

A HEALTHY LOOK AT JUNK FOOD: A CONTENT ANALYSIS ON THE HEALTH
DISCLAIMERS FEATURED IN BREAKFAST CEREAL COMMERCIALS



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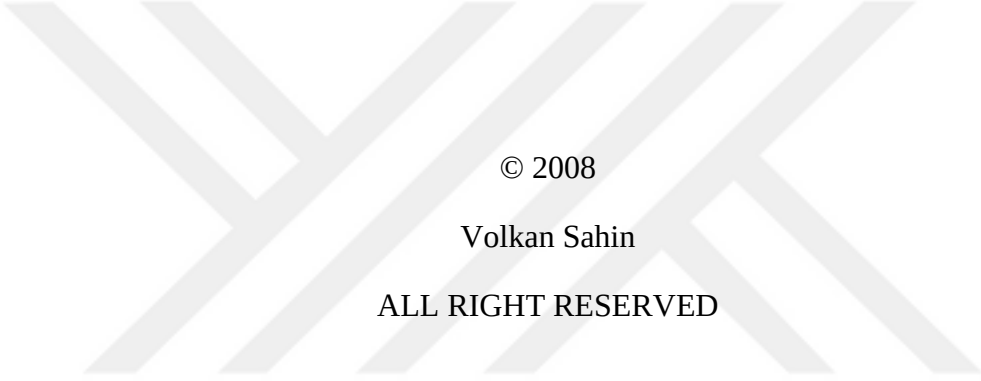
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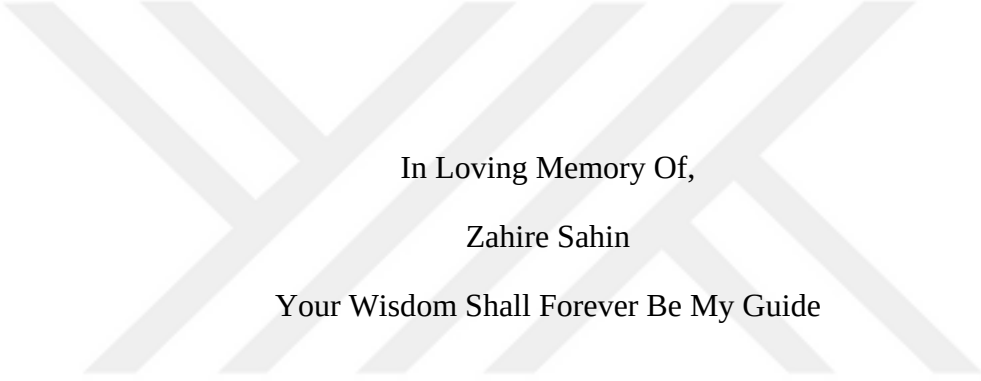
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In Loving Memory Of,
Zahire Sahin
Your Wisdom Shall Forever Be My Guide

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ABSTRACT

Volkan Sahin

A HEALTHY LOOK AT JUNK FOOD: A CONTENT ANALYSIS ON THE HEALTH DISCLAIMERS FEATURED IN BREAKFAST CEREAL COMMERCIALS

This dissertation was to examine the health disclaimers featured in breakfast cereal commercials in order to investigate whether the audio-visual format of these health disclaimers allow young children to process the intended messages of a healthy diet. Further, this study investigated whether these disclaimers accurately depict a “healthy” and “balanced” breakfast for early childhood age children.

In this dissertation, the effects food advertising on children's eating habits were illustrated in connection with the rising childhood obesity epidemic. Several areas of concern regarding the current policies governing food advertisements were identified and the extent of which these regulations are followed by the commercial producers were discussed. A systematic analysis of the structure and content on the subject of the health disclaimers that appear during cereal commercials was conducted. A sample of cereal commercials that were broadcasted during children's programming on thirteen major cable and network channels were content analyzed. The findings regarding both the structural analysis of the disclaimers and the actual nutritional information presented to children in these disclaimers were discussed and interpreted. Finally, in this dissertation, implications and suggestions for three major interest groups: Children, the self-regulatory mechanism of the advertising industry, and the early childhood educators were provided.

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CHAPTER I

Introduction

Start the clock.

The mean looking karate instructor in black clothes (coincidentally an Asian male) comes from off screen, flying, kicking and bouncing around. The intimidating adult comes to a stop only to yell at his three young students (around the ages of eight and nine), telling them that they are not allowed rest until they are finished with the thick, 4x2 wooden planks they are supposed to break. Three kids stand in a room which resembles a Chinese temple. One kid tries to break the wood unenthusiastically and gives up quickly because they are hungry. The other one complains, "We will never get our Cap'n Crunch." Suddenly, one of the walls of the room comes crushing down with a big rumble. It is Cap'n Crunch to the rescue! (For some reason Cap'n Crunch decided to crush his ship into the karate school in order to help these youngsters.) On the prow of his ship, is a figurehead carved in the shape of a fisted hand. With one push of a button, the fist turns into a karate chop and chops down the huge wooden blocks in front of the kids, taking care of the hard task the kids are expected to finish by themselves. Now it is time for fun! With Cap'n Crunch's command, "Crunchidize!" all of a sudden the kids turn into animated characters and fly to the ship, then further in the air, all the way up to the end of the mast. Up in the air, they catch the cereal box Cap'n Crunch threw in the air. The animated kids kick the box from three directions at the same time causing it to break apart and sending all the cereal upside down into three bowls waiting on the deck. All the cereal inside the box pours into the three bowls filling approximately 5.6 servings per

bowl (Cap'n Crunch cereal serving size 3/4 cups, one box contains 17 servings). Wait! Make that 5.59 servings of cereal because, apparently three individual cereal pieces did not make it to the bowls. As they are landing, one of the kids punches them in mid air, sending them across the ship to Cap'n Crunch who wards off the attack with the help of two spoons. The cereal pieces fly back into the air once more followed by the kids. The kids surround the cereal in mid air. Everything freezes momentarily. The camera goes around the kids just like it happens in many famous R rated sci-fi/action movies.

Kablaam! One of the kids punches the last three pieces of cereal right into her friend's mouth. As the cereals fly into the kid's mouth, we see a special effect very similar to that used in the R rated movie mentioned above to simulate bullets going really fast in the air. Slam! Suddenly (Yes, everything seems to happen suddenly in this strange world) the camera cuts to our beloved Cap'n slamming a cereal box onto what appears to be a breakfast table as he screams: "Cap'n Crunch is a part of this complete breakfast that really packs a punch"! On the table we see a pitcher of milk, a slice of toast divided into half with what appears to be a dollop of butter or margarine on one of the pieces, a tall glass of orange juice, and a bowl filled with cereal, very similar to those that appeared earlier with full of (approx. 5.6 servings) cereal. The kids? They are not interested in eating the breakfast. They are standing way back, shaking and turning into a bunch of cereals one by one, as they materialize in the real world. The camera cuts to the mean karate instructor again. He faces the wall the Cap'n Crunch's ship came crushing through earlier, making karate moves as if he is anticipating that the enemy (the kids or Cap'n?) will come from that direction. Smash! Suddenly (yes, once again), a huge chunk of the wall on the opposite side comes apart flying, hits the karate instructor in the head,

knocking him unconscious. We see a huge hole in the wall and the three karate students standing on the other side in the flesh. One of them is holding a box of cereal (Did they used the cereal to break the wall?). The karate instructor (or the mean adult) regains consciousness. He sees cereal dancing around his head. Defeated and humiliated, he begs: Crunchidize me Cap'n!

Stop the clock.

How long does it take to read the story? Everything described above happened in thirty seconds. Every week, around 800 cereal commercials, pretty much like the one described above, appear during programs that children under 8 years of age watch (Gantz, Schwartz, Angelini, & Rideout, 2007). Some people think this is a problem. I agree. That is why I conducted a study that examined the health disclaimers featured in breakfast cereal commercials in order to investigate whether the audio-visual format of these health disclaimers allow young children to process the intended messages of a healthy diet. Further, this study examined whether these disclaimers accurately depict a “healthy” and “balanced” breakfast.

In the rest of this chapter, several areas of concern were identified and discussed. The rising childhood obesity epidemic and the extent of which food advertising contribute to the problem were among the two main areas of discussion. In addition, I analyzed the current policies governing food advertisements and examined to what extent these regulations are followed by the commercial producers. In Chapter II the methodology of the systematic analysis of the structure and content on the subject of the health disclaimers that appear during cereal commercials is explained in detail. The findings regarding both the structural analysis of the disclaimers and the actual nutritional

information presented to children in these disclaimers are presented in Chapter III. In Chapter IV, I interpret the findings of my examination for three major interest groups: (1) Children, (2) the self-regulatory mechanism of the advertising industry, and (3) the early childhood educators whom, I believe, hold a tremendous power in educating parents and children about the ill-effects of food advertising as well as the ineffectiveness of the current regulations governing this industry. Finally in the last chapter, I take the opportunity to recap the events that had led me to this journey and reflected on my overall experience.

Portrait of a “Cereal” Killer: Childhood Obesity

Childhood obesity, a growing problem for the last couple of decades, has recently become a hot button issue in most of the industrialized countries (Doak, Visscher, Renders, & Seidell, 2006; Flegal, Tabak, & Ogden, 2006; Ogden, Carroll, Curtin, McDowell, Tabak, & Flegal, 2006; World Health Organization [WHO], 2006). The terminology used in defining obesity and overweight varies depending on the source. Defining obesity, some researchers emphasize the existence of excessive adiposity (or body fat) and its distribution in the body (Cline, Spradlin, & Plucker, 2005; Wardley, Puntis, & Taitz, 1997; Endres, Mense, & Rockwell, 2004), while other sources focus on a child’s weight in relation to his/her height (American Academy of Pediatrics [AAP], 2003; Centers for Disease Control and Prevention, 2007; Harper, 2006). According to the American Academy of Pediatrics, a child with a body mass index (BMI) at or above the 95th percentile for age and gender should be considered as obese or overweight. Children whose BMI is between 85% and 95% are at risk of being overweight (American

Academy of Pediatrics, Committee on Nutrition, 2003). BMI is calculated as weight in kilograms divided by the square of height in meters. There are different BMI values set for each age group and gender. For example, an eight-year old boy with a BMI number of 18.44 is considered overweight. The same age child with a BMI 21.60 is considered as obese (Binns, 2007). The 2003-2004 National Health and Nutrition Examination Survey (NHANES) estimated that, in the United States, 17.5% of children and adolescents between the ages of 2 to eleven years are overweight. More alarmingly, almost 32% of children in the same age group are at risk of being overweight according to the same survey. Findings from the latest studies have revealed that the prevalence of overweight children increased from 5% to 14% among 2- to 5-year-olds and from 4% to 19% among 6-to eleven-year-olds between 1971-74 and 2003-2004. (Ogden, Carroll, Curtin, McDowell, Tabak, & Flegal, 2006)

The United States is not the only country experiencing increased rates of childhood obesity. Carter (2006) reported dramatically increased childhood obesity rates in Australia (tripled since 1985). Similarly, in the last 10 years, obesity rates have doubled in both France and Germany (Cline, Spradlin, & Plucker, 2005). Similarly, countries like the United Kingdom (Wardley, Puntis, & Taitz, 1997) Finland, China, Chile, Portugal, Brazil and Russia (Flegal, Tabak, & Ogden, 2006) are also battling childhood obesity.

Causes of Obesity

Until relatively recent times, overeating was commonly seen as the only major cause of obesity (Wardley, Puntis, & Taitz, 1997). The latest research, however, has

proposed a more complex explanation which can be characterized as an interweaving relationship among several social, economic, and environmental factors along with genetics (Doak, Visscher, Renders, & Seidell, 2006; Harper, 2006; Wardley, Puntis, & Taitz, 1997).

