums were effectively influencing children to purchase more fast-food. Further, research in the area of fast-food marketing to children has shown that premiums (including items such as toys, and water bottles or clothing items carrying a fast-food brand logo) may influence the decisions children make when choosing fast-food. A recently published Canadian study documented what they term "The Happy Meal Effect".<sup>47</sup> For this study, a sample of 337 children, aged 6-11 years, who attended YMCA day camps in Ottowa, were randomized into a treatment or a control group. Both groups were offered four Happy Meal options that included two healthy and two unhealthy meals. The treatment group was offered toys with the healthy options only while the control group was offered toys with all four choices. Unsurprisingly there was a significant difference in meal choices between groups, with the treatment group choosing the healthy, toy-included meals significantly more often than the controls (OR=3.19, 95% CI: 1.89-5.40). The inclusion, or lack thereof, of toys influenced the decisions of the children.

The conflicting findings in the literature only underscores the importance of continuing to examine the relationship between fast-food marketing receptivity and fast-food consumption for children in order to effectively protect the well-being of young consumers. In 2010, a county in California ruled that restaurants could no longer give away free toys with food and beverages that failed to meet nutritional standards laid out by the ordinance. Analysis of the effects of the ban showed that, while McDonald's responded by simply selling its toys for 10 cents with the purchase of a happy meal, the average restaurant in the affected area increased marketing for healthy kids menu items.<sup>48</sup> However, it is not yet known how this legislation will affect the consumption behavior of children affected by the free toy-ban. Regulation of fast-food marketing may be an

effective way to encourage restaurants to feature, and children to choose, healthier meal options but without more data it will be difficult to know how best to aim our efforts.

#### **STRENGTHS AND LIMITATIONS**

This study has many strengths. This study surveyed both children and parents, removing the chance that children, who may have difficulty interpreting a question that deals with the concept of "typical", might misreport their weekly fast-food consumption. Asking parents instead of children about weekly fast-food consumption is likely to be more accurate for this age group. This study is also the first to include toy collecting, in addition to advertising awareness and ownership of branded items, in an index for measuring receptivity to fast-food marketing in 6-11 year olds. Given the potential importance of toys to 6-11 year olds <sup>47</sup> it is reasonable to include toy collecting as it may be associated with fast-food consumption.

While this study does have several strengths, it also has some limitations. The primary limitation is the sample size of only 87 subjects. This may have been insufficient to provide enough power to find a relationship between receptivity and fast-food consumption. This study also relied on self-report of the parent for the dependent variable, weekly fast-food consumption, which may result in underreporting of fast-food consumption, either because children consumed more fast-food out of their parents' care or because of social desirability bias, as parents may not wish to report a high amount of fast-food consumption for their child because it is generally considered unhealthy to eat fast-food frequently. Finally, due to the cross-sectional nature of the data, it is not possible for this study to determine if receptivity leads to fast-food consumption or if

fast-food consumption leads to receptivity. Future research incorporating larger sample sizes and longitudinal designs, are needed in order to establish whether fast-food consumption leads to fast-food marketing receptivity or vise verse.

## Conclusion

This study has added to the limited current knowledge regarding the relationship between fast-food marketing to children by demonstrating a null effect for the relationship between receptivity to fast-food marketing and fast-food consumption. Given that children are a vulnerable population that must be protected by society in order to preserve their best interests,<sup>49</sup> further research in this area is warranted. Enough concern has been raised regarding the effects of fast-food consumption and the lack of regulation for fast-food marketing toward children, that California has begun regulating the methods fast-food companies may use to market to their young consumers.<sup>48</sup> However, the null finding of this study indicates that more evidence must be gathered before we will have a full picture of the relationship between fast-food marketing and fast-food consumption.

# Appendices

#### APPENDIX A

ID CODE:	
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#### **YOUTH SURVEY**

**<u>READ</u>**: The first set of questions is about your personal characteristics.

1.) How old are you? \_\_\_\_\_ years old

2.) What grade are you in (OR if summer, what grade did you just finish)?  $\square_0$  Kindergarten  $\square_1$  1<sup>st</sup>  $\square_2$  2<sup>nd</sup>  $\square_3$  3<sup>rd</sup>  $\square_4$  4<sup>th</sup>  $\square_5$  5<sup>th</sup>  $\square_6$  6<sup>th</sup>  $\square_7$  7<sup>th</sup>

3.) Do you usually eat meat?  $\Box_0$  No  $\Box_1$  Yes

<u>READ</u>: In the next set of questions, I am going to ask you about different foods that you eat. Please answer each question based on your eating patterns, including meals and snacks, over the past week.

