

Characters in Advertising and Branding in Advertisements Overcome Children's Low Cognitive
Defenses and Increase the Obesity Epidemic

Sarah Peters

Professor Boyes

Honors 200

11 December 2013

Author Note

This paper was prepared for Honors Rhetoric 701, taught by Professor Mary Boyes.

Abstract

Junk food advertisers spend billions of dollars every year on advertising aimed at children. These foods are known to be major contributors to the obesity epidemic, a growing problem around the world. Food advertising should be regulated to exclude advertisements that appeal to those under twelve as these children do not have fully developed cognitive defenses. This paper investigates the effects of cartoon characters, packaging, and branding in television advertisements on childhood obesity by analyzing various pieces of literature related to obesity, cognitive defenses, home environments, and advertisements.

Advertising and branding overcome children's cognitive defenses and thus negatively influence childhood obesity and the adiposity levels of children. There are many factors that determine the cognitive defense level of the children including the food environment created by the family, family situation, and modeled behavior. Children respond to advertisements differently than adults and are more susceptible to food branding and advertisements due to their low level of cognitive defense. Children's cognitive defenses are not fully developed, even at the ages of seven or eight, and thus they cannot evaluate advertisements like adults can. Children create food brand bonds at incredibly early ages and are drawn in for life, creating a cycle of bonding that is hard to break. Various factors influence children's defenses and response to advertisements including the effects of food environments created by parents on food behaviors. Overweight children may also have lower cognitive defenses than children at a healthy weight level and are thus more vulnerable to the advertising and branding targeted at them. Parents may not be aware of the effects their behaviors have on their children's eating habits and often do not discuss critical thinking with their children. Advertisements aimed at children take advantage of

these low levels of cognitive defense and the factors that lead to these low levels of cognitive defenses and should thus be regulated.

Introduction to Obesity

There is a growing rate of obesity in America, especially in children. According to the Food and Drug Administration (2004) fifteen percent of children from six to nineteen are classified as overweight and this number is growing. Children who suffer from obesity consume more calories than they exert, and many of these calories are empty, most notably soda calories. The risks of childhood obesity include diabetes and hypertension, health problems that can affect children for life (CQ Press, 2005). Children who suffer from childhood obesity are also more likely to be obese in adulthood. Obesity is now the second highest cause of preventable death, second only to smoking (Chou et al., 2005).

Parents chronically underestimate their children's weight status and assume that children will simply grow out of their weight, according to the Food and Drug Administration. The Food and Drug Administration also claims that parents do not really know how much food their children consume outside of regular meals and often underestimate the amount of calories their children actually eat or drink. The human gene has not changed enough in the past twenty years to completely warrant the explosion of obesity, according to Chou et al. The Coca-Cola Company states that the issue of childhood obesity is "more complex than selecting targets to blame" (2013), yet high calorie food and soda is a known contributor to the obesity epidemic and soda and fast food are the two largest spenders on advertising to children (Abramson, 2009). While these companies may not be the only culprits, they are a huge contributor to the obesity epidemic, not only because of the foods that they produce but in the way that they market these foods.

Advertisements in Children's Lives

Advertising aimed at children has an incredibly strong influence on their food choices. Veerman et al. (2009) states that approximately one in seven to one in three children could have avoided childhood obesity if unhealthy food advertisements were eliminated. This is a significant portion of the obese population and this reduction of childhood obesity would lead to lower levels of adult obesity as well as a decrease in disease and death caused by obesity. Television viewing is intrinsically linked to obesity in children, according to Strasburger et al. (2011). At approximately the same time that obesity began to rise drastically so did the prevalence of televisions in the home (Chou et al.). This direct correlation between television viewing habits and the rise in the obesity epidemic is undeniable. The Kaiser Family Foundation (2004) concurs, stating that as childhood obesity has increased so has the amount of media directed at children. This constant presence of advertisements aimed at children has served to enhance the obesity epidemic that children are facing today. These advertisements are an inescapable pressure in children's lives to which they very often succumb.