In the simplest terms, obesity and overweight occurs when children take in more calories than they use (Harper, 2006). An imbalance of taken and spent calories or, as dubbed by Doak, et al. (2006), “the nutritional transition” occurs as a result of an inverse correlation between increased consumption of high-energy (calorie-rich) foods and decreased levels of physical activity (Doak et.al., 2006; Harper, 2006; Wardley, Puntis, & Taitz, 1997).

Childhood obesity causes several health problems in children. The most common problems include: changes in metabolism, Type 2 diabetes, disturbed sleep patterns, skin problems, poor immune function, increased blood pressure and hypertension among others (Doak et al., 2006). The physiological effects of obesity can also be devastating for children. Low self-esteem, social alienation, and depression are only a few of these negative psycho-social effects associated with obesity (Doak et al., 2006; Cline, Spradlin, & Plucker, 2005; Stanton & Hills, 2004).

Increasing healthcare costs associated with obesity is considered a good indicator of the seriousness of the epidemic (Doak et al., 2006). According to the U.S. Surgeon General’s report, the financial burden of obesity related illnesses put on the American Healthcare System was 117 million dollars in 2000 (Office of the Surgeon General, 2001).

Media Use and Childhood Obesity

Even though the usage of interactive media like the internet and video games have increased dramatically in the last few years (Valkenburg, 2004), television is still a very popular medium amongst young children (Lemish, 2007). This popularity is mainly due to its accessibility and simplicity of use. The images presented are easily understandable and unlike printed media, children do not have to learn how to decode a complex system of symbols to enjoy the medium (Huston, Zillman, & Bryant, 1994). A majority of children get their nutritional knowledge by watching television (Harrison, 2005). The American Obesity Association identifies television viewing as one of the “modifiable causes” of childhood obesity (American Obesity Association, 2002). The American Association of Pediatrics recommends that parents should limit their children’s television and video usage to no more than two hours a day (American Academy of Pediatrics, 2006). Literature has shown television’s profound effect on children’s food choices (Harrison, 2005). Studies conducted in the 1980s showed even short term exposure to television can influence young children’s food preferences (Gorn & Goldberg, 1982).

In his randomized controlled trial based study, Robinson (1999) found that regulating children’s television viewing (in conjunction with utilizing a media literacy curriculum) significantly reduced the body mass index of the children in the treatment group compared with the control group. In his study, 192 elementary school children were divided into two groups (control and intervention). The experiment group received an intervention that gradually reduced the amount of time spent for television, videotape and video games usage. Moreover, the intervention focused on limiting media use and it

did not promote any physical activity, nor addressed children's eating habits. Thus, simply decreasing the time spent with electronic media helped reduce participating children's BMI.

Advertising to Young Children

Television advertising targeting young children has been a topic of public interest since the early 1970s (Kunkel & Gantz, 1992). Research has shown that food advertisements broadcasted during children's television programming are a major contributing factor to childhood obesity since they have a significant influence on children's food preferences (Committee on Food Marketing and the Diets of Children and Youth, 2006; Lobstein & Dobb, 2005; Signorielli & Staples, 1997; Story & French, 2004). The current self-regulatory system governing food advertisements has been drawing a great deal of criticism from scholars and public advocacy groups who find it ineffective and/or outdated at best (Campbell, 1999; Lazar, 1994; Minow & LaMay, 1995). There is a growing public concern about how food advertisements targeting young children should be regulated yet there is little data on children's cognitive process of the messages given by the food advertisements (Livingstone, 2005). Some child advocacy groups have been pushing for more stringent rules (Lazar, 1994). Radical solutions like completely banning advertisements for children under a certain age have been proposed (Cross, 2002; KFF 2003, Ruskin, 2004; Wootan, 2003). The advertisement industry and manufacturers have acknowledged the problem and the need for more research on creating advertisements appropriately tailored to the cognitive abilities of children (National Advertising Review Council, 2004).

Children are considered as a “special audience” and they are assumed to be vulnerable to the persuasive tone of advertisements due to their cognitive immaturity (Huston, Zillman, & Bryant, 1994, KFF, 2003). The biggest concern critics voiced against TV advertisements targeting young children is the possibility of young children’s inability to comprehend the “intent of sale” in the commercials they viewed (Committee on Food Marketing and the Diets of Children and Youth, 2006; Kunkel & Gantz, 1992). Some scholars have claimed children younger than six years of age have limited power to resist temptation when they see something they want like a sugary snack on a television commercial (Valkenburg, 2004). Valkenburg (2004) pointed out: “If they see something attractive, they focus all their attention on the enticing aspects of this stimulus and find it very difficult to resist” (p. 87).

Television commercials play a crucial role in shaping children’s perception of healthy versus unhealthy foods (Signorielli & Staples, 1997). A meta analysis study on 25 school-based obesity prevention programs done by Doak, Visscher, Renders, and Seidell (2006) showed that there is consensus among researchers that marketing foods to children is one of the major causes of childhood obesity. The same study also reported “media and culture” and “TV in child’s room” among the leading causes of childhood obesity (Doak, Visscher, Renders, & Seidell, 2006).

According to the latest report from the Kaiser Family Foundation, children between the ages of two- and seven-years of age watch an average of 30 hours of food advertising in a year (4400 total, including 12 food ads a day) (Gantz, Schwartz, Angelini, & Rideout, 2007). Gorn and Goldberg (1982) found that over a two week period, five-to eight-year old children who were exposed to food and beverage

advertisements chose candy over fruit as an afternoon snack. Similarly, in an experimental study on 46 Head Start students, Borzekowski and Robinson (2001) concluded that even a short term exposure to 30-second food commercials is enough to noticeably influence young children's food preferences. In six out of seven cases, the children participating the study preferred advertised food products over non-advertised ones (Borzekowski & Robinson, 2001).

By using the data obtained from television advertising surveys in the U.S., Australia and eight European countries, Lobstein and Dobb (2005) concluded that there is a link between the number of advertisements shown on television and the ratio of overweight children. The Committee on Food Marketing and the Diets of Children and Youth's findings outlined the television's influence on young children's diets. After a systematic review of current literature, the committee not only found strong evidence that "exposure to television advertising is associated with adiposity in children ages 2-11 years..." but also that television advertising influences children's food and beverage preferences, beliefs, and purchase requests (Committee on Food Marketing and the Diets of Children and Youth, 2006).

Sugared Breakfast Cereal Ads

Cereals are among the top food items advertised to children and adolescents. Barcus (1981) reported that 80% of all ads broadcasted during children's programming fall under one of the four product groups: toys, cereals, candies, or fast food restaurants. Thirty-four percent of these ads are for cereal products. Kunkel and Gantz (1992) reported that out of 10325 commercials they analyzed in their extensive content analysis

study, 22.4 % of the commercials were cereal commercials which was the second largest group following toy advertisements. The findings of the latest study on food advertisements from the Kaiser Family Foundation (Gantz, Schwartz, Angelini, & Rideout, 2007) revealed similar results with the earlier content analysis studies. Gantz and his colleagues found out that breakfast cereals are the second largest food group being advertised to children (28%), closely following candy and snacks (38%). The same study also reported that cereal commercials are most frequently appear during children's shows (31%).

Commercials, much like television shows in general, tend to change over time. The products advertised, methods utilized, content attributes and disclaimers used are constantly being replaced with new ones, creating a need for re-evaluation of commercials and their effects in regular intervals. Between 1994 and 2004, for example, 231 new cereal products were advertised. Therefore, some scholars urge for a continuous research on the topic (Kunkel & Gantz, 1992).

Regulating Advertisements: Public Demand vs. Self Regulation

Changes in public policies play a crucial role in how advertising is regulated and how, in turn, television commercials featuring food items address young children. Federal deregulation of television advertising in the early 1980s resulted in an increased amount of advertising during children's programming (Campbell, 1999; Cross, 2002).

Today in the U.S., advertisements targeting young children are self-regulated, overseen by Children's Advertisements Reviewing Unit, or CARU. CARU was established in 1974 by the National Advertising Review Council (NARC) as an answer to

increased public concern regarding the TV commercials targeting young children (Children's Advertising Review Unit, 2007). CARU's establishment in 1974 was met with skepticism by the FTC and the consumer groups due to the fact that it is funded by the industry and there is little or no consumer representation (Campbell, 1999; Story & French, 2004). Critics also questioned CARU's effectiveness due to the fact that it has no tangible power over the advertising industry and compliance to its rules is entirely up to the will of the industry (Story & French, 2004). Kunkel and Gantz (1993) did a study on CARU regulations to assess the effectiveness of the CARU self-regulatory guidelines. They found that while cereal advertisers usually followed the guidelines that required cereals to be portrayed as a part of a healthy diet, these commercials were problematic in terms of claims made that may mislead children about those products' effects on one's health. Kunkel and Gantz's findings also emphasized that the health disclaimers mostly failed to improve children's understanding about the product even though they were featured in almost every breakfast cereal commercials (Kunkel & Gantz, 1993).

The disagreement between the government, consumer advocacy groups and the advertising industry regarding the regulation of advertisements in regard to protecting children's rights began long before CARU's foundation in 1974. In his historical analysis, Cross (2002) examined the public's repeated attempts to regulate advertising directed to children that seemed to fail every time. The debate over "politics of innocence" as Cross called it, became increasingly intense particularly after the marketing industry realized the power children have over their parents' purchasing decisions (Campbell, 1999; Cross, 2002; Van Evra, 2004).

The National Association of Broadcasters (NAB) was founded in 1923. The first NAB TV code was published in 1951 but this did not include any attempt to regulate advertisements targeting children. However, some general limitations for the number of advertisements broadcasted were suggested in this first code (Campbell, 1999). The first regulations regarding advertisements for children were included in the code published in 1961, again in the form of time limitations (Campbell, 1999). During the 1970s Saturday morning cartoons became increasingly popular; consequently, the number of advertisements targeting children increased dramatically (Kunkel & Gantz, 1992; Valkenburg, 2004). This, in turn, resulted in increased public concern about the effects of food advertisements on children. Children's advocacy groups like Action for Children's Television (ACT) pressured the Federal Communications Commission (FCC) and the Federal Trade Commission (FTC) to ban or limit advertising directed at children (Campbell, 1999; Minow & LaMay, 1995; Story & French, 2004). In response, NAB reviewed the TV Code and adopted new rules limiting the time spent for advertisement in children's TV shows (Campbell, 1999).

On the government side, the FCC issued its own policy about children's television in 1974. However, these regulations were not scheduled to take effect until 1976 in order to give the industry a chance to adopt the regulations voluntarily (Campbell, 1999; Cross, 2002). Moreover, the FCC's policy was more of a statement rather than a set of regulations and thus, the FCC was powerless to enforce anything on the broadcasters (Campbell, 1999; Minow & LaMay, 1995). In the same time period, the NAB TV code was revised and a statement directly addressing breakfast cereals was added: "...children's advertising for breakfast type products shall include at least one audio reference and one

video depiction of the role of the product within the framework of a balanced regimen" (NAB, 1975, p.12).

After reviewing current research the FTC attempted to ban all advertising directed to children under certain age but had to drop the idea after Congress sided with the television and advertising industry (Kunkel, Wilcox, Cantor, Palmer, Linn, & Dowrick, 2004). In the meantime, the Department of Justice filed a law suit against the NAB alleging that the NAB advertising requirements in the Radio and Television code violated the antitrust laws. As a result, in 1984 the NAB decided to abandon the Code in its entirety even though only parts of the Code had been challenged (Campbell, 1999).

Similar to what happened in 1974, another wave of public concern combined with pressure from children's advocacy groups forced Congress to adopt the FCC's 1990 Children's Television Act. To this date, this remains the only set of rules issued by government regulating children's television (Kunkel, Wilcox, Cantor, Palmer, Linn, & Dowrick, 2004; Story & French, 2004). The FCC regulations limit commercial time during children's programs to 12 minutes/hour on weekdays and 9.5 minutes/hour on weekends. FCC rules also bans host selling (using characters from popular television shows to promote products during the same shows) (Gantz & Kunkel, 1993; Story & French, 2004). However, FCC policies do not cover disclaimers shown during the commercials.

