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RONALD MCDONALD VS. THE JOLLY GREEN GIANT: UNDERSTANDING
CHILDREN'S BRAND RECOGNITION

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ABSTRACT

Current trends indicate that both childhood obesity and childhood media exposure are on the rise. Previous research suggests a strong association between children, the media and obesity; prompting the theory behind this study. The purpose of this study was to investigate children's ability to recognize brand images associated with food items and in turn investigate the relationship between a child's brand familiarity and their preference for those items. Participants included 30 families recruited from two childcare facilities in State College, Pennsylvania. Children were aged 3-5 at the time of the study and were interviewed individually to obtain data. Data were collected from participating children's parents through a questionnaire measuring demographic information, their child's media exposure and various factors associated with family life and feeding their child/children. Results of the study indicate that overall children were able to identify more brand images associated with junk food than those associated with healthy foods ($T = 2.19, p < .05$), that a child's ability to identify junk food brand images is related to the amount they watch television ($r = 0.65, p < 0.005$) and the amount they use the computer ($r = .43, p < 0.05$). This research can be used to further research in understanding how the media might be used to promote healthy foods, and to prompt further research on the underlying relationship between media exposure and children's food preferences.

TABLE OF CONTENTS

Acknowledgments	iv
Introduction	1
Methods	5
Participants	5
Study Design and Procedures	5
Measures	6
<i>Child Measures</i>	6
<i>Parent's Measures</i>	6
Statistical Analyses	7
Results	9
Brand Recognition	9
Children's Food Preferences	10
Media Exposure	11
Body Mass Index	11
Discussion	13
Appendices	17
APPENDIX A: Healthy Brand Images	17
APPENDIX B: Junk Food Brand Images	19
APPENDIX C: Interview Script	21
APPENDIX D: Parent Questionnaire Items	23

Tables and Figures	25
Table 1: Correlation Coefficients	25
Table 2: Means and Standard Deviations	26
Table 3: Frequencies and Percentages	26
References	27

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INTRODUCTION

Obesity is a global epidemic, bearing no discrimination and spreading at an exorbitant rate (WHO, 2003). It is a rate that is not only climbing for adults, but also for children. Since 1980, rates of childhood obesity diagnosed at younger and younger ages have more than doubled (Centers for Disease Control, 2000). The prevalence of obesity and overweight pre-school aged children was documented in a study by Ogden et. al (2010). It was found that in the United States, of children aged 2-5 approximately 20% of boys and 20% of girls were classified as being at or above the 85th percentile for body mass index, a level that indicates a child is overweight. Furthermore, it was found that roughly 10% of boys and 10% of girls aged 2-5 were at or above the 95th percentile, a level indicating obesity (Ogden et al, 2010).

For once in modern history, the predicted lifespan of future generations is expected to be shorter than that of their predecessors; a fate largely attributable to the growing numbers of morbidly obese children in the world (Daniels, 2006). In a Surgeon General's warning it was predicted that the preventable mortality associated with obesity is far greater than the preventable mortality associated with smoking cigarettes (U.S. Department of Health, 2001).

Current research is attempting to identify many of the variables associated with obesity both in childhood, and later in a person's adult life. The best way to prevent obesity is to know what factors are putting the population at greater risk. One largely investigated variable is the role the media plays in the development of a child's diet and food preferences. In an average year it is anticipated that a child will view approximately 40,000 advertisements on the TV alone (Comstock & Scharrer, 1999) and of those 40,000

advertisements close to 50% of them will be advertisements for food (Reece, Rifon, Rodriguez, 1999). Of the food advertisements shown to children aged 2 to 11, roughly 97.8% of them will be for foods that are high in either fat, sugar or sodium (Powell et al., 2007). There is concern for the effects of what almost 20,000 junk food advertisements viewed yearly might have on young children after it was demonstrated that children aged 5-8 who viewed candy commercials for two weeks were more likely to select candy over fruit (Gorn & Goldberg, 1982).