4.) During the past 7 days, how often did you...

	Did not drink this during the past 7 days	1-3 times during the past 7 days	4-6 times during the past 7 days	1 time per day	2 times per day	3 times per day	4+ times per day
<b>100% fruit juice</b> or <b>100%</b> <b>fruit juice mixtures</b> (for example apple, grape, orange, or others)				<b></b> 3		<b>_</b> 5	
Other fruit drinks (for example cranberry cocktail, Hi-C, lemonade, or Kool- Aid, diet or regular)				<b>_</b> 3		<b>_</b> 5	
White milk						5	
Chocolate milk (this includes hot chocolate)				<b>_</b> 3		□ <sub>5</sub>	
Soda or pop (NOT diet)						□ <sub>5</sub>	
Diet Soda or Diet Pop				<b></b> 3	<b>_</b> 4	<b>_</b> 5	6
<b>Sports drinks</b> (for example Propel, PowerAde, or Gatorade)?						□ <sub>5</sub>	
<b>Energy drinks</b> (for example Red Bull, Monster or Jolt)?				<b>_</b> 3	<b>4</b>	□ <sub>5</sub>	

	2. 2.5				a	· · · · · · ·	
Water (including tap,			$\Box_2$			5	
bottled and carbonated, non-	0	1	- 2	5			0
flavored)				s. — s. — s. — · — ·	17 L 18		
Bottled, sweetened water						5	6
(water that has low or no-	U	1	2	5	-	5	0
calorie sweetener, including							
carbonated water)?							

5.) Do your parents let you make decisions about what you want to eat?  $\square_0$  No  $\square_1$  Yes

6.) What is your favorite fast food restaurant? A fast food restaurant is a quick service restaurant where you order and pay at a cash register.

7.) Now think about the past seven days, have you seen or heard advertisements for **fast food**? Where did you see them? This does not include the television commercials you just watched.

- Billboards
- □ Inside or outside of stores
- At community events
- In magazines
- On television
- On radio
- On computer or internet

8.) Now think about the past seven days, have you seen or heard advertisements for **sugar-sweetened beverages**? For example, sweetened teas, soda, sports drinks, energy drinks. Where did you see them? This does not include the television commercials you just watched.

- Billboards
- □ Inside or outside of stores
- At community events
- In magazines
- On television
- On radio
- On computer or internet

9.) Do you own or collect toys from fast food restaurants? $\Box$	$\square_0$ No	$\square_1$ Yes
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10.) Not including toys, do you own or collect anything that has the name of a fast food company on it, like a t-shirt, hat, poster, or water bottle?  $\Box_0$  No  $\Box_1$  Yes

11.) Not including toys, would you ever wear or use an item that has the name of a fast food company on it, like a t-shirt, hat, poster, or water bottle?  $\Box_0$  No  $\Box_1$  Yes

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12.) Not including toys, do you own or collect anything that has the name of a sugar-sweetened beverage on it, like a t-shirt, hat, poster, or water bottle?  $\Box_0$  No  $\Box_1$  Yes

13.) Not including toys, would you ever wear or use an item that has the name of a sugarsweetened beverage on it, like a t-shirt, hat, poster, or water bottle?  $\Box_0$  No  $\Box_1$  Yes

14.) On a typical weekday (Monday through Friday), how many hours do you usually do the following?

	None	Less than ½ hour	½ to 2 hours	2 ½ to 4 hours	4 ½ to 6 hours	6+ hours
Watching TV		$\square_1$	$\square_2$	$\square_3$		<b>5</b>
Watching DVDs or videos				3	4	5
Video games (e.g. Wii, Nintendo)				<b></b> 3		
Internet (e.g. computer, tablet)				3		5

15.) On a typical weekend day (Saturday and Sunday), how many hours do you usually do the following?

	None	Less than ½ hour	½ to 2 hours	2 ½ to 4 hours	4 ½ to 6 hours	6+ hours
Watching TV				$\square_3$		□ <sub>5</sub>
Watching DVDs or videos				3	4	5
Video games (e.g. Wii, Nintendo)				<b></b> 3		
Internet (e.g. computer, tablet)				<b>_</b> 3	4	□ <sub>5</sub>

16.) How likely is it that seeing a lot of fast food advertisements or commercials would make a kid want to eat these foods?

 $\begin{array}{c} \square_0 \quad \text{Very unlikely} \\ \square_1 \quad \text{Unlikely} \\ \square_2 \quad \text{Somewhat likely} \end{array}$ 

 $\square_3$  Likely

 $\Box_4$  Very likely

17.) How likely is it that seeing a lot of advertisements or commercials for sugar-sweetened beverages would make a kid want to drink these items?