As previously discussed, there has been renewed concern on the part of the public about the effectiveness of the voluntary system that governs food related commercials targeting young children. This renewed interest is largely due to the fact that childhood obesity has become a serious health issue. As is always the case, this revamped public

concern has forced organizations like the CARU to revise their suggested regulations. Combining this fact with the ever-changing nature of television commercials, it is crucial to examine the current status of the relationship between food-related television advertisements and regulations.

Decoding the Format: Characteristics of Disclaimers Shown During Breakfast Cereal Commercials

In order to fulfill the requirements suggested by the self-regulatory policy, advertisers utilize disclaimers implemented in the advertisements. Studies conducted across three decades yielded that the format of these disclaimers remained unchanged since the clause regarding televised breakfast cereal commercials was included in 1975 NAB Television Code (Gantz & Kunkell, 1992; Palmer & McDowell, 1981; Stern & Harmon, 1984; Rideout et. al., 2007). In their study, Palmer and McDowell (1981) defined disclaimers as the part of cereal commercials where the advertisers "displayed the cereal in proximity to other foods at the breakfast table and accompanied the visual setting with words such as 'part of a balanced breakfast,' 'part of a good breakfast.'" (p.296). The same representation of the audio and visual information regarding a healthy, balanced breakfast in disclaimers can still be seen in today's breakfast cereal commercials.

Understanding the Messages: Structural Features of the Healthy Breakfast Disclaimers

Structural features are considered those program attributes associated with production techniques such as visual effects, camera techniques (cuts, zooms) and audio

features such as special effects, dialog and music (Valkenburg, 2004; Van Evra, 2004). A majority of the studies that have attempted to explain the cognitive processes involved while children are watching television found that children's comprehension of televised content is heavily influenced by the structural features of the message (Lemish, 2007; Valkenburg, 2004; Van Evra, 2004).

Numerous researchers have been able to identify an array of structural features that may influence children's comprehension. An experimental study was done by Calvert, Hutson, Watkins, and Wright (1981) to determine how formal features of television are linked to children's selective attention and consequently their comprehension of content. Their work suggested that young children pay attention to the formal features of a program such as vocalizations and sound effects while older children select information given in a nonsalient format as a sign of better comprehension of the content. In their study, the structural features were categorized into two groups:

Salient features: Rapid character action, vocalizations, sound effects visual special effects, pans, zooms, music, moderate character action.

Nonsalient features: Child dialog and adult narration.

Anderson and Lorch (1983) argued that structural features such as motion, cuts, auditory changes and sound effects attract and maintain attention while zooms and pans terminate it.

Drawing from the results of previous studies Rice, Huston and Wright (1983) categorized structural features that may guide children's attention as:

- 1- High levels of physical activity and action.
- 2- Changes in scenes, characters, themes and auditory events.

- 3- Conventional visual features such as cuts and zooms and visual special effects.
- 4- Sound effects, lively music, non-speech vocalizations, unusual voices.

Some studies have emphasized the intensity of motion on screen as a precursor to children's attention and analyze it under two categories: rapid and moderate action. Similarly, auditory features have been analyzed under one of two categories including verbal (adult dialogue, child dialogue, non-human dialogue, and singing) and non-verbal (music and noise) (Calvert, Hutson, Watkins, & Wright, 1982; Huston A. C., et al., 1981). These studies have also identified additional structural features affecting children's attention such as: variability, tempo, visual tricks, visual change and zooms.

Not surprisingly, the literature on television program format suggests that commercial children's programs heavily rely on "perceptual hype" created by intense use of audio and visual effects and frequent change in program pace and action in order to capture and hold young viewer's attention (Huston, et al., 1981). Scholars who conducted research in late 70s early 80s such as Cohen and Salapatek (1975) identified fast-pace, high volume segments utilizing numerous audio-visual special effects as common structural elements for children programming serving as attention clues for young viewers. The commercials shown between these programs are no different. According to Van Evra (2004), "these ads includes past pace, animation, humor and music" (p. 117).

How much is too much? The frequency of structural features and its effects on message cognition.

The role of the presence and frequency of the structural features in comprehension of advertised messages was first brought to attention by Adler and his colleagues (1977)

during the big debate about the policy issues regarding the regulation of television advertisements targeting young children in the late 70s and early 80s. After reviewing the findings of numerous studies, Adler and his colleagues concluded that the excessive usage of formal features may cause misinterpretation and/or exaggeration of product characteristics as well as may impede the comprehension of the disclaimers (Adler et al., 1977).

Lang's (1995, 2000,2006) argument regarding the effects of structural features on cognitive processing corroborates with the initial concern raised by Adler and his colleagues. Lang points out that although structural features can make the content more comprehensible by allocating the mental processes, the excessive usage of them may create some sort of cognitive burden on the information processing system thus impede the storage and retrieval of the messages (Lang 1995, 2000,2006). According to some scholars, the structural features of television messages may elicit orienting responses in viewers. These orienting responses cause an increase in processing resources allocated to encoding. Reviewing other studies, Lang (2000) also suggests that increasing the number of structural features, such as the use of cuts, puts an extra load on the information processing system escalating the possibility of overload. When all additional sources allocated to the orienting stimuli, the system starts using resources primarily reserved for other processes (storage and retrieval). Lang called this situation “overload” and concluded that it may cause a decrease in overall recognition memory” (p. 59).

Limited Capacity Model of Motivated Mediated Message Processing (LC4MP)

Lang's limited capacity model of motivated mediated message processing (LC4MP) approach (Lang, 2000; 2006) was adopted as part of the theoretical framework. Lang's limited capacity model of motivated mediated message processing theory was helpful in addressing the second research question concerning the structural features in health disclaimers relate to children's attention. The measures offered by LC4MP allow researchers to monitor the message content all through the information-processing system thus, offering an ideal tool for better understanding the intended and unintended effects of the message content.

The LC4MP approach asserts the simultaneous operation of three sub-processes: encoding, storage, and retrieval (all of which draw on the same pool of limited mental resources) as the key factors in successful processing of a mediated messages (Lang, 2000). The encoding sub-process is conceptualized as a two-phase (controlled and automatic) selection procedure of information which is initially stored in "sensory memory." In other words encoding is the cognitive effort made when the brain transfers relevant bits of information from very short-term sensory memory to the working memory (Lang, 2000). The outcome is not the exact replication of the original received message but a mental representation of it (Lang, 2000). Attention to the television screen greatly effects how well the message is encoded. If there are too many things in the message that need to be encoded, the viewer will not be able to consciously select the useful information since the automatic processes will take over. After the mental representation of the message constructed during the encoding phase, it is stored in the "active" or "working" memory. The new information is, then, linked to the network of

old information which was previously encoded. The process of connecting newly encoded information to this network of memories is the storage subprocess (Lang, 2000). The quality of storage is determined by the number of the connections made between the new information and the old memories.

The final subprocess in LC4MP is retrieval. The retrieval subprocess is defined as the process of re-activating a specific bit of information which is stored in the associative memory network (Lang, 2000). Successful retrieval of the data depends on how well it was encoded and stored. When it is applied to television viewing, the later retrieval of a specific television message will be poor if the message has not been encoded and stored properly.

As the review of literature indicates, there is a link between the structural features employed in television programs and children's comprehension of program content. The breakfast disclaimers that appear on television during cereal commercials make use of structural features just like any other program. The self-regulatory policy on advertising recognizes the importance of presenting information in an appropriate format. The CARU guidelines states:

All disclosures and disclaimers material to children should be understandable to the children in the intended audience, taking into account their limited vocabularies and level of language skills. For young audiences, simple words should be chosen, *e.g.*, "You have to put it together." Since children rely more on information presented in pictures than in words, demonstrative disclosures are encouraged (CARU, 2006, p.5).

The use of structural features in health disclaimers can improve or impede children's comprehension of the intended healthy/balanced breakfast message depending on the way they are implemented. Further investigation is required to determine whether these disclaimers can successfully capture and hold children's attention. Thus, it is particularly important to know exactly how the structural features are being utilized in breakfast disclaimers. Therefore, this study examined: *RQ1- How are the structural features utilized in breakfast cereal commercials?*

Nutritional Substance of the Food Items Featured in the Healthy Breakfast Disclaimers Shown During Breakfast Cereal Commercials

The earlier studies done in this field indicate that food commercials play an important role in shaping children's perceptions about healthy and unhealthy food (Signorielli & Staples, 1997). Moreover, some scholars suggested that children would be able to stay away from junk food if they knew more about it (Harrison, 2005). The 1975 NAB TV Code had a special clause that provided guidelines regarding cereal commercials. Since that time, almost all breakfast cereal advertisements that are broadcasted during children's programming have included a health disclaimer showing their product among other food items which are considered to be part of a healthy, balanced breakfast. Studies showed that makers of cereal commercials usually follow the CARU guidelines which suggest the use of both audio and video disclose of the product within the healthy breakfast framework (Gantz, Schwartz, Angelini, & Rideout, 2007; Kunkel & Gantz, 1992). However, do they also follow the dietary guidelines? Nutritional values of the food items presented as "part of a healthy, balanced breakfast" in the

disclaimers should be within the limits of dietary guidelines for young children otherwise using these items in the disclaimer would defeat the purpose. CARU's requirement on the issue is quite clear:

Advertising of food products should encourage responsible use of the product with a view toward healthy development of the child. For example, advertising of food products should not discourage or disparage healthy lifestyle choices or the consumption of fruits or vegetables, or other foods recommended for increased consumption by current USDA Dietary Guidelines for Americans and My Pyramid, as applicable to children under 12 (CARU, 2006, p.5).

Initial analysis of the sample showed that the depiction of healthy breakfast varies greatly from commercial to commercial. There seems to be very little agreement between the producers in terms of the food items that make up a nutritionally substantive breakfast. Thus, this study examines the nutritional information presented in the health disclaimers appear during cereal commercials.

Figure 1 demonstrates the difference between the presentations of the food items in two of the most frequently advertised breakfast cereals.



Figure 1. There is a difference of opinion among commercial producers as to which food items should be portrayed in cereal commercial as a healthy breakfast.

The earlier content analysis studies revealed that commercials broadcasted during children's programming promote mainly of food items high in fat and sugar and of relatively low nutritional value (Bryd-Bredbenner & Grasso, 1999; Harrison & Marske, 2005; Kotz & Story, 1994; Kuribayashi, Roberts, & Johnson, 2001; Story & French, 2004). On the other hand, there is no known study at the moment, focusing on the nutritional values of the food items shown in health disclaimers in the breakfast cereal commercials. In the ninth article of the self-regulatory policy, CARU requires from the advertisers that:

Advertisements for food products should clearly depict or describe the appropriate role of the product within the framework of the eating occasion depicted.

- a. Advertisements representing a mealtime should depict the food product within the framework of a nutritionally balanced meal (CARU, 2008, p.5).

Therefore, in this part of the study, the investigator sought to determine: *RQ2a- What are the actual nutritional values of the food items as part of a healthy breakfast in the health disclaimers featured in breakfast cereal commercials?*

Assessing a Healthy, Balanced Breakfast: The Dietary Guidelines

Numerous scholars investigated the nutritional compositions of food items featured in food and beverage advertisements targeting young children (Bryd-Bredbenner & Grasso, 1999; Harrison & Marske, 2005; Kotz & Story, 1994; Kuribayashi, Roberts, & Johnson, 2001). In order to assess the healthiness of the advertised content, the researchers sought the aid of several dietary guidelines. The dietary guidelines described below are designed to assist dietitians, nutritionist and parents but, at the same time, frequently utilized by the researchers who want to assess the nutritional efficiency of food advertisements. In this study these dietary guidelines were utilized to determine:

RQ2b: To what extent do these health disclaimers depict an appropriate representation of a healthy, balanced breakfast?