The effect of advertisements on children is enhanced by what Borzekowski et al. (2001) calls "constant TV households" in which the television is always playing in the background. In these households children would be unable to escape the marketing techniques targeted towards them. Children view approximately eleven food ads an hour with over eighty percent being food related and ninety percent of those being unhealthy foods (Strasburger et al.). If a television is a constant presence in the home children have the opportunity to watch over a hundred advertisements in a day with approximately seventy five percent being for junk food. This

constant barrage of advertisements for the foods and drinks that children want the most yet should have the least serves to strongly influence childhood obesity.

Not only are children assaulted when they watch television; companies also use websites, games and cartoon characters to push their brands. These strategies drive children's preferences for branded foods over generically packaged foods, according to Strasburger et al. The CQ Press asserts that as advertisers compete more and more with services such as TiVo and Netflix they extend advertisements to billboards, radio, and beyond. Strasburger et al. adds that product placement within children's shows are often used to increase the food brand bond that children are forming. Characters in children and family programming are often seen enjoying a refreshing Coca-Cola or Pepsi, thus increasing their exposure beyond the thirty second advertisements. Borzekowski et al. notes that children pay just as much attention to the advertisements being played as they do to the programs they are actually watching. Borzekowski et al. also asserts that at very young ages these children cannot even tell the difference between the advertisements and programming. When presented with a commercial they see the commercial, perhaps another two or three advertisements, and then immediately return to their programming. They do not have time to evaluate the information provided to them in the commercials before they are again immersed in the program they are watching. These children are virtually defenseless against both the product placement and the advertisements they are being bombarded with.

Cognitive Defenses in Children

Children do not fully develop cognitive defenses until the ages of eleven and twelve yet they are targeted by food brands from birth. They are not able to critically evaluate the claims being made at such a young age, especially if they have not been taught to do so. Heyman (2008)

states that while “young children have the capacity to understand that people do not always accurately communicate what they know, they often fail to make the types of inferences that adults make in the presence of motives to provide distorted information” (p. 345). Children are not critically evaluating commercials and the information that these commercials are presenting. Children know that advertisers are trying to sell them something at a fairly young age, as found by Carter et al. (2011), but they fail to see that they are trying to be persuaded to buy something. Children do not tend to look at the motives advertisers have to provide distorted information to them and may not even see themselves as the targets of these ads. Heyman argues that children know that people are not always honest but may not recognize when this dishonesty is most likely to be used. Children are not able to accurately evaluate when they are being lied to or even when it is likely that they might be lied to. Without this sort of critical evaluative thinking they are left vulnerable to the claims made by food companies.

The exact age at which children fully develop cognitive defenses is a highly disputed fact. It is known that different children develop at different ages but there is no consensus on the median age of this stage of development. Heyman states that this skepticism of individuals with “strong self-presentational motives” (p. 345) such as advertisers aiming to sell their products, only seems to emerge around the ages of seven to ten. Carter et al. argues that the age group of ten to eleven “appears to have been an important transition stage” (p. 965-6) and after this age children are much more apt to describe persuasive intent, rather than merely the selling intent, of advertisements. Before this age range children are still completely vulnerable to food advertisement and yet they are still heavily targeted by companies. The Federal Trade Commission found that food companies spent eight hundred and seventy million dollars on advertising directly marketed towards children under the age of twelve (Abramson). This does

not even include family based advertisements or sponsorships of family programs, such as Coca-Cola's sponsorship of American Idol.

Heyman also argues that while children may be able to see the reason advertisers lie, they may not put this knowledge into practice if they are presented with a "rapid stream of audiovisual information" (p. 346) such as a commercial in which their attention is otherwise occupied. Children are not educated to understand that companies are not there for the benefit of the consumer but rather for the benefit of the company. They are not taught to think critically and even if they have the ability to think critically they often do not employ this knowledge during advertisements due to the techniques used by advertisers to maintain the children's attention. To the advertisers it doesn't really matter if children are cognitively developing at the age of eight or at eleven; rather it benefits them that children take so long to develop cognitive defenses and critical thinking skills as it gives them a larger window in which to form strong food brand bonds.