A study by the Kaiser Family Foundation (2004) revealed a very strong relationship between media use and increased childhood obesity. Studies have shown that overall, TV viewing is highly correlated with both the amount and kind of food being consumed (Halford, Hughes, Boyland, Stacey, McKean & Dovey, 2008). In addition, an analysis of studies done on the effects of advertising on children's eating patterns suggests that marketing food to children is having an effect on their preferences, requests and general consumption (Halford et al., 2008).

At present, children aged 2-5 on average spend approximately two hours a day watching television (Roberts & Foehr, 2004). In the same study, it was found that computer use for children aged 2-4 is typically around 4-6 minutes a day, with around 14-20% of children aged 2-7 using and having access to computers. It is estimated that during the average amount of time children watch television each day they view up to 15 food advertisements (Federal Trade Commission, 2007). The majority of those advertisements feature products high in fat and sugar (Powell, Szczpka, Chaloupka, & Braunschweig, 2007). Overall it was observed that children as young as 2-4 years were exposed to the media, through television, print, radio and computers for an average of 4

hours and 29 minutes (Roberts & Foehr, 2004). Given this documented media bombardment, it is foreseeably understandable that children as young as two are familiar with brand images, and able to recognize certain brand images particularly if the brands feature cartoons (Robinson, Borzekowski, Matheson & Kraemer, 2007).

The study by Robinson et. al (2007) provides evidence that branding is a powerful tool at any age, and research to date supports the claim that even young children are susceptible to inherent brand loyalty. For example in a study done in 2007 by Robinson et al., children aged 3-5 were given the opportunity to taste food that was either presented in a branded package or an unbranded package. The food was the same regardless of the packaging, and the company associated with the brand did not sell all of the food items that children tasted. The results demonstrated that children consistently preferred the food in the branded packaging, regardless of what the food was or if the company even sold the food they were eating (Robinson et al., 2007).

Research to date has begun to investigate the overall effects of media exposure on children and obesity but is only now starting to examine the extent to which children are aware of the branding and advertising they are being exposed to. There is little evidence surrounding a child's awareness of the specific brand of a food, their ability to recognize that brand of a food and their resulting preference for that food.

This study aimed to examine the extent to which children recognize brand images and the subsequent relationship that brand familiarity played in their self reported food preference. The study focused on food items that used a cartoon brand image to represent a product, a marketing tool with demonstrated effects on young children (Robinson et al., 2007). The brand images used in the study were chosen from a variety of popular food

items featured frequently in food advertisements and displayed prominently in grocery stores. The study attempted to identify whether children are more able to recognize a brand image associated with a healthy food or a brand image associated with a junk food. It is hypothesized that children overall will be able to recognize more junk food brand images than healthy food brand images. This assumption was made based on the prevalence of media content focused on high caloric, energy-dense and high-sugar foods marketed toward children. It is also predicted that a child's recognition of a brand image will be related to their preference for the food item associated with a specific brand image. Therefore children with greater ability to recognize junk food images will also likely have higher preferences for junk foods.

METHODS

Participants

Participants were 3 to 5-year-old children enrolled in a full-day childcare program in central Pennsylvania. Participants were recruited from a university childcare program and a local childcare facility in central Pennsylvania. Participants were recruited by delivering a letter in each child's mailbox detailing the purpose of the study. In total, 30 children were given written parental consent to participate in the study (15 male, 15 female). Complete data was received from 22 families. The Pennsylvania State University Institutional Review Board approved all study procedures in an expedited review prior to the recruitment of families. Parental consent was obtained from all families before the study began.

Study Design and Procedures

All children were interviewed individually in a private room within the childcare setting. Before beginning the interview, verbal assent was obtained from each child. The purpose of the child interviews was to assess each child's ability to recognize a set of brand images, their preference for the brand image and the child's preference for the product represented by the brand image. Children were interviewed on one occasion for 20 minutes in the morning between breakfast and lunch. During the interview children were shown pictures of 5 brand images and answered questions about the images. The child then participated in a brief coloring activity to rest from the repetitive nature of the interview. After the activity, children were shown 5 additional brand images and were compensated for their time with a sticker.