 $\Box_4$  Very likely

18.) Does your parent talk to you about how advertisements and commercials are used to get you to buy things?

Never
Hardly ever

 $\square_2$  Sometimes

 $\square_3^2$  A lot

 $\Box_4$  All the time

19.) When watching shows on television, what do you usually do when commercials come on?

- $\Box_0$  I don't know.
- $\square_1$  I watch them.
- $\square_2$  I ignore them.

 $\square_3$  I mute them.

 $\Box_4$  I fast-forward through them.

 $\square_5$  I avoid commercials by only watching programming without commercials (e.g.

PBS or watching DVDs)

 $\Box_6$  I change the channel.

#### FF MEDIA Study Height and Weight Measurement Information

DATE:
AGE:
1 <sup>st</sup> recording: Height (to the nearest 0.1 cm): cm
2 <sup>nd</sup> recording: Height (to the nearest 0.1 cm): cm

1<sup>st</sup> recording: Weight (to the nearest 0.1 kg): \_\_\_\_\_. kg 2<sup>nd</sup> recording: Weight (to the nearest 0.1 kg): \_\_\_\_\_. kg

COMMENTS:

**APPENDIX B** 

ID CODE:

#### PARENT SURVEY

PARENT SURVEY: Please complete the following demographic questions about you, your family, and the child participating in this study. When e.g. is used that is to indicate examples given. If you have any questions, please ask research assistant. Thank you.

1.) What is your relationship to the child participating in this study?

$\square_1 \text{ Mother}$ $\square_2 \text{ Father}$ $\square_3 \text{ Step-Mother}$ $\square_4 \text{ Step-Father}$ $\square_5 \text{ Female Guardian}$	7       Aunt         8       Uncle         9       Grandmother         10       Grandfather         11       Other female family member
2.) What is <b>your</b> age?    a	age 3.) What is <b>your child's</b> age?    age
4.) What is <b>your child's</b> date of bird Month: Day:	th? Year:
5.) What is your zip code?	
Please answer BOTH the question both you and your child. For this	a about Hispanic origin and the question about race for survey, Hispanic origins are not races.
6.) Are <b>you</b> of Hispanic, Latino, or	Spanish origin?
$\square_0$ No, not of Hispanic, Latino,	or Spanish origin
$\square_1$ Yes, of Hispanic, Latino, or S	panish origin
7.) What is <b>your</b> race? You may part $\Box_1$ White	ick more than one box.
$\square_2$ Black, African American	
$\square_3$ Asian	
$\square_4$ American Indian or Alaska Na	ative
5 Outer race – print race	
8.) Is your child of Hispanic, Lating	o, or Spanish origin?

<ul> <li>9.) What is your child's race? You may pine in the provided state of the provid</li></ul>	ck more than one box.
10.) What is the language spoken most ofte	en at your home?
$\Box_1$ English $\Box_2$ Spanish	□ <sub>3</sub> Other language (print)
11.) Are you currently? $\square_1$ Married (living with spouse) $\square_2$ Divorced (not living with spouse) $\square_3$ Widowed	$\Box_4 \text{ Separated (not living with spouse)}$ $\Box_5 \text{ Never married}$ $\Box_6 \text{ Living with a partner}$
12.) How many adults <b>age 18 or over</b> are c Print number	urrently living in your household, including yourself?
13.) How many children less than 12 years Print number	s of age live in your household?
14.) How many children between the ages Print number	of 12 and 17 years of age live in your household?
15.) What is the highest level of school you	completed?
$\Box_1$ Some high school $\Box_2$	4 Associate's Degree
$\square_2$ High school graduate $\square_2$	5 Bachelor's Degree
$\Box_3$ Some college $\Box_3$	6 Graduate Degree
16.) If there is another parent/guardian livir <b>he/she</b> completed?	ng in the household, what is the highest level of school
$\Box_1$ Some high school $\Box_1$	4 Associate's Degree
$\square_2$ High school graduate $\square_2$	5 Bachelor's Degree
$\Box_3$ Some college	6 Graduate Degree
17.) In a typical week, <u>how many days</u> does Print number of days	s at least some of the family eat breakfast together?
18.) In a typical week, how many days does	s at least some of the family eat the evening meal