Advertisers are targeting children from birth and forming food brand bonds at incredibly young ages. These food brand bonds are intrinsically stronger than those formed at a higher level of cognitive development as there is no logical reason for children to not love the product. Before a child can completely communicate their own ideas, much less defend against the arguments and persuasions of another, they are being targeted by professional advertisement companies and marketing teams with years of experience and college degrees. The techniques used in these advertisements insure that marketers get a return on their investment. Children are strongly influenced by these food advertisements which definitively influence children's food consumption patterns and food choices, often for life.

The fact that children develop stronger bonds with brands than adults may be due to the fact that they are unable to employ cognitive defenses against these brands advertisements (Boyland et al., 2013). When children form food brand bonds they often stay with them for years, if not life. In their underdeveloped mental states they form food brand bonds much more easily than the older population. These food brands help to create food consumption patterns and influence a child's risk of obesity. Most advertisers do not seem to care that their target audience has no background or critical thinking experience with which to evaluate the claims made in their advertisements. Advertisers target a virtually defenseless audience in order to create these food brand bonds and increase their revenue. These advertisers make sure to target all groups of children. A prime example of appealing to various child demographics is the Coca-Cola 2013 Super bowl advertisement. This advertisement depicts several groups racing to a Coca-Cola in a desert. The groups included in this commercial consisted of cowboys to appeal to little boys, motorcyclists to appeal to teenage boys, and a bus full of pink glittery showgirls to appeal to girls. This advertisement also extended its influence by letting families choose the outcome of the race on Coca-Cola's website.

Critical thinking and cognitive defenses against these brands come from education. Heyman asserts that while adults may sometimes discuss deception they mostly do so in a manner that does not allow the child to think on their own. According to Heyman, parents generally make broad statements that cast liars as "bad" leading a child to infer that good people, often the characters they trust, would not lie. If parents can help lead children to their own "psychological insights" (Heyman, p. 346) than children are more likely to truly benefit from these discussions and lessons. If parents engage children in discussions, rather than simply telling them what to do or think, children are much more likely to absorb the message and apply

it when faced with food advertisements. Because children form food brand bonds so early on in life they naturally begin to trust the brands they consume (Boyland et al.). If children are taught that only bad people lie and that good people can be trusted without a depth of critical thinking than they will naturally trust the brands they have formed a bond with (Heyman). Children will also trust the cartoon characters used in advertising as they have formed strong bonds with these characters. If children are not taught to think critically about the claims made by everybody they will be unprepared to critically evaluate commercials.

Children are naturally trusting. They have no reason to doubt the claims being made in these commercials, especially if they are being made by their favorite cartoon characters. In this way cartoon characters not only help to advertise a certain product but also to lull children into a sense of trust and familiarity to even further overcome their cognitive defenses. Children are already unlikely to employ their cognitive defenses during a commercial and the use of a cartoon character further reduces this likelihood.

Characters in Advertisements

Advertisers use various methods to hook children and to form food brand bonds including colorful visual draws and familiar cartoon characters. Cartoon characters are one of the most popular methods used by advertisers. The three biggest soda companies spent nearly one hundred and seventeen million dollars on marketing, a large portion of which was spent on creating or licensing characters to represent their brands (Abramson). These characters are used to increase the strength of the food brand bond and decrease the level of neophobia in children. Putting a recognizable character on the screen, which children have either formed a bond with

through the product or through a television show, helps to draw a child's attention, recognition, and later requests for the brand (Boyland et al.).

Kelly et al. (2008) notes that over fifty percent of commercials targeted towards children use promotional characters. Keller et al. (2012) asserts that "cartoon characters may serve as a colorful, fun visual stimulus" (p. 380) that not only distracts children but also enhances the appeal of the branding. Children are known to naturally focus on bright audiovisual cues (Boyland et al.) and Keller et al. seem to have found that this visual stimulus seems to create a sense of safety and familiarity.

For children who are afraid of trying new foods, familiarity in a food brand or character used to brand a food can prove incredibly influential in overcoming their neophobia. (Keller et al.) Children rarely employ cognitive defenses during commercials and if they are familiar with the brand or trust the characters they may see no reason to doubt the claims being made. Children who are picky eaters or who suffer from neophobia may try a familiar brand or a food advertised by their favorite cartoon character when they would otherwise avoid the new food. Due to these influences, children with neophobia may become familiar and comfortable with the unhealthy foods characters typically represent. This serves the purpose of the advertisements as it increases the consumption of the brand. However, these bonds also put these children at further risk for obesity.