Measures

Child Measures:

Child Brand Image Identification and Preference: Children were shown 5 brand images associated with health food options (raisins, oatmeal, baked crackers, cereal, vegetables) and 5 pictures of brand images associated with junk food options (two high-sugar cereals, potato chips, cookies, candy). For each brand image, children were asked to identify the image to their best ability, and rate their preference for the brand image on a 3-point scale. Successful identification of a brand image was considered naming of the specific brand name, or of a specific product associated with the brand image. If unable to identify the brand image, children were made aware of the food associated with the image.

Child's Reported Consumption of Brand: If children noted having tried the food associated with a brand image they were asked to distinguish if the product was one their family purchased, if they requested the product from their parents, and were asked to rate their preference for the food associated with the brand image on a 3-point scale. Their preferences were measured by gauging whether the child really liked the products, sort of liked the product, or did not like the product.

Parents' Measures:

Child Media Use: Parents reported the average number of daily hours children watched TV on school and nonschool days using a previously tested questionnaire (Francis & Birch, 2006). Parents also reported the amount of time children used the computer.

Parental Selection of Food: Parents' decisions to purchase food they were made aware of as a result of marketing efforts were measured using 5 questions that asked whether parents selected a food for their child because they had seen it either on the computer, the television, a friend's house or at the grocery store. Response options for these questions ranged from 1 to 5, where 1 indicated never and 5 indicated all the time.

Parental Life Hassles Affecting Child's Eating: This scale measured the degree to which parents showed concern for their child's eating. This scale was measured using 3 questions that assessed their concern for the cost of food, their attitudes toward convenience of food versus health, and how often they eat fast food due to lack of time and stress in life. Response options for these questions ranged from 1 to 5 where 1 indicated never and 5 indicated all the time.

Child's Home Eating Behaviors: A child's home eating behaviors were measured with respect to how often the family eats together, how often the child eats alone and how often the child eats in front of the TV. This was measured using 3 questions asking about the frequency of each of these events. Responses were measured using a 5 point scale where 1 = never and 5 = all of the time.

Statistical Analyses

Analyses were performed using the SAS version 9.1 software package (2001, SAS Institute, Cary, NC), and SPSS software PASW Statistics version 17.0 (PASW Statistics 17.0, Rel. 17.0.2. 2009. Chicago: SPSS Inc.). Descriptive statistics were generated for all variables of interest; a paired t-test was used to determine whether there were differences in children's ability to identify healthy vs. junk food brand images. Analysis of variance

(ANOVA) was used to examine mean differences in children's (1) ability to identify the brand images, and (2) preferences for the images and foods based on mother's weight status and education level..

RESULTS

Approximately 86% of the children in the sample had a mother that was employed either part-time or full-time. On average these mothers worked 29.7 hours a week, and 50% of mothers reported working over 40 hours a week. On average, mothers reporting in the sample had at least a bachelor's degree and 61.9% were educated beyond the undergraduate level. 52.4% of the families included in the sample earned over \$50,000 a year. Refer to Table 2 and Table 3 for a comprehensive view of the sample descriptives.

Children in the study were shown five junk food brand images and five healthy food brand images. On average children reported having tried 2.9 of the five healthy foods presented and 2.8 of the junk foods (See Table 2). None of the children reported having never tried the healthy foods shown and 13.8% reported never having tried the healthy foods (See Table 3).