together? \_\_\_\_\_ Print number of days

19.) Including everything your child does outside of physical education class, <b>how many days a week</b> does your child get at least 30 minutes of vigorous (hard physical activity that causes large increases in breathing and heart rate) physical activity?*			
Print number of days			
*If your child is not currently enrolled in school, please	e leave this blank.		
20.) <b>During a typical week</b> , how many times does <b>you</b> (i.e. a quick service restaurant where you order and pay $\Box_1$ Less than once a week $\Box_2$ 1-3 times per week $\Box_3$ 4-6 times per week $\Box_4$ 7 or more times per week	ur child eat fast food y at a cash register)?		
21.) What type of fast food restaurant does your child eat at most often? Check only one.			
Traditional hurger fast food	Pizza fast food		
(e.g. McDonald's, Wendy's, Burger King)	(e.g. Papa Johns, Pizza Hut)		
$\square_3$ Mexican fast food $\square_4$ Asian fast fo			
(e.g. Taco Bell, Taco Cabana, Chipotle)	(e.g. Panda Express, Pei Wei)		
Fried chicken fast food	Café fast food		
(e.g. KFC, Popeve's, Church's)	(e.g. Panera, Jason's Deli)		
	(0.8. 1 miera, 0 meer 0 2 m)		
□ <sub>7</sub> Sandwich fast food	<b>Buffet fast food</b>		
(e.g. Subway, Jimmy John's)	(e.g. Golden Corral)		
□ <sub>9</sub> Seafood fast food	$\Box_{10}$ Other fast food		
(e.g. Long John Silvers)	print fast food restaurant:		

22.) What would your child typically order to eat at McDonald's?

23.) What would your child typically order to drink at McDonald's?

	Strongly Agree	Somewhat Agree	No Opinion	Somewhat Disagree	Strongly Disagree
I like the taste of the food at these restaurants.					
My family likes the price of the food at these restaurants.				$\square_3$	
The specially designed kid's meal is a treat for my child.				$\square_3$	
I don't have the time or energy to cook and clean up.					
My child requests trips to these restaurants.					
My child collects the toys from these restaurants.					
Eating in these restaurants is convenient.					

22.) Listed below are a number of reasons why people tell us they eat at fast food restaurants like the ones above. Please tell us how strongly you agree with the following statements.

ID CODE:

	Did not drink this during the past 7 days	1-3 times during the past 7 days	4-6 times during the past 7 days	1 time per day	2 times per day	3 times per day	4+ times per day
<b>100% fruit juice</b> or <b>100%</b> <b>fruit juice mixtures</b> (e.g. apple, grape, orange, or others)				3	4	<b>_</b> 5	<b></b>
Other fruit drinks (e.g. cranberry cocktail, Hi-C, lemonade, or Kool-Aid, diet or regular)					4	<b></b> 5	6
Milk as a beverage (NOT in coffee, NOT in cereal) (Please do not include chocolate milk and hot chocolate.)				3	4	5	6
Chocolate milk (including hot chocolate)					<b>_</b> 4	<b>_</b> 5	
Soda or pop (NOT diet)				<b>_</b> 3			
Diet Soda or Diet Pop			2	3	4		
<b>Sports drinks</b> (e.g. Propel, PowerAde, or Gatorade)?		$\square_1$				□ <sub>5</sub>	
<b>Energy drinks</b> (e.g. Red Bull, Monster or Jolt)?							
Water (tap, bottled and carbonated, non-flavored)					<b>4</b>	<b>_</b> 5	
Bottled, sweetened water (with low or no-calorie sweetener, including carbonated water)?			2	3	4	5	6

23.) Over the past <u>7 DAYS</u>, how often did your child drink...?

ID CODE:

	Did not eat this during the past 7 days	1-3 times during the past 7 days	4-6 times during the past 7 days	1 time per day	2 times per day	3 times per day	4+ times per day
Apples		$\square_1$		$\square_3$		<b>5</b>	$\Box_6$
Bananas					<b>_</b> 4	□ <sub>5</sub>	6
Other fruit						<b>5</b>	
Carrots (fresh, canned, or frozen)			$\square_2$			□ <sub>5</sub>	
Broccoli		$\Box_1$					
French fries					<b>_</b> 4	□ <sub>5</sub>	
Beef hamburgers or cheeseburgers		$\square_1$		$\square_3$		□ <sub>5</sub>	
Chicken (baked, broiled, roasted, or stewed)						□ <sub>5</sub>	
Fried chicken (including deep fried) or chicken nuggets				<b>_</b> 3		<b>_</b> 5	
Pizza				<b>_</b> 3		□ <mark>5</mark>	

## 24.) Over the past <u>7 DAYS</u>, how often did your child eat...?

25.) Please indicate the number of devices you have... In your home In your child's