If one advertisement creates a positive experience for children they are more likely to respond to these advertisements in the future. Boyland et al. asserts that "the association of known and liked brand characters," including characters that are solely associated with a certain food brand as well as cartoon characters seen in other contexts, increase a child's likelihood to "prefer the taste of and choose" (238-9) certain foods. Food branding has such a strong effect

that it doesn't even seem to matter what food is branded, any food will be consumed and preferred by more children if it is branded (Boyland et al.). This has both positive implications for the possibility of branding healthy foods, and negative implications for all junk foods. If branding helps a child overcome their neophobia it could be used to introduce new, healthy foods into the diet. However, this branding is currently being used to further overcome children's cognitive defenses to sell junk foods.

Food advertisers use bonds that children have already formed with licensed characters, such as Dora the Explorer, Elmo, and even Santa Claus, to form even stronger food brand loyalty (Boyland et al.). Advertisers recognize the power of food branding and employ it for unhealthy foods. Very rarely are carrots seen with cartoon characters faces on them but there are an endless amount of sugared cereals with incredibly famous characters gracing their boxes and soda cans with famous celebrities promoting them. Advertisers of junk food have more money to advertise with than grocery stores or organic growers. These big brands can afford to put Elmo on their packaging and in their commercials while a smaller brand cannot. These characters are primarily used to advertise high sugar cereals, chocolate and confections, and fast food, according to Kelly et al. Children are indirectly and directly marketed to using these characters with incentives as well as product placement in their favorite cartoons.

This direct influence of cartoon characters on children shows the persuasive powers of advertisements as well as the far-reaching effects that advertising companies carry. The Kaiser Family Foundation notes that the use of cartoon characters in advertisements increases a child's ability to recall the product being advertised. These cartoon characters are "believed to assist with generating brand identity" (238) to help sell these products, according to Boyland et al. In certain cases, most notably for Coca-Cola, the brand has actually had a significant influence on

the character they use to brand their product. It is widely believed that Coca-Cola is responsible for the modern image of Santa Claus. Before being used in Coke ads Santa was seen in various jewel tones and was generally as leaner and taller. After being used by Coca-Cola, Santa is rarely ever seen outside of a red coat with a round belly and snow white beard.

There are no official restrictions on advertising to children. Many of these advertisements are aimed directly at children with very little attempt to disguise their aims. According to Boyland et al. every child, teenager, and adult knows Tony the Tiger, or the Lucky Charms leprechaun because they were used, in one form or another, when they were younger and in a more vulnerable cognitive state. These catchy phrases and cute characters stick with children and the brand loyalty that they form continues through the adult years. Coca-Cola has used the polar bears and Santa Claus in their advertisements for years and these characters are likely to still be associated with the brand by adults. When advertisers use easily recognizable characters to advertise their foods their job is made ten times easier. If they use a television character, every time children watch the television show they will be solidifying their bond with both the character and, by default, the food the character brands. These characters are used on clothing and toys and thus a child's exposure is increased tenfold. The Coca-Cola polar bears have made their way into ornaments, sweatshirts, and various memorabilia, thus increasing a child's exposure to the brand. In this way food companies who advertise effectively to children are able to identify with them for life, creating a long-term customer worth millions of dollars.

Branding Relationships in Children

Children form food brand bonds with foods as early as the age of two and often keep these food brand bonds for life (Boyland et al.). These brand bonds are most often made with

unhealthy or junk foods and thus the bonds they are forming put them at a higher risk for obesity. Boyland et al. argues that “children are critical targets” because they “exert considerable influence over family purchases” (p. 238) and also carry a limited purchasing power of their own. Advertisers know that investing in marketing towards children is one of the most lucrative moves they can make both in the short term and the long term.