Brand Recognition

The paired t-test used to examine differences in children's success in recognizing junk food brands compared to their success in recognizing healthy food brands produced a significant result. Overall children in the study were able to identify more junk food brand logos than healthy food brand logos ($T = -2.19, p < 0.05$). See Table 2 for sample means for correct identification of healthy and junk foods. It was also noted that children whose mothers worked more, were more educated and earned higher incomes were able to correctly identify more junk food brand logos ($r = 0.61, p < 0.05$). Children who were able to identify more health food brand logos also reported that their parents bought more

healthy foods ($r = 0.55, p < 0.005$); this was not the case for junk foods (See Table 1). There was a trend toward children being able to correctly identify more junk food brand logos when their parent tended to select food as a result of marketing efforts ($r = 0.60, p < 0.10$). There was also a trend such that children who were able to identify more healthy food brand logos were also able to identify more junk food brand logos ($r = 0.34, p < 0.10$). These trends are seen in Table 1. This suggests these children were better equipped to identify more logos overall, possibly as a result of media exposure or greater intelligence.

Children's Food Preferences

Data for children's food preferences were all self-reported as were reports of the parent's purchasing certain foods, and reports of ever having tried a certain food. Data detailing the relationship for children's food preferences can be found in Table 1. Children who reported that their parents bought more junk food reported lower overall preferences for the healthy foods presented in the study ($r = -0.46, p < 0.05$). Children reported overall higher preferences for the healthy foods in the study when their parents reported greater tendencies toward buying a certain food as a result of seeing it advertised ($r = 0.71, p < 0.05$). Parents reporting higher nutritional concerns, less financial concern and daily life stress affecting their child's diet tended to have children who self-reported higher preferences for junk foods ($r = -0.49, p < 0.05$) and had tried less of the junk foods presented in the study ($r = .51, p < 0.05$). There was a trend noted that the higher a mother's income the more her child would report having high preferences for junk food ($r = 0.42, p < 0.10$). A child's eating style was related to a child's preferences for health

foods; such that, children who ate more at home as a family and who spent less time eating alone or in front of the TV reported higher preferences for healthy foods ($r = 0.56$, $p < 0.10$)

Media Exposure

Descriptive data for children's media exposure is located in Table 2 and Table 3. On average children watched television for 3-4 hours a week, and 81.8% of children in the sample were reported to watch at least 0-2 hours of television during the week. The scale used to measure a child's general media exposure from television and Internet sources showed significant results for children's ability to correctly identify a brand logo. The more a child watched television during a given week, the more junk food brand logos a child was able to identify ($r = 0.65$, $p < 0.005$). Likewise, the more a child used the computer in a given month the more junk food brand logos they were also able to identify ($r = 0.43$, $p < 0.05$). See Table 1 for correlational data.

Body Mass Index

Descriptive data for parent and child BMI is located in Table 3. Mothers of the children in the study reported all information required to calculate body mass index (BMI). Mothers with a BMI over 25 were classified as "overweight" and mothers with a BMI below 25 were classified as "not overweight." Children scoring in the 85th percentile for body mass index were classified as "overweight" and children below the 85th percentile were classified as "not overweight." Of the 22 mothers reporting data for BMI, 38.2% were overweight and 30% of the children were also classified as overweight. The

higher a mother's BMI and her child's BMI were, the higher the child's self-reported preference for junk food ($r = 0.62, p < 0.05$), see Table 1.

DISCUSSION

The results of the study present significant findings, supporting some of the initial hypotheses. The results provide evidence for the claim that children were more apt to recognize junk food brand logos compared to healthier food logos. While the nature of this finding is not certain, it is consistent with the overall content of the advertising children are exposed to through the media. The results did not provide evidence for the other initial claim that children's brand recognition for junk foods would foster greater preferences for those foods. The results did however provide significant evidence that children had greater preferences for healthy foods when their parents were more likely to purchase foods that they had seen advertised. Future research might investigate the relationships between food advertising geared towards adults and the effects those advertisements have on the development of a child's diet as a result of the mother's consumption patterns. One limitation of the results of the study was that data for children's preferences were self reported from the child's memory of the food.