FDA Nutrition Facts Label System

The Nutrition Facts Label, a standardized food labeling system developed by U.S. Food and Drug Administration (USFDA, 2006) was used in two studies to determine the ideal serving size of the food items and the major nutrient categories to be assessed (Harrison & Marske, 2005; Kuribayashi, Roberts, & Johnson, 2001). Nutrition Facts Labeling system, is designed to help consumers select foods that are suitable for their dietary needs (Whitney and Rolfes, 2002). The Nutrition Facts Labels provide information about serving size, total food energy (kcal), total fat (g), saturated fat (g), cholesterol (mg), sodium (mg), total carbohydrate (g), dietary fiber (g), sugars (g), and protein (g) as well as the recommended daily intakes for a few minerals and vitamins (USFDA, 2006; Whitney and Rolfes, 2002).

The School Breakfast Program

Created by the United States Department of Agriculture, Food and Nutrition Services, the School Breakfast Program (SBP) is a federal food assistance program subsidizing the cost of breakfast programs in over 84,000 participating public and private schools since 1975 (The School Breakfast Program Fact Sheet, 2007). Participating schools must offer a breakfast program for their students that meet federal requirements derived from USDA's own Dietary Guidelines for Americans and Institute of Medicine of the National Academies' (IOM) Dietary Reference Intakes (Menu Planning in the School Breakfast Program, 2006). The School Breakfast Program outlines calorie requirements as well as requirements for some of the macronutrients (i.e. Total Fat Saturated fat and protein) within the concept of a healthy breakfast (Appendix D).

Dietary Guidelines For Americans

The Dietary Guidelines for Americans was developed by the United States Department of Agriculture (USDA) and The United States Department of Health and Human Services (USDHHS) based on the recommendations from Dietary Guidelines Advisory Committee (Institute of Medicine [IOM]; 2006, USDHHS/USDA 2005). "The intent of the Dietary Guidelines Advisory Committee is to summarize and synthesize knowledge regarding many individual nutrients and food components into recommendations for an overall pattern of eating that can be adopted by the public." (The Report of the Dietary Guidelines Advisory Committee on Dietary Guidelines for Americans, 2005).

Dietary Guidelines for Americans "...provides information and advice for choosing a nutritious diet, maintaining a healthy weight and achieving adequate exercise..." (USDHHS/USDA, 2005, p. i). As stated in the Report of the Dietary Guidelines Advisory Committee on Dietary Guidelines for Americans, "Because of its focus on health promotion and risk reduction, the Dietary Guidelines [for Americans] form the basis of Federal food, nutrition education, and information programs" (The Report of the Dietary Guidelines Advisory Committee on Dietary Guidelines for Americans, 2005).

USDA MyPyramid Food Guidance System is a graphic depiction of the recommendations made in the Dietary Guidelines for Americans (Marotz, Cross & Rush, 2005; Whitney & Wolfes, 2002). Both the Dietary Guidelines for Americans and MyPyramid Food Guidance System were utilized in the studies focusing on the nutritional information presented on food advertisements in determining (a) food groups that should be included in a healthy diet (Bryd-Bredbenner & Grasso, 1999; Kotz & Story, 1994), (b) recommended daily food intake patterns for different nutrients (Bryd-Bredbenner & Grasso, 1999; Harrison & Marske, 2005). In addition to these benefits, Dietary Guidelines for Americans also provides recommendations on individuals' energy needs for different age groups and activity levels (USDA Center for Nutrition Policy and Promotion, 2005).

The Dietary Reference Intakes

The Dietary Reference Intakes or DRIs is a "Nutrient Intake Recommendation" system (Baghurst, 2007) that provides reference values for essential nutrients to assess the adequacy of diets (IOM, 2006a). The term Dietary Reference Intakes actually refers

to four distinct categories of nutrient reference values. These categories are defined as the following:

Estimated Average Requirement (EAR): The average daily nutrient intake level that is estimated to meet the requirements of half of the healthy individuals in a particular life stage and gender group.

Recommended Dietary Allowance (RDA): The average daily dietary nutrient intake level that is sufficient to meet the nutrient requirements of nearly all (9-98 percent) healthy individuals in a particular life stage and gender group.

Adequate Intake (AI): The recommended average daily intake level based on observed or experimentally determined approximations or estimates of nutrient intake by a group (or groups) of apparently healthy people that are assumed to be adequate; used when an RDA cannot be determined.

Tolerable Upper Intake Level (UL): The highest average daily nutrient intake level that is likely to pose no risk of adverse health effects to almost all individuals in the general population. As intake increases above the UL, the potential risk of adverse effects may increase.

Acceptable Macronutrient Distribution Ranges (AMDR): The range of intakes of an energy source that is associated with a reduced risk of chronic disease yet can provide adequate amounts of essential nutrients (IOM, DRI Values: Definitions, n.d.).

The Dietary Reference Intake system is commonly used in dietary assessment (Bessler, 2005). In fact all the dietary guidelines described earlier in this section are based

on the nutritional reference values provided by the Dietary Reference Intake Reports (The Report of the Dietary Guidelines Advisory Committee on Dietary Guidelines for Americans, 2005). The DRI values can be a valuable tool in assessing the adequacy of the nutrients presented in breakfast disclaimers by providing reference values for major nutrients.



CHAPTER II

Methodology

Content and form are the two levels of communication television offers to its viewers. Presumably, then, messages regarding a healthy balanced breakfast featured in the disclaimers could be communicated through content as well as structural features. This study investigated the extend of which the health disclaimers in breakfast cereal advertisements allow children to construct meanings regarding what constitutes a healthy and balanced breakfast through both content and form.

A few studies conducted in the 1980s have revealed that children have a hard time comprehending the messages conveyed through disclaimers shown during commercials (Palmer & McDowell, 1981; Stutts & Hunnicut, 1987). In their content analysis study, Kunkel and Gantz (1993) questioned the effectiveness of the health disclaimers featured in the breakfast cereal ads. However, their analysis did show that the majority of these commercials shown on TV are technically in compliance with the current CARU guidelines. At the time of this writing, there were no known studies published in which the current situation regarding health disclaimers featured in food-related commercials targeting young children had been investigated. This study examined both the content and the format of the health disclaimers in order to investigate the effectiveness of the message regarding a healthy diet conveyed through these disclaimers.

*Decoding the Disclaimers: Structural Features of the Healthy Breakfast Disclaimers
Shown During the Breakfast Cereal Commercials*

In order for the health disclaimers to be effective, children should be able to process these messages appropriately. Hence, the Information Processing Theory provided a theoretical background in the exploration of the disclaimer format and its effect on children's comprehension of the messages conveyed through these disclaimers. The Information Processing Theory posits that children “attend to, encode and store the information” they gain from television messages guided by “their own motivations interests and actions” (Anderson, Huston, Schmitt, Linebarger, & Wright, 2001, p.14).

Conceptualizing the Structural Features of Breakfast Disclaimers

Structural features are considered those program attributes associated with production techniques such as visual effects, camera techniques (cuts, zooms) and audio features such as special effects, dialog and music (Valkenburg, 2004; Van Evra, 2004). As previously discussed, numerous researchers have been able to identify an array of structural features that may influence encoding, storage or retrieval processes in children.

The structural features that were analyzed in the present study were mostly drawn from the research conducted in late 70s early 80s which were discussed in the previous chapter. In addition, some definitions are adapted from Lombard et al. study (Lombard, M., Bracken, C. C., Linder, J., Snyder, J., Ditton, T. B., Kaynak, S., Pemrick, J., & Steward, G. A., 1996). Eleven variables were analyzed under two main categories: Visual features and audio features.

Visual Variables

Air-Time: The time a health disclaimer stays on screen.

Animated vs. Live Action (Production type): Whether the characters and environment in the breakfast disclaimer are animation, live action or combination of the two.

Number of characters: Number of human/non-human characters present during the disclaimer.

Rapid Character Action: Any salient movement performed by any of the characters during the disclaimer, more than the speed of walking. For example: Jumping up and down, dancing, flying, preparing to run and then dashing off-screen, travelling in a car, plane, spaceship or and other vehicle.

Cuts: a transition between shots in which there is no overlap between images; a sudden transition.

Zooms: The camera does not move; the lens is focused down from a long-shot to a close-up whilst the picture is still being shown. The subject is magnified, and attention is concentrated on details previously invisible as the shot tightens (contrast tracking). It may be used to surprise the viewer (Zooming in).

The camera reveals more of the scene (perhaps where a character is, or to whom he or she is speaking) as the shot widens. Record the number of zooms (in or out) utilized during disclaimer (Zooming out) (Lombard et al., 1996).

Visual Effects: Special visual effects are production techniques other than text that add or modify any part of the image shown during the disclaimer. For example: Characters or inanimate objects such as food items or furniture float on air, fly, suddenly

get brighter, move, shake, change shape, size or color. If a character(s) fly or move more than walking speed as a part of special effect also coded as “rapid movement” (Lombard et. al., 1996).

Audio Variables

Disclaimer Narration: Exact wording of the disclaimer voice-over. I.e.: “CocoPuff is the part of this complete breakfast.

Character Dialog: Any character dialog that occur during disclaimer but NOT a part of the disclaimer narration including verbal communication such as characters talking to each other as well as non-verbal vocalizations and singing. I.e. Oohs and/or ahhs and/or wow!

Audio effects: Sounds that are used for emphasizing, marking or implying motions or emotions. For example, beeps, bell ring, swooshing sound, pops, cracks, car honking, and explosion sound when a cereal box opened.

Measuring a Healthy Breakfast

The Nutrition Facts Label, a standardized food labeling system developed by U.S. Food and Drug Administration (USFDA, 2006) was used to determine the nutritional categories to be assessed in this study. The Nutrition Facts Label was used previously in two studies investigating the nutritional content of foods advertised during children’s programming (Harrison & Marske, 2005; Kuribayashi, Roberts, & Johnson, 2001). According to the Nutrition Facts Labeling system, serving size, energy/calories (kcal), total fat (g), saturated fat (g), cholesterol (mg), sodium (mg), total carbohydrate (g),

dietary fiber (g), sugars (g), and protein (g) are the main nutritional categories that must be included on the labels for eligible foods (USFDA, 2006). Therefore these nutrients were included in the analysis as variables.

Three dietary guidelines were utilized in assessing the 'healthiness' of the breakfasts depicted in cereal commercials. The School Breakfast Program guidelines (Menu Planning in the School Breakfast Program, 2006) provided the recommended intake values for calories, total fat, saturated fat and protein. The Dietary Reference Intakes (IOM, 2002/2005, 2006) were used in conjunction with USDA's Dietary Guidelines for Americans (USDHHS/USDA, 2005) in order to determine the recommended intake values for the remaining nutrients that are included in this study. The recommended nutritional values for the nutrients cholesterol (mg), sodium (mg), total carbohydrate (g), dietary fiber (g), sugars (g) were extrapolated from the data available in these two guidelines. In addition, the SBP guidelines were utilized in conjunction with the Dietary Guidelines for Americans to determine the variety of food groups that should be included in a balanced breakfast.

Calories

The USDA *My Pyramid* Food Guidance System assigns specific calorie levels to individuals based on factors such as gender, age, and activity level. According to USDA's *MyPyramid*, moderately active children between the ages of 3 and 5 years old should consume approximately 1400 kilocalories daily (USDHHS/USDA, 2005). USDA's School Breakfast Program (SBP), the only official nutritional guidelines for breakfast, recommends that preschool children consume about 388 kilocalories from breakfast

(544kcal/day for children, K-12) (Menu Planning in the School Breakfast Program, 2006).

Protein

The SBP recommends that preschool age children should adopt a diet in which protein consumption does not exceed 5 grams per breakfast. For older children (K-12) the recommended daily allowance for protein is 10 grams (Menu Planning in the School Breakfast Program, 2006). IOM guidelines advise that children ages 1- to 4-years old consume 13 grams of protein daily while for children between the ages of 4-to 8-years old, the recommended daily intake for protein can be up to 19 grams per day.