Children have a significant impact both when the advertisement is initially shown as well as in their future purchasing power. Children often use their limited buying power on food or use their parents buying power to convince them buy various products for them (Boyland et al.). Children are known to go for immediate gratification and are likely to spend their own money on sweets or sodas and advertisements could sway them to buy specifically branded products. Advertisers recognize the buying power of children and thus work hard to gain their loyalty at as young an age as possible. Young children are targeted at a vulnerable cognitive development stage by these advertisers and so every dollar spent advertising to children is multiplied tenfold in return. Because of this, advertisers are much more likely to employ every method they have in order to hook children.

In the face of such avid marketing children, and their low level of cognitive defenses and critical thinking skills, do not have a fighting chance. Brands of an object exert a powerful influence over children, Boyland et al. states that it is one of the six main factors that influence a child's purchasing decision. Children do not fully develop cognitive defenses until well after the age of twelve (Carter et al.) but at two they can recognize a brand well enough to request it and begin to form a brand bond. The “solidification of the relationship with the brand” (Boyland et al. p. 238) is strong and long lasting; it will carry on well through their adult years. The fact that branding has such a strong effect on children is significant, especially considering the high level

of advertisements that children see in a given day. Branding has been shown to be a key factor in a child's decision making process (Boyland et al.). Children are targeted by these brands as they are learning to talk and walk. At this point in a child's life their minds act like sponges, absorbing everything thrown at them including food advertisements and the brand bonds that comes with them. These characters and brands then become an intrinsic part of their childhood, a time generally remembered as carefree and happy. Thus these brands are influencing children through their very presence during such as crucial time in a child's life. Boyland et al. also notes that brand bonds formed in children are "thought to be more imbedded than those formed later" (p. 238) and thus exert more power not only over the child in the present day but also the child for the rest of their lives.

Children develop cognitive defenses but often the brand loyalty they have already formed remains for life and "reward(s) the food company with a lifetime of sales" (p. 238), according to Boyland et al. Robinson et al. (2007) found that children as young as three are already exposed to, and affected by, the branding of McDonald's. It was found by Robinson et al. that children preferred food that was branded as McDonalds, whether or not the food was actually a food from the chain. Children did not have a preference for the actual products but rather for the brand presented (Robinson et al.). This is much like the Pepsi versus Coke taste tests. Pepsi insists that people generally prefer the taste of Pepsi yet Coca-Cola has a much higher sales margin (Abramson). While people may prefer the actual taste of Pepsi they are said to prefer the branding of Coca-Cola. Because of this Pepsi spent over one billion dollars to revamp its logo (Abramson). This shows the true power of branding and the effects it has on the sales of the product.

Even children not familiar with the food brand were noted by Robinson et al. as preferring the branded food over the non-branded or plainly packaged food. This could simply be a result of the colorful packaging that McDonald's food is presented in as opposed to the white wrappers that the other foods were presented in. It could also indicate that the McDonald's brand is so embedded in society that children implicitly recognized the brand, whether they can specifically name it or not. Robinson et al. found significant statistical results and strong linear correlations between preference and branding. McDonald's meals are often associated with well-known cartoon characters as well as incentives in the form of toys. These factors may also have contributed the familiarity with the brand and the perceived taste preference that children expressed. The preference for branded food items regardless of the actual food demonstrates a strong brand branding effect, even in young children.

In today's society it would not be surprising to find that people prefer well-packaged and branded foods simply because it conveys a certain level of wealth. While this is most likely not the reason for children's preference of the branded foods, it could be a learned behavior of preference from a role model who prefers a labeled good for this reason. This preference was found to be true even for carrots, according to Robinson et al., a food item that is both healthy and not found at McDonalds. Keller et al. affirmed this observation that children prefer branded foods when they found that children increased consumption of fruits and vegetables when they were branded with characters and incentives were included in the packaging. Keller et al. also notes even when the packaging and incentives were removed from the vegetables children still increased their consumption of the fruits and vegetables. Keller et al. found that marketing a product such as fruit and vegetables can have success just like marketing of unhealthy foods. The branding seems to have helped establish a relationship between the child and the food that

remains even after the brand is removed (Keller et al.). The food brands seem to serve as an introductory factor between the child and the food to which the brand is applied. Once the child has tried the branded food the food itself seems to become acceptable, no matter if it is branded or not. In this way if children form a bond with Coca-Cola or Pepsi they could develop a taste for soda in general that would then extend to off brand sodas. Keller et al. argues that the strength of food brand bonds among children even at such a young age indicates that it "might be possible to manipulate food branding cues to promote intake of healthful foods among children" (p. 384). If soda companies began advertising their water products as fiercely as they did their top grossing sodas perhaps water sales would increase.