One notable finding was the relationship between children's media exposure and their ability to recognize brand logos. Overall significant findings for both television and computer use were reported as being related to a child's ability to correctly identify junk food brand logos. It is documented that close to all advertisements shown on children's television channels for food and drink in the United States are for high sugar, sodium or fat foods (Powell et. al., 2007). Given this data it is a valid assumption that children have seen these brands more on television and are much more likely to recognize the junk food brands than the healthier brands. A future study might introduce intentionally placed healthy food advertisements and document whether or not after being exposed to the

advertisements children are more or less able to identify the health food brands. Previous research has demonstrated the power of health food advertising such that exposing 5-8 year old children to fruit commercials and public service announcements related to health food and nutrition led to the children choosing fruit over candy at snack time more often than children who frequently viewed the candy commercials (Gorn & Goldberg, 1982).

Data collected by Roberts and Foehr in 2004 indicates that a parent's level of education and income are largely related to the amount that a child watches television and also to how, when and how many rules there are surrounding watching television. On average, the more educated and the higher the income bracket the less a child will typically watch television during the day, the more rules there will be surrounding when and how much television can be watched and the less a child is allowed to watch television while eating dinner (Roberts & Foehr, 2004). This knowledge would tend to predict that these children watch less television and thus are exposed to less food advertising overall than children of lower income whose parents are less educated. Therefore the children of higher socioeconomic status should be able to correctly identify fewer brand logos. This hypothesis was not supported by the findings of this study. In fact, the results of the study provide evidence that children whose parents earn more money, have received more education and work more hours during the week identified more junk food brand logos correctly. The nature of this interaction is uncertain. However, it could be related to the childcare these children are receiving. Perhaps certain practices childcare facilities are employing, meals they are feeding children or even behaviors individual childcare providers are demonstrating are influencing this result. It is important to consider that this finding may be limited by the sample size and the

homogeneity of the sample. Further research might investigate any effects that childcare other than that provided by the parents may be having on children's obesity and the development of children's food preferences and diet.

It has been documented that there is a link between a parent's BMI and their child's BMI, and between a parent's BMI and a child's preference for high-fat foods. One study revealed that not only do preschool-aged children of heavier parents have higher preferences for high-fat foods, but that they also consume a higher percentage of energy as fat (Fisher & Birch, 1995). This study, though limited by its sample size corroborates this evidence such that children of heavier parents, tend to be heavier and as such tend to prefer junk foods. Recurring evidence in this domain prompts the idea for research related to the parent-child relationship and how it affects a child's diet and taste preferences. It is important to note that in this study a child's preference for junk or healthy food was measured using the 5 junk or healthy foods sampled in the study. Using only these foods to gauge overall preference for a food category may lend to confounding variables related to the popularity of some of the items in the study.

This research contributes to the current data by highlighting some key areas that appear to be related to a child's BMI, diet and food preferences. Seeing relationships in a small sample warrants the need for further research at a greater scale to study the relationships found in this study. This study attempted to gain understanding about children's interaction with the media and how that media interaction contributes to their health, and particularly nutritional well-being. There are two very important findings to recognize in this study: the first being that children are significantly more able to identify junk food logos than healthy food logos, despite the fact that all children reported have

tried all of the healthy foods; and two that a child's ability to identify junk food brand logos is significantly related to the amount of television they watch. This discrepancy lends to the fact that there is almost no advertising for healthier food choices. If children were consistently exposed to more healthier food options, there may be very positive implications for overall purchasing patterns, children's requests and children's preferences for specific foods.