Total Fat

SBP guidelines state that the calories gained from total fat consumption for breakfast should not exceed 30% of the total calories (Menu Planning in the School Breakfast Program, 2006). This translates to roughly 13 grams of total fat intake at the 388 kcal level (for preschoolers) and 18 grams of total fat intake at the 544 kcal level (grades K-12) (Whitley & Rolfes, 2002). There is no RDA value set for total fat; however, IOM recommends that the energy from total fat intake for children between the ages of 4-to 8-years-old should be in a range of 25-35 percent of the total energy intake. IOM's dietary reference intake guidelines utilize the concept of Acceptable Macronutrient Distribution Range (AMDR) as a reference value for total fat content in foods. IOM states that nutrients consumed below or above AMDR values increase the risk of chronic diseases (IOM, 2002/2005, 2006b). The American Academy of Pediatrics (APA) has

established an even lower limit, recommending that the energy contributed by total fat be 20 percent of the total kilocalories consumed in a healthy diet (Kleinman, 2004).

Total Carbohydrate

The SBP does not make any recommendations regarding the daily intake of carbohydrates at any age/calorie level. However, DRI guidelines suggest that the amount of energy gained from carbohydrates in a healthy diet should be in a range of 45%-65% of the total energy intake (kcal) (IOM, 2002/2005, 2006a, 2006b; USDHHS/USDA, 2005). The Recommended Daily Allowance value set for children between the ages of 4- to 8-year-old is 130 grams per day (IOM 2002/2005). Thus, it could be estimated that a healthy breakfast should provide 43.6 to 63 grams of carbohydrates for preschoolers (388kcal) and 61.2 to 88.4 grams of carbohydrates for older children (544kcal).

Total Sugars

There are two types of sugars in the foods we eat. "Naturally occurring sugars" are found in fruits (fructose), milk (lactose) and dairy products (IOM, 2002/2005, 2006a, 2006b; USDHHS/USDA, 2005). "Added sugars" is a term to describe sugars added to foods during the preparation process to add taste, texture and viscosity (IOM, 2006a, 2006b). DRI values for sugars have not been determined due to lack of scientific evidence of their effects (IOM, 2002/2005, 2006a, 2006b; USDHHS/USDA, 2005). However, many scientists believe food items containing added sugars have fewer nutrients and more calories, even though they are chemically identical to the sugars found naturally in foods (IOM, 2006a, 2006b; USDHHS/USDA, 2005). Therefore, USDA

guidelines recommend limiting the added sugar intake to 25% of the total energy intake (IOM, 2006a, 2006b). Extrapolating this data to the calorie levels in SBP reveals an added sugar intake of 24.25 grams per breakfast for preschoolers and 34 grams for older children.

Dietary Fiber

The USDA Dietary Guidelines for Americans recommends an intake of 14 grams of dietary fiber per 1000 kcal (USDHHS/USDA, 2005). When this data applied to the calorie levels set by the School Breakfast Program, at the 388 kcal level, the recommended dietary fiber intake is 5.4 grams. At the 544kcal level the recommended intake for dietary fiber increases to 7.6 grams.

Saturated Fat

DRI for saturated fats have not been determined due to lack of scientific data (IOM 2002/2005). IOM guidelines advise that individuals should consume as little saturated fats as possible "while consuming a nutritionally adequate diet" (IOM, 2002/2005; Dietary Guidelines for Americans 2005). The USDA Food Guide System recommends 17g/day intake of saturated fat for healthy adults following a 2000 calorie diet. This value translates to a saturated fat intake of 3.3 g per breakfast for preschoolers and 4.6g per breakfast for older children.

Cholesterol

Similar to saturated fats, the DRI values for cholesterol have yet to be determined (IOM, 2002/2005; USDHHS/USDA, 2005). Based on USDA Food Guide System guidelines, the recommended daily intake of cholesterol for age groups 3- to 5-year-old and 6-to 8-year-old are 44.6 and 62.5 milligrams per breakfast respectively.

Sodium

The IOM guidelines state that an adequate intake level for sodium is 1000mg/day for children between the ages of 1- to 3-year-old and 1500mg/day for children between the ages of 4- to 8-year-old (IOM 2006). According to Dietary Guidelines for Americans, USDA-FGS proposes an ideal sodium intake of 1779mg/day within 2000-calorie diet recommendations. When this value is translated to the calorie levels for children set by the SBP, the average preschooler should consume no more than 345mg of sodium for breakfast, and older children, of ages 6- to 8-year-old, should consume no more than 483 mg of sodium per breakfast.

Analyzing the Content

A content analysis of 38 health disclaimers depicting a healthy/balanced breakfast that featured in cereal commercials during children's television programming broadcasted between May-September 2005 was conducted. Content analysis, in simple terms, "is a systematic method of analyzing message content" (Tankard & Severin, 2001, p. 35). Babel (2007) provided another, perhaps a more in depth definition of this research method as a "study of recorded human communications and well suited to answering

questions such as who says what, to whom, why, how, and with what effect? ”(pg. 320).

Other scholars such as McQueen (1998) defined the content analysis method as “a statistical method for gathering data about a number of texts” (pg. 148). Overall, the literature has shown that the content analysis method has been frequently used by researchers who examine the nature of food and beverage advertising to children (Byrd-Bredbenner & Grasso, 1999; Harrison & Marske, 2005; Gantz, Schwartz, Angelini, & Rideout, 2007; Kuribayashi, 2001; Kunkel & Gantz, 1992).

The two important functions of content analysis research, according to Van Evra (2004), are "to provide important information on the nature of the content to which children and adolescents are exposed" (p. 31) and to offer valuable data regarding the periodical changes that occur in the content over time.

Unit of Analysis: A Disclaimer

For coding purposes, a disclaimer in a breakfast cereal commercial is defined as the part of the program where the image of a “healthy breakfast” (the product surrounded by a number of other food items) is shown while a voice over claims that the particular cereal “is part of ‘a healthy, balanced’ or ‘this complete’ breakfast.

The Sample

The sample used in this study was extracted from a larger sample collected by the investigators who conducted the research for the latest Kaiser Family Foundation report on food advertisement in the United States (Gantz, Schwartz, Angelini, & Rideout, 2007). The researchers who conducted that study collected a composite week (the content

representing one week, collected in different days throughout a three-month period) of television programming from 13 most watched networks based on data provided by the Nielsen Media Research (Gantz et al, 2007). Six of these networks were commercial broadcast networks (ABC, CBS, Fox, NBC, WB, and UPN). The other six were commercial cable networks (ABC Family, BET, The Cartoon Network, Disney, MTV, and Nickelodeon). The remaining network, PBS categorized in the study as "a non-commercial broadcast network" (p.20).

In all, the sample included in the Kaiser Family Foundation study consisted of a total of 1638 hours of programming, containing 8,854 food and beverage advertisements making it the largest ever conducted in this area. A sub-sample of 744 breakfast cereal commercials drawn from the Kaiser study sample was used in this study.

Data Preparation

In the primary analysis phase, a list of 744 cereal commercials was obtained from the primary researchers of the Kaiser Family Foundation report on food advertisement in the United States (Gantz et al., 2007). These commercials had been previously identified as they appeared during television shows targeting children between the ages of 2- to twelve year-old by the investigators of the aforementioned study. The first task was to identify the number of the unique commercials included in the sample since many commercials appeared numerous times during different programs on different channels. The list did not contain sufficient information to allow the researcher of the present study to identify the unique commercials because, such identification was not the focus of the

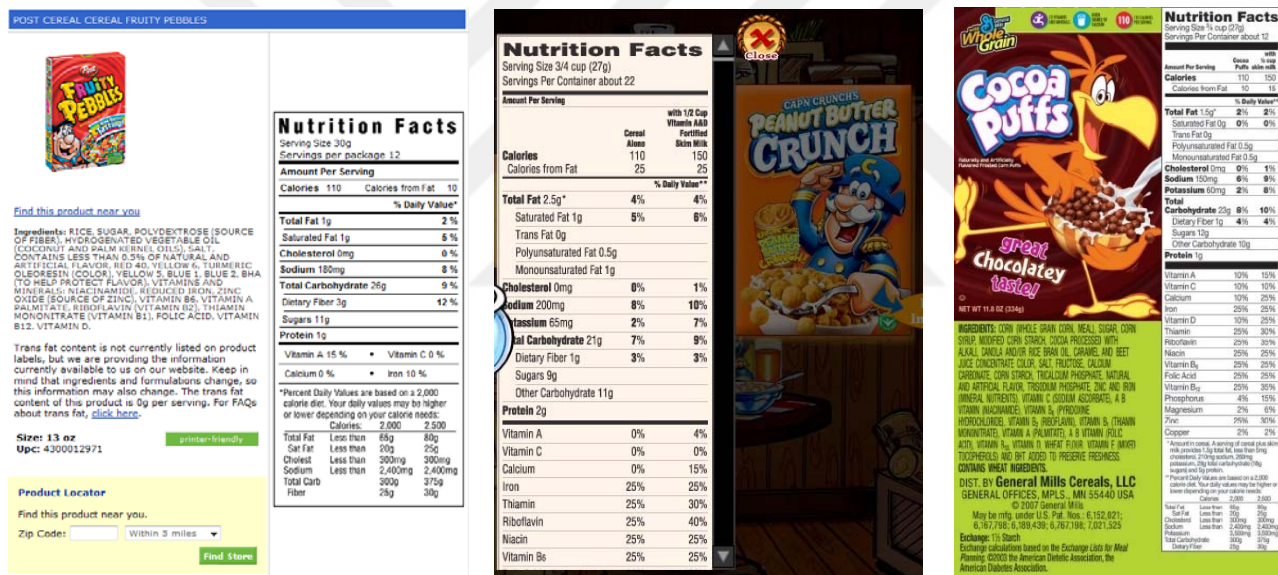
Kaiser Family Foundation Study. Thus, each of the 744 commercials were reviewed one by one in order to identify the unique commercials within the recorded television content.

The sample content was received in digital format stored in DVDs (see Gantz et al., 2007 for detailed information regarding the initial recording of these DVDs). Each DVD contained 3-hours of programming including a few of the 744 cereal commercials. A collection of unique cereal commercials had been created as the content in each DVD was reviewed. As the researcher came across a commercial that had not been repeated in the sample before, he extracted the commercial from the DVD by utilizing a digital video editing program called AVS Video Remaker. This software allowed the researcher to select each cereal commercial, extract it as a separate video file, and individually store each commercial into the specific folders that were created in a computer hard disk. As a result of this reviewing process, the researcher was able to identify, extract and store 41 unique breakfast cereal commercials from the initial sample of 744.

In the second part of the primary analysis, each of the 41 unique cereal commercials was reviewed a second time in order to identify the health disclaimers featured in these commercials. When found, a snapshot of the breakfast as it appeared in the disclaimer was taken by using VideoLan media player, a multimedia software that can play several media formats and allows the user to take screenshots of video frames. These screenshots were stored in the corresponding folders like the commercial videos were during the first stage of the primary analysis. These snapshots were later used to identify the food items depicted in the breakfast disclaimers for the nutritional analysis. In the 41 unique commercials, 38 of them featured a disclaimer about a healthy/balanced

breakfast. The remaining three, even though appeared during children's programming, did not contain any disclaimer and were in violation of the self regulatory policy.

In the third part of the primary analysis, the nutritional information of each cereal promoted in the sample commercials was obtained from the manufacturers' websites. Each manufacturer publishes the nutritional information of their cereals in their web sites in a form of image file consist of the nutrition facts label and the ingredients lists as it can be seen on the side of a cereal box (see Figure 4).



products. All the image files containing nutritional information of the cereals advertised in the sample were also stored in the corresponding folders along with the video of the commercials and the snapshots of the breakfasts featured in the disclaimers.