Cognitive Defenses as a Function of Weight

These food brand bonds seem to form in children with higher weight status more than children with a normal weight. Overweight children have been seen to be more vulnerable to advertising and branding and to have significantly higher levels of consumption of these branded food and drink. Forman et al. (2009) argues that overweight children have demonstrated more cognitive bias and vulnerability "to the effects of food advertising than non-OW children" (p. 77). As children begin to recognize the persuasive intent of advertisements the difference in cognitive defenses of overweight and healthy weight children begins to emerge (Forman et al.). Overweight children do not appear to be developing the cognitive defenses that their lean counterparts develop at the same age (Forman et al.). Overweight children seem to have underdeveloped cognitive defenses that may have contributed to their weight status or may simply form stronger brands with foods as a function of their exposure to these brands through consumption. These children have formed stronger food brand bonds than their lean counterparts

that they will likely carry for the rest of their lives. Their underdeveloped cognitive defenses could also affect the rest of their lives unless they are taught to think critically and how to employ this knowledge in everyday life.

There are several years in which obese children have no difference in cognitive defenses than lean children. If this time is utilized to teach children how to think critically the obesity epidemic could potentially be reduced. However Forman et al. argued that these differences only seemed to appear at an age where cognitive defenses are typically thought to be fully developed. Keller et al. agrees that overweight children may have a “cognitive bias toward some food brand images” (p. 383) causing them to show preference to branded foods over non-branded foods that could not be solved with intervention.

Non-overweight children are not unaware of brands; in fact they seem to be just as cognizant as overweight children to these food brands (Forman et al.). However, they seem less susceptible to the food brand bonding that seems to occur in overweight children. This is very likely due to a difference in familial eating practices and the “food environment” (Kral and Rauh, 2010, p. 568) that families of overweight children provide as opposed to the eating practices of non-overweight children (Forman et al.). Overweight children may also simply be exposed to the brand more and thus do not employ critical thinking when looking at such a familiar object.

Familial Influences on Children's Habits and Cognitive Defenses

Parental modeling strongly and directly influences children's consumption patterns for the rest of their lives and thus a parent with bad food habits or low levels of cognitive defense put their children at a higher risk for obesity. Families create certain food environments for their children that influence the food brand bonds that children form. Families who have a high level

of disfunctionality or low levels of communication put their children at a higher risk for low levels of cognitive defense and these children are more likely to form strong food brand bonds.

Children are directly influenced by the environment in which they grow up in when it comes to food. Kral and Rauh argue that these home environmental factors include accessibility of foods and parental feeding practices. Kral and Rauh assert that “repeated exposure to foods has been associated with increased liking and consumption of those foods” (p. 568-9). Having a food available in the home and easily accessible to children holds a significant influence on their formation of food preferences and eating patterns. (Kral and Rauh p. 568) Repeated exposure to foods was found to be associated with an increase in preference of these foods in children; much like the repetition of advertisements creates an increased awareness, recognition, and eventually preference of brands (Kral and Rauh). If a child is repeatedly made to try a food they are more likely to like the food. This holds true for both healthy foods and junk foods.

If a parent is eating an energy dense food or sugared drink they are likely to feed that food to their child, increasing a child's exposure and potential liking of the food. If a parent does not allow a child to eat the energy dense food they become overly restrictive in their feeding practices and are likely to increase the child's desire for the food or drink. The only effective way to establish good eating habits in their child is for the parent to model these behaviors themselves.

While the home environment seems to provide a learning environment for many other food behaviors (Kral and Rauh) the development of food brand loyalty does not appear to be one of them (Forman et al.). This may be due to the fact that children already have access to the brands they want and thus do not feel the need to beg for them so they do not recognize them. However, exposure to these brands certainly creates a taste for the foods and potential for

branding within this food group. Kral and Rauh note that watching a model eat can change or enhance food preferences in children. Kral and Rauh found that those children whose parents, especially mothers, ate more fruits and vegetables were more likely to eat fruits and vegetables and have a higher consumption rate than children whose mothers had lower consumption rates. This would also prove true for potentially branded food items. In the case of a branded food children may not only increase their consumption of the food itself but of the brand as well.