APPENDIX A: HEALTHY FOOD BRAND IMAGES

1) Sun-Maid Raisins



2) Quaker Oatmeal



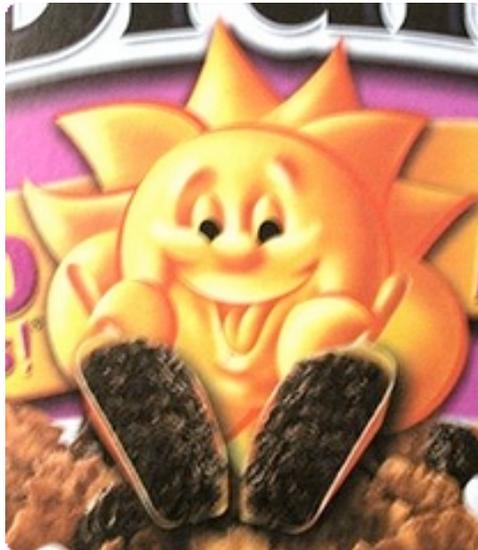
3) Jolly Green Giant



4) Goldfish Crackers

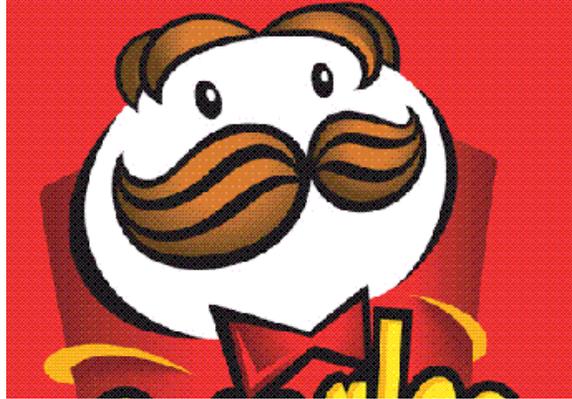


5) Raisin Bran Cereal

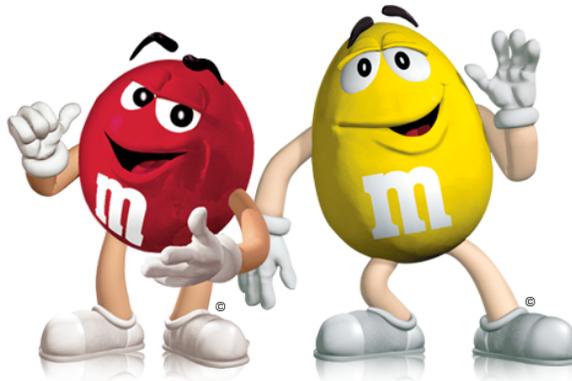


APPENDIX B: JUNK FOOD BRAND IMAGES

1) Pringles Potato Chips



2) M&Ms



3) The Pillsbury Doughboy



4) Frosted Flakes – Tony the Tiger



5) Lucky Charms Cereal



APPENDIX C: INTERVIEW SCRIPT

Script

Do you know what this picture (logo) is?

- **If yes – Have you ever had (product)?**
- **If no –**
 - **Do you think of any food or drink or toy when you see this?**

Does your family ever buy (product)?

Skip to picture questions if child still doesn't know

How much do you like (name of the product)?

Do you ever ask your parents to buy (name of the product) for you?

Show the child the picture again

How much do you like this picture (logo)?

- **If they like it – what do they like about it?**
- **If they don't like it – Move on to next logo**

NOTE: TABLE GETS FILLED IN FROM LEFT TO RIGHT IN THE SAME ORDER AS THE QUESTIONS

LOGO	KNOWLEDGE		FOOD ASSOCIATION	Family Buys		PREFERENCE (FOOD)	ASK PARENTS		PREFERENCE (LOGO)
	<u>YES</u>	<u>NO</u>		<u>Yes</u>	<u>No</u>		<u>Y</u>	<u>N</u>	
EXAMPLE: CHEERIOS	<u>YES</u>	<u>NO</u>	CHEERIOS	<u>Yes</u>	<u>No</u>	A LOT	<u>Y</u>	<u>N</u>	A LOT
	X			A LITTLE		X	A LITTLE		
				NOT MUCH			NOT MUCH		
	<u>YES</u>	<u>NO</u>		<u>Yes</u>	<u>No</u>	A LOT	<u>Y</u>	<u>N</u>	A LOT
				A LITTLE			A LITTLE		
				NOT MUCH			NOT MUCH		
	<u>YES</u>	<u>NO</u>		<u>Yes</u>	<u>No</u>	A LOT	<u>Y</u>	<u>N</u>	A LOT
				A LITTLE			A LITTLE		
				NOT MUCH			NOT MUCH		
	<u>YES</u>	<u>NO</u>		<u>Yes</u>	<u>No</u>	A LOT	<u>Y</u>	<u>N</u>	A LOT
				A LITTLE			A LITTLE		
				NOT MUCH			NOT MUCH		
	<u>YES</u>	<u>NO</u>		<u>Yes</u>	<u>No</u>	A LOT	<u>Y</u>	<u>N</u>	A LOT
				A LITTLE			A LITTLE		
				NOT MUCH			NOT MUCH		
	<u>YES</u>	<u>NO</u>		<u>Yes</u>	<u>No</u>	A LOT	<u>Y</u>	<u>N</u>	A LOT
				A LITTLE			A LITTLE		
				NOT MUCH			NOT MUCH		
	<u>YES</u>	<u>NO</u>		<u>Yes</u>	<u>No</u>	A LOT	<u>Y</u>	<u>N</u>	A LOT
				A LITTLE			A LITTLE		
				NOT MUCH			NOT MUCH		