Coding Instrument and Coding Procedures

Part I: Collection of the commercial and disclaimer data

A three- stage coding instrument has been constructed to specifically address the research questions for this study. The first part contained general information about the cereal commercials and the food items depicted in the breakfast disclaimer. Categories included in the first part are:

Coder: Coder's initials.

Date: Coding date.

Manufacturer: The manufacturer of the advertised cereal (i.e.: General Mills, Kellogg's, Post or Quaker Oat).

Brand: Sometimes there were several cereal products promoted under one brand (i.e. Cap'n Crunch - Swirlberries, Cap'n Crunch - Peanutbutter Crunch, Cap'n Crunch - Original).

Cereal Name: Cereal's name.

Ad Length: The length of the commercial as seconds. Ad length was measured as the ads were reviewed in the VideoLan media player.

Disclaimer Length: The length of the disclaimer as seconds. Disclaimer length was measured as the time healthy breakfast image stayed on screen in the commercial.

The video were paused and rewound if necessary to identify the exact frame the breakfast image came on screen.

Featured Food Items: Food items as seen in the disclaimers (i.e. cereal, apple, bagel, muffin, etc.). For coding purposes, all the food items identified in disclaimers coded as the healthiest alternatives based on the assumption that the advertisers could primarily choose to use the healthier alternatives of the food items in a health related disclaimer. Thus, all the toasts, muffins, bagels are coded as whole grain, milk coded as skim milk, and orange juice coded as freshly squeezed, homemade orange juice. In most of the disclaimers toasts and pancakes are depicted as there was what seems to be a dollop of butter or margarine on them. In all these cases the substance was coded as margarine. Same principle applied where there was an evidence of sweet substances such as jam, jelly, honey or maple syrup on the food items mentioned above. When this was the case, the substance was coded as strawberry jam, a moderately sweet food item among all the others mentioned above.

Quantity/serving size: Serving size for cereals, juices, milk (i.e. 1 cup, 1/2 cup, 31grams). Quantity for individual food items (i.e. 1 apple, 2 slices of toast, 1/2 grapefruit, etc.). The serving size data for the advertised cereals were drawn from the lists previously obtained as explained in data preparation section (also see Figure 4). For coding purposes, serving size for milk was coded as 3/4 cup as indicated in the SBP Guidelines. The serving size for orange juice was coded as 1/2 cup since; it was indicated as the appropriate serving size in the SBP Guidelines. Another 1/2 serving of milk was coded separately for the milk in the cereal bowl as recommended in cereals' nutritional fact

labels. Each individual fruit and vegetable that appeared in the health disclaimers was coded as medium size.

Setting pre-determined serving sizes for the food items served two purposes. First, as mentioned earlier, all the serving sizes are assumed to be in compliance with the dietary guidelines based on the assumption that, in preparation of the disclaimers, the advertisers would prefer the serving sizes that provide the healthier presentation of the breakfast. Pre-determining serving sizes also helped the coder reliability by eliminating personal judgment calls regarding the size of the fruit since the amount of nutrients in a food items can differ significantly depending on the size..

Food Group: Corresponding food group category for each food item. Six food group categories were identified based on the USDA Food Guide Pyramid System: Grains (1); Fruits (2); Vegetables (3); Dairy (4); Meats, Beans and Alternatives (5); Oils (6).

Part II: Collection of Nutritional Data

The second part the coding instrument was designed to collect nutritional data presented in the disclaimers. Nutritional data of the each food item presented in the disclaimers were coded for then nutrient categories (Serving size, energy/calories (kcal), total fat (g), saturated fat (g), cholesterol (mg), sodium (mg), total carbohydrate (g), dietary fiber (g), sugars (g), and protein (g)) by utilizing Food Search 2.0 software.

Food Search 2.0.

Food Search 2.0 is a computer program that allows researchers to conveniently access to the nutrient profiles for 13 thousand food items commonly eaten in America

(Anderson, Steinfeldt, & Ahuja, 2004). In the present study, Food Search 2.0 was utilized in conjunction with the Nutrition Facts Labeling System to calculate the actual nutritional values of the food items presented in the health disclaimers. Developed by the USDA Agricultural Research Service, Food Search 2.0 uses the Food and Nutrient Database for Dietary Studies, 2.0 (FNDDS) database of foods, their nutrient values, and weights for typical food portions (Anderson, Steinfeldt, & Ahuja, 2004). The FNDDS database was used to process data from the survey What We Eat in America, the dietary intake component of the National Health and Nutrition Examination Survey (NHANES) 2003-2004 (Raper, Perloff, Ingwersen, Steinfeldt, & Anand, 2004). Food Search 2.0 was made available to public in order to be used in other food intake studies to code foods and amounts eaten and to calculate the amounts of nutrients/food components in those foods (Bodner-Montville, Ahuja, Ingwersen, Haggerty, Enns, & Perloff, 2006).

Nutritional values for cereals were gathered from the nutrition facts labels that had been collected previously as discussed earlier in this chapter. The other food items in the breakfast disclaimer were collected by utilizing the Food Search 2.0 nutritional database tool. The list of database codes for several food items frequently appear on disclaimers were prepared in advance and provided to the primary coder in the coder's book. The database code or the name of the food item was entered to the database followed by the appropriate serving size in order to access the nutritional profile of that particular food item. Corresponding values for the ten nutritional categories, then, were recorded to the coding instrument.

Part III: Collection of Data Regarding the Structural Features

The third and final part of the coding instrument was designed to collect the data regarding the structural features observed in the disclaimers. Each disclaimer was reviewed as many times necessary to identify the structural features appear during the disclaimers. The visual and aural features were focused separately. The visual structural features categories (Production Type, Number of Characters, Rapid Character Action, Cuts, Zooms, and Video Effects) were coded for presence and frequency with the audio turned off. Then, the video channel was turned off and the audio features (Disclaimer Narration, Character Dialog, and Audio Special Effects) were coded for presence and frequency.

Data Analysis

The data collected regarding the format of the disclaimers were reported in two separate tables. The data collected regarding the ad length, disclaimer position, production type and disclaimer narration presented in Table 1 (Appendix B, also presented in Chapter IV). The presence and frequencies of structural features: rapid character action, number of characters, cuts, zooms, video effects, character dialog and audio effects were presented in Table 2 (Appendix B).

The sums of the nutritional values representing each nutrient category for every commercial in the sample were collected in a spreadsheet table (Appendix B, Table 3). In the spread sheet, separate averages of the ten nutritional categories were reported at individual (per nutrient/per disclaimer), and group (disclaimers promoting the same manufacturers' cereals) levels and in entirety (per nutrient/ all disclaimers). As previously

discussed, the recommended daily intakes of the ten nutritional categories for two separate age groups (ages 3- to 5 and 6- to 8-year-old) had been determined using the data available from the three dietary guidelines. The nutritional values for each nutrient category were compared with the recommended levels for that particular nutrient at individual (per nutrient/per disclaimer) and group (disclaimers promoting the same manufacturers' cereals) levels. The results were presented in detail and discussed from different angles in the next chapters.

Coder Reliability

The Pearson product-moment correlation coefficient or Pearson r was used to measure the degree of coders varying their coding (Harris, 1998). Pearson's correlation coefficient (r) is a preferred method of measuring the degree of linear relationship between ratio (or internal) level variables (Fox, Koloen & Sahin, 2007; Lacy, Riffe, & Randle, 1998). A coder's book containing the description of study objectives and definitions of study variables have been prepared. Two graduate students were recruited to code the 10% of the sample to ensure intercoder and intracoder reliability. The coders were provided with the coding instruments; the coder's book and the coding sheets and thoroughly trained in coding procedures in a training session. The coders coded the sample twice at different times.

In the first assessment the coefficients for eight out of nine variables in nutritional data were between .990 to 1.000. Only for one variable (protein), the coefficient were measured less than .840. Though adequate (Lacy, Riffe, & Randle, 1998), the difference in variance between one variable and the remaining eight indicated

a problem in the coding protocol. Analysis on the coder data revealed that the difference in coding was due to the fact that in the Food Search2.0 database that used to collect the nutritional data, there was more than one entry for the “skim milk” category. The coding protocol was adjusted accordingly by adding a list of database codes to the coder's book for the food items most likely to be used in the disclaimers (i.e. toast, milk, orange juice, orange etc.). A second assessment revealed coder agreement coefficients between .968 to 1.000 for the nutritional analysis and .923 to 1.000 for the format analysis. Intracoder reliability was also high (Pearson correlation coefficients $r = .968$ or higher). Exhibits I and II illustrates the correlation coefficients across the variables.

EXHIBIT I Nutrition Analysis	
Variables	Pearson's Correlation Coefficient
Calories	1.000
Total Fat	.968
Saturated Fat	.999
Cholesterol	.990
Sodium	.968
Total Carbohydrates	.992
Dietary Fiber	1.000
Sugars	.974
Protein	1.000

EXHIBIT II Format Analysis	
Variables	Pearson's Correlation Coefficient
Air Time	1.000
Animation vs. Live	1.000
Rapid Character Action	.962
Number of Characters	1.000
Cuts	1.000
Zooms	1.000
Video Effects	.923
Character dialog	1.000
Audio Effects	1.000

CHAPTER III

The Results

A total of 744 breakfast cereal commercials which had been classified as targeting children and teens in the Kaiser Family Foundation report of food advertising on television (Gantz, Schwartz, Angelini, & Rideout, 2007) were viewed. Of these, 41 unique commercials were identified. Of the 41 commercials, 3 did not include a disclaimer, bringing the sample for the study to 38 unique commercials. Fifteen of these commercials promoted products manufactured by the General Mills Company; 15 commercials were for Kellogg's products; Post brand cereals were represented by 5 commercials, and 3 commercials advertised Quaker Oats brand cereals.

Analysis of the Structural Features

Length and Positioning of the Disclaimers

The majority of the commercials examined in this study were 30 seconds long (n=28, 74%). One commercial was 19 seconds long; the remainder of the commercials were 15 seconds long (n=9, 24%). Roughly 9 out of 10 disclaimers featured in the commercials were 3 seconds long (n=33, 87%); the remaining disclaimers (n=5, 13%) were 4 seconds long. All of the 15-second commercials featured a 3-second long disclaimer. The disclaimers were most often (70%, n=27) positioned within the last third of the commercial. In the remaining 30% (n=11) of the commercials, the disclaimers were positioned near the middle.

Production Type and the Characters

Using animation, along with music and humor, in commercials is believed to be one of the ways to attract children's attention to advertised products (Van Evra 2004). Commercials analyzed in this study were no different. Almost 60% (n=22) of the commercials examined were animated or made use of both animated and live action characters and/or environment.

Thirty-two percent of the disclaimers (n= 12) featured 2 or more characters, while 21% (n=8) featured at least one character. Eighteen commercials (47%) showed no characters in disclaimers. In 26% (n=10) of the disclaimers, the narration was delivered by the character(s); in the remaining 74% (n=28), the disclaimer was narrated by an adult voiceover. In none of the disclaimers, were characters shown eating the healthy breakfast, even though they were almost always shown eating the cereal throughout the commercial.

Character Movement in the Disclaimers

For this study, rapid character action was defined as salient movements, faster than the speed of walking, performed by any of the characters during the disclaimer. Examples of rapid character action include jumping up and down, dancing, flying, preparing to run and then dashing off-screen, and travelling in a car, plane, spaceship or other vehicle. In more than half of the commercials (n=20, 52.6%), one or more was characters presented during the disclaimer. In 75% of these (n=15) instances, rapid character action was observed.

The Kaiser Family Foundation “Food for Thought” study (Gantz, Schwartz, Angelini, & Rideout, 2007) reported that 15% of the food advertisements targeting children and teens depicted characters (animated or live) engaging in purposeful physical activities. Nearly 40% (n=14) of the cereal commercials examined in the present study promoted an active life style. Most of these depicted characters engaged in competitive sports such as baseball, football, soccer, basketball, skate boarding and martial arts. A few other advertisements showed characters engaging in casual physical activities such as swimming and dancing. However, evidence of an active life style was present in only 18% (n=7) of the disclaimers.