	In your nome	bedroom
Television sets		
DVD or video players	<u></u>	
Electronic games (e.g. Play Station, Nintendo, X-Box, Wii)		
Computers (laptop or desktop)		·
iPad/Tablet that connects to Internet		
26.) How often do you limit the $\square_0$ Not time your child can watch TV? $\square_2$ M	ever $\Box_1$ So ost of the time $\Box_3$ Al	ometimes l of the time

ID	CODE:	

27.) How often does your child request something he/she saw on TV?	$ \begin{array}{c c} \square_0 & \text{Never} & \square_1 & \text{Once a year} \\ \square_2 & \text{Once a month} & \square_3 & \text{Weekly or more request} \end{array} $
28.) Are there family rules for which televi $\Box_1$ Yes $\Box_0$ No	sion programs child can watch?
29.) Are there family rules about how many $\Box_1$ Yes $\Box_0$ No	y hours child may watch television?

30.) Please indicate whether you have the following connections in your home. Mark all that apply.

1	Inter

31.) On a **typical weekday** (Monday through Friday), how many hours does your child spend doing the following?

	None	Less than ½ hour	½ to 2 hours	2 ½ to 4 hours	4 ½ to 6 hours	6+ hours
Watching TV			$\square_2$			<b>_</b> 5
Watching DVDs or videos				<b>_</b> 3		<b>_</b> 5
Video games (e.g. Wii, Nintendo)						□ <sub>5</sub>
Internet (e.g. computer, tablet)				<b>_</b> 3		<b>_</b> 5

32.) On a **typical weekend day** (Saturday and Sunday), how many hours does your child spend doing the following?

	None	Less than ½ hour	½ to 2 hours	2 ½ to 4 hours	4 ½ to 6 hours	6+ hours
Watching TV			$\square_2$			<b>5</b>
Watching DVDs or videos				<b></b> 3	4	□ <sub>5</sub>
Video games (e.g. Wii, Nintendo)			$\square_2$	$\square_3$		$\Box_5$
Internet (e.g. computer, tablet)				<b>_</b> 3	4	□ <sub>5</sub>

ID CODE:
33.) Was your child's television viewing during this past week similar to the amount of television he/she usually watches? $\Box_1$ Yes $\Box_0$ No If you answered "no," please indicate the day that was unusual and how it was unusual (for example, if your child was home sick and watched more than usual).
34.) What was <b>your total household income</b> in 2012 before taxes (Please include income from all sources such as earnings, social security and public assistance payments, retirement, dividends, interest and rent, unemployment and worker's compensation, government and private employee pensions, etc.) $\Box_1$ Less than \$10,000 $\Box_5$ \$25,000 to less than \$35,000 $\Box_2$ \$10,000 to less than \$15,000 $\Box_6$ \$35,000 to less than \$50,000 $\Box_3$ \$15,000 to less than \$20,000 $\Box_7$ \$50,000 to less than \$75,000 $\Box_4$ \$20,000 to less than \$25,000 $\Box_8$ \$75,000 or more
35.) Are you currently? $\Box_1$ Employed for wages $\Box_2$ Self-employed $\Box_3$ Unemployed $\Box_6$ Retired
36.) If there is another parent/guardian living in the household, is he/she? $\Box_1$ Employed for wages $\Box_4$ A Homemaker (i.e.: a stay-at-home parent) $\Box_2$ Self-employed $\Box_5$ A Student $\Box_3$ Unemployed $\Box_6$ Retired
37.) How many hours per week do you <b>usually</b> work at <b>all</b> jobs or businesses? Print number
38.) If there is another parent/guardian living in the household, how many hours per week does he/she usually work at all jobs or businesses? Print number
<ul> <li>39.) If your child attends full day, kindergarten or higher school grade, does your child participate in the school lunch program for</li> <li> <ul> <li> <li> I Free </li> <li> 2 Reduced price </li> <li> 3 Full price </li> <li> 6 Not applicable (child not yet in kindergarten) </li> </li></ul></li></ul>

ID	CC	DE	:	
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40.) In the last 12 months, did you or any members of your household receive SNAP or food stamp benefits? $\Box_1$ Yes $\Box_0$ No
41.) In the last 12 months, did you or any member of your household receive benefits from the WIC program, that is Women, Infants and Children Program? $\Box_1$ Yes $\Box_0$ No
42.) In what country were <b>you</b> born? $\Box_1$ United States $\Box_2$ Other Country, please print
43.) In what country was <b>your child</b> born? $\Box_1$ United States $\Box_2$ Other Country, please print
44.) How long have <b>you</b> lived in the United States?
45.) How long has <b>your child</b> lived in the United States?

Thank you for completing this survey – please return this to the research assistant.

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