APPENDIX D: PARENT QUESTIONNAIRE ITEMS

Income

. Total or combined family income, before taxes (check one):

___ Less than \$20,000 ___ \$20,000 - \$35,000

___ \$35,000 – \$50,000 ___ Over \$50,000

Parental Life Hassles Affecting Childs Eating

Please answer the questions below based on the following scale:

1 (Never) 2 (Seldom) 3(Half of the time) 4 (Most of the time) 5 (All the time)

Our schedules are too hectic to eat at home so we often eat fast food.

1 2 3 4 5

I have little free time and have to worry more about convenience than health when making food choices.

1 2 3 4 5

I have to worry more about the cost of food than what is nutritious.

1 2 3 4 5

Parental Selection of Food

Please answer the questions below based on the following scale:

1 (Never) 2 (Seldom) 3(Half of the time) 4 (Most of the time) 5 (All the time)

I select a food for my child that I have heard about on the TV.

1 2 3 4 5

I select a food for my child that I have heard about on the Internet.

1 2 3 4 5

I select a food for my child that I have read about in the newspaper/magazines.

1 2 3 4 5

I select a food for my child that I see displayed in the store.

1 2 3 4 5

Child's Eating Style

Please answer the questions below based on the following scale:

1 (Never) 2 (Seldom) 3 (Half of the time) 4 (Most of the time) 5 (All the time)

How often do you eat dinner as a family?

1 2 3 4 5

How often do you eat dinner away from home?

1 2 3 4 5

How often does your child eat separately from the rest of the family?

1 2 3 4 5

How often does your child eat in front of the television?

1 2 3 4 5

Child Media Use

In the past week how much time has your child spent watching television on a weekday?

_____ Less than 1 hr/day _____ 1-2 hrs/day _____ 3-4 hrs/day _____ More than 4 hrs/day

In the past month how often did your child watch television during the week?

_____ Never _____ Rarely _____ Sometimes _____ Often _____ Almost always

In the past week how much time has your child spent watching television on the weekend?

_____ Less than 1 hr/day _____ 1-2 hrs/day _____ 3-4 hrs/day _____ More than 4 hrs/day

In the past month how many weekends has your child watched television?

_____ Never _____ Rarely _____ Sometimes _____ Often _____ Almost always

In the past week how much time has your child spent using the computer or internet?

_____ Less than 1 hr/day _____ 1-2 hrs/day _____ 3-4 hrs/day _____ More than 4 hrs/day

In the past month how often has your child used a computer or the internet?