Visual Features

Special effects such as cuts and zooms are frequently used in commercials to capture and hold the audience's attention (Huston, et al., 1981; Van Evra, 2004). This study examined what researchers (Rice, Huston and Wright, 1983) call "conventional visual features"- cuts, zooms and visual effects. Zooms were used in 21% (n=8) of the commercials as a way of drawing attention to the healthy breakfast featured in the disclaimers; cuts were only present in 8% (n=3) of the disclaimers. Video effects such as sparkling stars around the breakfast scene were present in 37% (n=14) of the disclaimers. A sudden pace change, from a very fast pace to a slower tempo, was also observed in all (n= 38) of the commercials as the disclaimers came on screen. It should be noted that given the average disclaimer stayed on screen for only three to four seconds; this presented a limited time for utilizing visual effects.

Audio Features

As reported by Calvert (2005), early exploratory research revealed that aural structural features such as sound effects, music, and character dialog improve children's comprehension of television content. This study examined three audio features: sound effects, character dialog, and disclaimer narration. Sound effects were present in approximately one third ($n=12$, 31.6%) of the disclaimers analyzed in this study. Some of sound effects identified in the disclaimers were beeps, pops, cracks and swooshing sounds. Character dialog was defined as any character communication (verbal or non-verbal) that occurred during the disclaimer that was not a part of the disclaimer narration. Character dialog was detected in 26% ($n=10$) of the disclaimers.

Disclaimer narration is arguably the most important audio feature as this component informs the target audience that the food they see on screen represents a healthy and balanced breakfast. Congruent with findings from earlier studies (Gantz, Schwartz, Angelini, & Rideout, 2007; Stern & Harmon, 1984) the audio statement most frequently made during the disclaimer was "...part of this (or part of a) good (or complete) breakfast" ($n=32$, 84.2%). In a few commercials ($n=3$, 7.9%) the disclaimer narration claimed the advertised cereal was part of a "balanced" or "nutritious" breakfast instead of "good" or "complete" breakfast. In two of the disclaimers, the narration did not claim that the breakfast shown was healthy, balanced, or good; the message simply noted that the cereal promoted in the commercial "is a part of this breakfast" without emphasizing the quality of the breakfast shown in the video (See Table 1). As previously noted, one of the commercials did not include an audio disclaimer. The character dialog during the visual depiction of the healthy breakfast transcribed: "stick to eating your

cereal, not analyzing it!" In just over one fourth of the disclaimers (n=10, 26.3%) the message was combined with a health claim, such as "Part of this good breakfast with 12 key vitamins and minerals." All of the commercials with the disclaimers that included a health claim promoted General Mills brand cereal products.

Taste claims are also frequently featured in breakfast cereal commercials (Gantz, Schwartz, Angelini, & Rideout, 2007). As Illustrated in Table 1, this study revealed that one in every five disclaimers featured a taste claim such as "it's the honey sweet part of a good breakfast" or "a delicious part of a complete breakfast" (n=8, 21.1%). It was also observed that some of these taste claims made use of fabricated words such as "peanutbuttery," "cinnamony," or "fragrantly fruity" in order to create an association with the flavor of the advertised product.

In addition to health and taste claims, almost one in four (n=9, 23.7%) of the disclaimers in the sample contained a claim relative to the theme of the commercial. Examples are: "The interactive part of this complete breakfast," in a commercial that encourages children to go to the manufacturer's web site and enter a sweepstakes; "The power in your breakfast," in a cereal commercial promoting new, Star Wars themed cereals; "...with ridges that rock, a ramped-up part of this nutritious breakfast," for a commercial that uses skate-boarding as main theme; and "part of this complete breakfast that really packs a punch," featured in a commercial in which the main characters engage in martial arts.

Table 1

The general characteristics of the cereal commercials in the sample.

Manufacturer	Product Name	Ad Length (Seconds)	Disclaimer Placement (Between seconds)	Animated vs. Live Action	Disclaimer Narration
General Mills	Cinnamon Toast Crunch	30	14-17	live	A winning part of this complete breakfast
General Mills	Cinnamon Toast Crunch 2	30	22-25	live	Part of this breakfast with 12 vitamins and minerals.
General Mills	Cinnamon Toast Crunch 3	30	27-30	live	(from the previous scene) stick to eating your cereal....not analyzing it! (no audio disclaimer)
General Mills	Honey Nut Cheerios	30	23-27	ani	It's the honey sweet part of a good breakfast.
General Mills	Honey Nut Cheerios 2	19	13-17	ani	protecting our honey n cheerios, keeping it a tasty part of a good breakfast!
General Mills	Peanutbutter Toast Crunch	30	19-23	live	Peanut Butter Toast Crunch Cereal part of this good breakfast with 12 vitamins and minerals.
General Mills	Lucky Charms	30	21-24	ani	it's part of this good breakfast with 12 key vitamins and minerals.
General Mills	Chocolate Lucky Charms	30	22-25	ani	it's Cho. L. Charms meet with whole grain plus 12 vitamins and minerals part of a complete breakfast.
General Mills	Cocoa Puffs	30	22-25	ani	with 10 important vitamins and minerals it's part of this balanced breakfast
General Mills	Cocoa Puffs 2	30	22-26	ani	Chocolaty, tasty cocoa puffs part of this balanced breakfast with 10 key vitamins and minerals.
General Mills	Trix	30	25-28	ani	Trix cereal part of this good breakfast with 12 vitamins and minerals
General Mills	Reeses's Puffs	30	21-24	live	part of this good breakfast with 12 key vitamins and minerals.
General Mills	Golden Grahams	30	26-29	live	with ridges that rock. A ramped-up part of this nutritious breakfast.
General Mills	Cookie Crisp	30	23-26	ani	part of this good breakfast with 12 key vitamins and minerals.
General Mills	Cookie Crisp 2	30	23-26	ani	the chocolaty chip cookie cereal part of this good breakfast with 12 key vitamins and minerals
Kellogg's	Kellogg's Combined Promotion 1	15	9-12	both	The interactive part of this complete breakfast
Kellogg's	Kellogg's Combined Promotion 2	15	12-15	live	the woobly good part of a complete breakfast
Kellogg's	Mini Swirls_Fudge Ripples	30	19-22	live	A captivating part of this complete breakfast.
Kellogg's	Mini Swirlz_Cinnamon Bun	30	19-22	live	A captivating part of this complete breakfast.
Kellogg's	Corn Pops	30	26-30	live	Part of this complete breakfast. Gotta have my pops!
Kellogg's	Corn Pops_Starwars	15	10-13	live	The power in your complete breakfast.
Kellogg's	Smorz	30	19-23	live	...in every delicious bite. It's gotta be Kellogg's Smorz cereal. As part of a complete breakfast.
Kellogg's	Apple Jacks	30	26-29	both	A cinnamon part of this complete breakfast.
Kellogg's	Rice Krispies	30	25-29	both	Rice Krispies are part of this complete breakfast.
Kellogg's	Frosted_Flakes	30	20-23	both	with KI frosted flakes as part of a complete breakfast
Kellogg's	Frosted Flakes 2	15	7-10	live	free in KI frosted flakes the delicious part of a complete breakfast
Kellogg's	Frosted Flakes (Reduced Sug)	30	18-21	both	with KI frosted flakes as part of a complete breakfast
Kellogg's	Froot Loops	30	15-18	ani	Kellogg's Froot Loops cereal the fragantly fruity part of this breakfast.
Kellogg's	Cocoa Krispies	30	22-25	live	as part of this...(after the disclaimer) completed breakfast
Kellogg's	Cocoa Krispies 2	30	19-22	live	a delicious part of a complete breakfast
Post	Cocoa Pebbles	15	11-14	ani	post coco pebbles cereal, part of a good breakfast.
Post	Cocoa Pebbles 2	15	5-8	ani	get my post cocoa pebbles cereal part of good breakfast
Post	Marshmallow Mania Pebbles	15	12-15	ani	that's Marshmallow Mania Pebbles part of good breakfast.
Post	Fruitty Pebbles	15	10-13	ani	...with new Bedrock berry pink. Part of a good breakfast.
Post	Honey Combs	15	10-13	live	That's part of this good breakfast
Quaker Oat	Capt'n Crunch_Original	30	23-26	both	Capt'n crunch is a part of this complete breakfast that really packs a punch!
Quaker Oat	Capt'n Crunch_Swirled Berries	30	18-21	both	Swirlberries are the part of this good breakfast that better than ever!
Quaker Oat	Capt'n Crunch_Peanut Butter Crunch	30	22-25	both	Peanutbutter Crunch is the peanutbuttery part of this good breakfast.

Analysis of the Major Nutrients in the Depicted Breakfasts Featured in the Disclaimers

Calories

For this study the ideal levels of calories for the two age groups (three to five and eight to six) were set based on USDA's School Breakfast Program (SBP). According to SBP, preschool children should consume 388 kilocalories from breakfast while for older children an ideal calorie intake for breakfast is 544 kcal/breakfast (Menu Planning in the School Breakfast Program, 2006). If children eat the breakfast that is portrayed as healthy and balanced in the disclaimer portion of the cereal advertisements in this study, they will consume an average of 476.3 kilocalories. As illustrated in Figure 6, in 84% (n=32) of the commercials analyzed in the study (n=38) a typical breakfast portrayed in the disclaimer contains more than 400 kcal of calories. Moreover, one in every five (n=8, 21.1%) breakfasts depicted in the cereal commercials supply more calories than it is recommended for older children (544 kcals per breakfast). In a few advertisements, the breakfasts depicted during the disclaimers were as high as 800 kcal, an amount which supplies half of the daily energy needs of a moderately active 8-year-old. The breakfasts shown during Kellogg's cereal commercial disclaimers averaged 420 kcal, while a typical breakfast featured during the disclaimer in a General Mills cereal commercial contained an average of 533 kcal. Quaker Oats and Post averaged 432 kcal/breakfast and 499 kcal/breakfast respectively.

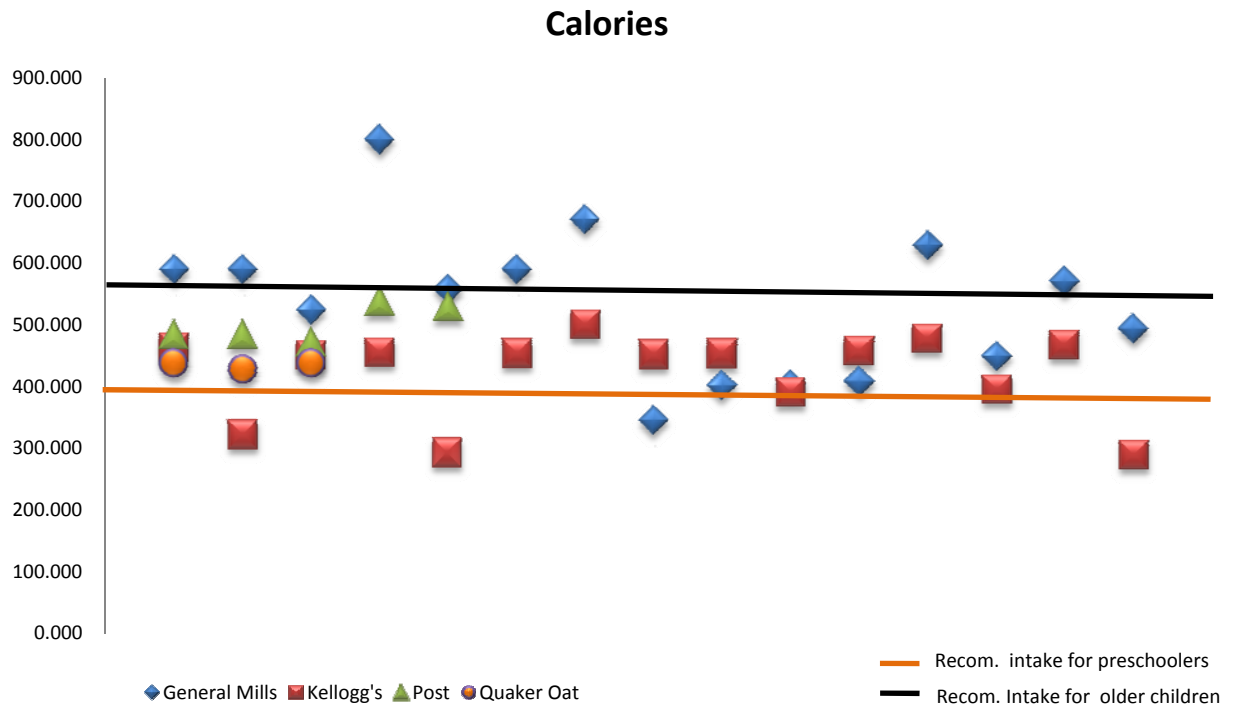


Figure 6

The distribution of the calories within the sample by the product manufacturer.