If an obese parent is modeling their eating behavior and purchasing branded goods then a child is likely to imitate these behaviors. In this way parents create a “social context in which eating occurs” (Kral and Rauh, p. 571) that influences the way children eat and how children view food. These children follow their parent’s models and if the parent models a diet exclusively from McDonalds and only drink soda children are likely to see this as an approval of such a diet (Robinson et al.). Kral and Rauh assert that those modeling behaviors combine with genetic predispositions to enhance problematic eating behaviors and encourage unhealthy food choices in children.

Czaja et al. (2011) asserts that family interactions during mealtimes also have significant impact on children’s eating habits. Parental under-involvement, unhealthy communication, and dysfunctional interpersonal involvement were all observed by Czaja et al. to contribute to children’s eating habits. These modeling behaviors of maladaptive familial communications at meals could adversely affect children when it comes to overall food choices as well as cognitive development. In these families parents are less likely to be involved in their children’s lives and are less likely to put regulations on children’s eating or television watching habits. They are also less likely to communicate critical thinking skills, putting their children at further risk for underdeveloped cognitive defenses.

These factors create a fatal combination that sets children up to be incredibly vulnerable to advertising and food brand bonds. Parents of families with children who have loss of control eating tendencies, an extreme case of bad eating habits, don't communicate well and are less likely to communicate the ideas of healthy eating (Czaja et al.) that could possibly override the food brand bonds their children are forming. The way the parents teach children to analyze information also has a significant effect on how children's cognitive defenses are developed. Buijzen et al. (2008) notes that families who communicated conceptually, where they presented and discussed ideas and challenged these ideas, had children who were less effected by food advertisements. These children were being taught to think critically and were better able to defend against the devices being used by these marketers. Czaja et al. observed that maladaptive family practices may also reduce the amount of family mealtimes, leaving children to fend for themselves. This could lead to strong food brand bonding as they are then left to feed themselves. In this vulnerable state children are even more susceptible to food brand bonding and will likely turn to these branded food items for comfort in the future. Food branding is strong in children normally but if a child finds a comfort in that food brand the bond could be strengthened exponentially.

Conclusion: Education and Regulation

Parental eating habits and advertisements appear to be two of the most influential aspects of a child's eating habits and levels of cognitive defenses. A combination of watching an obese parent's eating habits and being bombarded with advertisements could significantly increase a child's risk of obesity. Companies are targeting children from birth, when they are unable to defend against the claims being made in these advertisements. Children form food brand bonds

with these companies at very early ages which remain with them for life. Some companies are taking voluntary action. The three biggest soda companies; Coca-Cola, PepsiCola, and Cabury Schwepps, have agreed to dedicate fifty percent of ads aimed at children under twelve to promote healthier lifestyles (Abramson). However, there are no official regulation for all companies. Government regulation should be placed on these companies to prevent them from advertising only junk food to children. At the same time educational programs should begin to help build children's cognitive defenses and critical thinking skills. In the fight against obesity, education is the best defense. By finding specific groups to educate, and determining how they need to be educated, the growing rate of obesity could be reduced.