_____ Never _____ Rarely _____ Sometimes _____ Often _____ Almost always

Tables and Figures

Table 1: Correlation Coefficients of Major Variables of Interest

	Gussed Junk Correct	Gussed Healthy Correct	Junk Food Preferences	Parental Selection of Food	Child Media Exposure	Life Hassles Affecting Child Diet	Healthy Food Preferences
Gussed Junk Correct	--	0.34[†]	-0.06	0.60[†]	0.65^{***}	-0.02	-0.41[*]
Gussed Healthy Correct	0.34[†]	--	0.09	0.28	-0.28	-0.15	-0.14
Junk Food Preferences	-0.06	0.09	--	0.69[†]	0.31	-0.49[*]	0.54^{***}
Parental Selection of Food	0.60[†]	0.28	0.69[†]	--	0.72^{**}	--	0.71^{**}
Child Media Exposure	0.65^{***}	-0.23	0.31	0.72^{**}	--	0.56[†]	0.11
Life Hassles Affecting Child Diet	-0.02	-0.15	-0.49[*]	--	0.56[†]	--	0.18
Healthy Food Preferences	-0.41[*]	-0.14	0.54^{***}	0.71^{**}	0.11	0.18	--

Key: [†] = $p < 0.10$; * = $p < 0.05$; ** = $p \leq 0.01$; *** $p < 0.005$, Child Media Exposure = frequency of television watching in a given week

Table 2: Means and Standard Deviations for the Sample and Major Variables of Interest

	Mean	Standard Deviation
Ever Tried Junk Food	2.8	1.59
Ever Tried Healthy Food	2.9	1.06
No. Junk Foods Guessed Correctly	2.4	1.63
No. Healthy Foods Guessed Correctly	1.8	1.19
Junk Food Preference	2.7	0.44
Healthy Food Preference	2.6	0.42
No. Hours Children Watched Television/Week	3.1 ^a	1.21
Frequency of Monthly Computer Use	1.8 ^b	0.81
Mother's Education Level	3.5 ^c	1.60
No. Hours Mothers Worked/Week	29.7	15.56

Key: ^a = Scored on a scale where 1 = less than an hour/day, 2 = 1-2 hours/day, 3 = 3-4 hours/day, 4 = More than 4 hours a day; ^b = Scored on a scale where 1 = never, 2 = rarely, 3 = sometimes, 4 = often, 5 = always; ^c = Scored on a scale where 0 = High School, 1 = Associates, 2 = Technical, 3 = Bachelor's, 4 = Masters, 5 = PhD, 6 = MD, 7 = JD 8 = Other

Table 3: Frequencies and Percentages of Sample and Major Variables of Interest

	Frequency	Percent
Never tried junk foods	4	13.8%
Never tried healthy foods	0	0%
Children With Employed Mothers	19	86.4%
Mothers working 40+ hours/week	11	50%
Mothers educated beyond college	13	61.9%
Household Income \$50,000+	11	52.4%
Children watch 0-2 hours of TV/week	18	81.8%
Overweight Mothers	8	38.2%
Overweight Children	6	25%

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ACADEMIC VITA

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EDUCATION

Bachelor of Science. *With high distinction*

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- Double major: Finance, Psychology
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RESEARCH EXPERIENCE

Schreyer Honors College, Penn State Aug 2009- Present

Honors Thesis: "Ronald McDonald vs. The Jolly Green Giant: Understanding Children's Brand Recognition"

- Advisor: Lori A. Francis, College of Health and Human Development
- Grants: The Schreyer Honors College, Department of Biobehavioral Health
- Developed and administered observational study to understand children's recognition of cartoon brand images associated with food

Stereotype & Gender Attitudes Lab, Dr. Theresa K. Vescio, Penn State

Research Assistant Jan 2009 - Present

- Administered research studies, performed literature searches, created materials for experiments, entered and analyzed data

Carbon View - Supply Chain Consulting, Walton-upon-Thames, UK

Research Intern May 2008 – Aug 2008

- Research regarding carbon management, carbon market analysis, new media uses for business
- Ran 40 Web based seminars instructing customers how to use their new software

TEACHING EXPERIENCE

Biology Department, Dr. John Waters, Penn State

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- Teach a lab to a class of 16-18 students related to the topic of exercise physiology
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ACADEMIC HONORS & AWARDS

Schreyer Honors College Student	Aug 2006 – Present
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Earth and Mineral Sciences Academic Excellence Scholarship	Aug 2006 – May 2007