References

- Abramson, H. (2009, September). *Sugar water gets a facelift: What marketing does for soda*. Retrieved from: http://www.health.ny.gov/prevention/obesity/sugared_beverages/studies/docs/sugar_water_gets_a_facelift.pdf
- Borzekowski, D.L., Robinson, T.N. (2001). The 30-second effect: An experiment revealing the impact of television commercials on food preferences of preschoolers. *Journal of the American Dietetic Association*, 101, 42-46. doi: 10.1016/S0002-8223(01)00012-8
- Boyland, E.J., Halford, J.C.G. (2013). Television advertising and branding. Effects on eating behavior and food preferences in children. *Appetite*, 62, 236-241. doi: 10.1016/j.appet.2012.01.032
- Buijzen, M., Schuurman, J., Bomhol, E. (2008) Associations between children's television advertising exposure and their food consumption patterns: A household diary-survey study. *Appetite*, 50, 231-239. doi: 10.1016/j.appet.2007.07.006
- Carter, O.B.J., Patterson, L.J., Donovan, R.J., Ewing, M.T., Roberts, C.M. (2011). Children's understanding of the selling versus persuasive intent of junk food advertising: Implications for regulation. *Social Science and Medicing*, 72, 962-968. doi: 10.1016/j.socscimed.2011.01.018
- Chou, S.Y., Rashad, I., Grossman, M. (2005). Fast-food restaurant advertising on television and its influence on childhood obesity. *NBER Working Paper Series*, 11879, 1-43. <http://www.nber.org/papers/w11879.pdf>
- Coca-Cola. (2013, January 22). Coke Chase 2013 Ad [Video File]. Retrieved from <http://www.youtube.com/watch?v=6uFQAqwbwSg>

Coca-Cola Company. (2013). Frequently Asked Questions. In *Contact Us*. Retrieved from

<http://www.coca-colacompany.com/contact-us/faqs#TCCC>

CQ Press (2005). Institute of medicine on preventing childhood obesity. *Historic Documents of*

2004, 652-65. Retrieved from <http://library.cqpress.com/historicdocuments/hcdc04p-249->

11119-723305

Czaja, J., Hartmann, A.S., Rief, W., Hilbert, A. (2011). Mealtime family interactions in home

environments of children with loss of control eating. *Appetite*, 56, 587-593. doi:

10.1016/j.appet.2011.01.030

Food and Drug Administration Working Obesity Group. (2004). *Calories count: Report of the*

working group on obesity. Retrieved from Department of Health and Human Services

and the Federal Food and Drug Administration website:

http://www.fda.gov/ohrms/dockets/ac/04/briefing/4039b1_01_calories%20count.pdf

Forman, J., Halford, J.C.G., Summe, H., MacDougall, M., Keller, K.L. (2009). Food Branding

influences *ad libitum* intake differently in children depending on weight status. Results of a pilot study. *Appetite*, 53, 76-83. doi:10.1016/j.appet.2009.05.015

Heyman, G.D. (2008). Children's critical thinking when learning from others. *Current*

Directions in Psychological Science, 17, 343-347. doi: 10.1111/j.1467-

8721.2008.00603.x

Keller, K.L., Kuilema, L.G., Lee, N., Yoon, J., Mascaro, B., Combes, A., Deutsch, B., Sorte, K.,

Halford, J.C.G. (2012). The impact of food branding on children's eating behavior and

obesity. *Physiology and Behavior*, 106, 379-386. doi: 10.1016/j.physbeh.2012.03.011

- Kelly, B., Hattersley, L., King, L., Flood, V. (2008). Persuasive food marketing to children: use of cartoons and competitions in Australian commercial television advertisements. *Health Promotion International*, 23, 337-344. doi:10.1093/heapro/dan023
- Kral, T.V.E., Rauh, E.M. (2010). Eating behaviors of children in the context of their family environment. *Physiology & Behavior*, 100, 567-573. doi: 10.1016/j.physbeh.2010.04.031
- Robinson, T.N., Borzekowski, D.L.G., Matheson, D.M., Kraemer, H.C. (2007). Effects of fast food branding on young children's taste preferences. *Archives of Pediatric Adolescent Medicine*, 161, 792-797. doi:10.1001/archpedi.161.8.792.
- Strasburger, V. (2011). Children, adolescents, obesity and the media. *Pediatrics*, 128. 200-208. doi: 10.1542/peds.2011-1066
- The role of media in childhood obesity. (2004). *Henry J. Kaiser Family Foundation*. Retrieved from <http://kaiserfamilyfoundation.files.wordpress.com/2013/01/7618es.pdf>
- Veerman, J.L., Van Beeck, E.F., Barendregt, J.J., Mackenbach, J.P. (2009). By how much would limiting TV food advertising reduce childhood obesity? *European Journal of Public Health*, 19, 365-369. doi: 10.1093/eurpub/ckp039