Protein

The SBP recommends 5 grams protein per breakfast for preschoolers and 10 grams for older children (Menu Planning in the School Breakfast Program, 2006). As it can be seen in Figure 7, none of the cereal commercials analyzed in this study depicted a breakfast containing less than 10 grams of protein. The average was 17.5 grams, and 21 percent of the disclaimers (n=8) depicting “healthy and balanced” breakfasts contained more than 19 grams of protein, exceeding the recommended allowance for an 8 year-old child's entire daily diet. Quaker Oat's cereal commercials featured the healthiest disclaimers in terms of protein content, averaging 14.8 grams per breakfast, followed by Kellogg's (15g), Post (17.6g), and General Mills (20.6g).

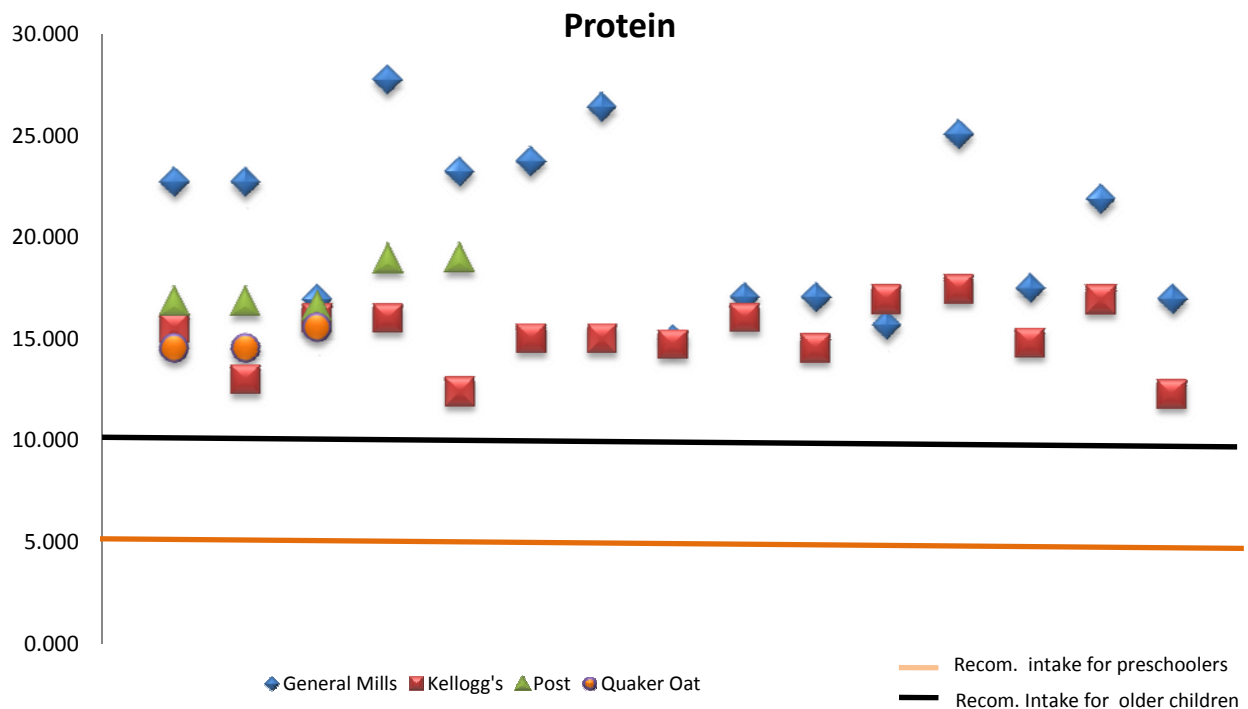


Figure 7

The distribution of the protein nutrient within the sample by the product manufacturer.

Total Fat

Based on the data provided in both SBP and IOM Dietary Reference Intake system, the depiction of breakfast items containing no more than 13 grams of total fat at the 388 kcal level (for preschoolers) and 18 grams of total fat at the 544 kcal level (grades K-12) were considered as healthy in this study. The average nutritional value for total fat presented in a typical breakfast cereal commercial is 8.5 grams per breakfast. This is below the acceptable levels set by APA (8.62g for 388 kcal, 12g for 544 kcal) and DRI (10.7g for 388 kcal, 15.1 for 544 kcal) (Whitley & Rolfes, 2002). In fact, 58 % of the breakfast commercials analyzed in this study (n=22) featured disclaimers that portrayed a breakfast containing less than 8.62 grams of total fat. On the other hand, 37%

(n=14) of the health disclaimers included in this study depicted a breakfast containing more than 13 grams of total fat, exceeding the limit set by SBP at the 388 kcal level but not at the 544kcal level (18 grams).

The television commercials featuring Kellogg's brand cereals show disclaimers that portray breakfasts containing an average of 4.85 grams of total fat. This value constitutes roughly 11% of the total energy intake at the 388 kcal level and only 8% at the 544 kcal level. Such a low intake of total fat is not considered part of a healthy diet. As stated earlier, IOM states that any nutrient consumed below AMDR values -in this case 25%- could increase the potential for chronic diseases. General Mills follows with 8.6 grams of average total fat, barely meeting the APA standards for total fat intake for preschool age children. Post and Quaker Oats brands portray breakfasts averaging 15.3 and 14.7 grams of total fat respectively. Figure 8 illustrates the distribution of the total fats within the sample by the product manufacturer.

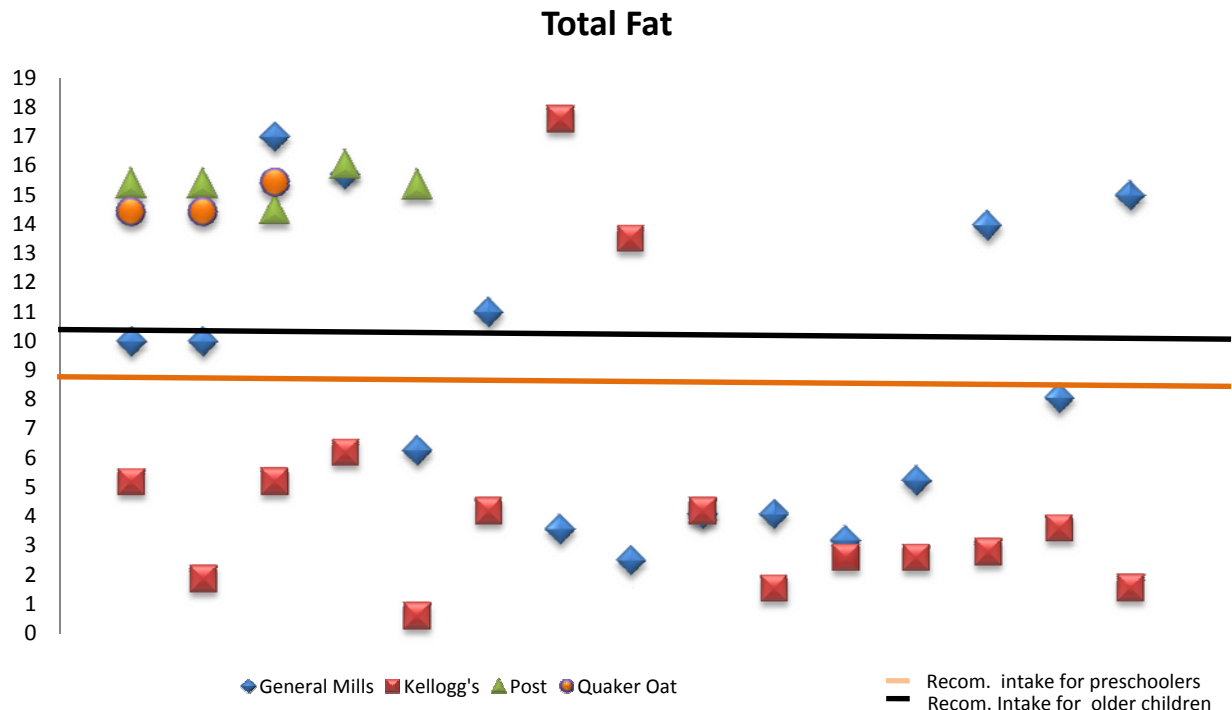


Figure 8

The distribution of the total fats within the sample by the product manufacturer.

Total Carbohydrate

The breakfast depicted in a typical cereal commercial contains an average of 84.8 grams of carbohydrates. As it is shown in the Figure 9, based on the data provided in the dietary guidelines, in this study it was estimated that a healthy breakfast should provide 43.6 to 63 grams of carbohydrates for preschoolers (388 kcal) and 61.2 to 88.4 grams of carbohydrates for older children (544 kcal). Almost 87% of the breakfasts featured in the disclaimers (n=33) contain more than 63 grams of carbohydrates, exceeding the recommended levels for young children. The analysis further shows that 34% (n=13) of all cereal ads included in this study portray a breakfast which contains more than the recommended 88.4 grams of carbohydrates for older children.

The General Mills disclaimers, on the other hand, portrayed the cereal as a healthy choice, containing less than 97.5 grams of carbohydrates. Children who eat this cereal receive 100.5% of the recommended AMDR values for energy which exceeds the recommended AMDR values for other children (100.5% for 388 kcal and 71% for 544kcal).

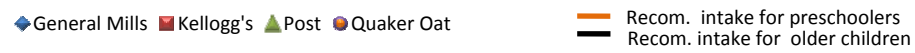


Figure 9

The distribution of the carbohydrates within the sample by the product manufacturer.

Total Sugars

As previously discussed, due to the fact that, the FDA's Nutrition Facts Label System only requires manufacturers to list total sugar for the food items on the food labels without separating added sugars from natural sugars (FDA, 2004; USDHHS/USDA, 2005), it was not possible to set a value for total sugar in relation to children's health. The only data available from the dietary guidelines regarding sugar is a recommendation, limiting the added sugar intake to 25% of the total energy intake (IOM, 2006a, 2006b). This translates to an added sugar intake of 24.25 grams per breakfast for preschoolers and 34 grams for older children.

A typical breakfast featured in cereal ad disclaimers contains an average 44.7 grams of sugar. However, this value includes both added and natural sugars. The FDA's Nutrition Facts Label System only lists total sugar for the food items and does not separate added sugars from natural sugars (FDA, 2004). Thus, even though all of the products included in this analysis contain some amount of added sugar, because the manufacturers are not required to list the amount of added sugar in their product labels, it was impossible to determine how much of the 44.7 grams of sugar comes from the added sugars. Among the four brands, Kellogg's cereals contained the most amount of total sugar with an average of 47 grams per breakfast, closely followed by General Mills with an average 46.3 grams of sugar. Both Post and Quaker Oat brand cereals contain an average 37 grams of sugar.

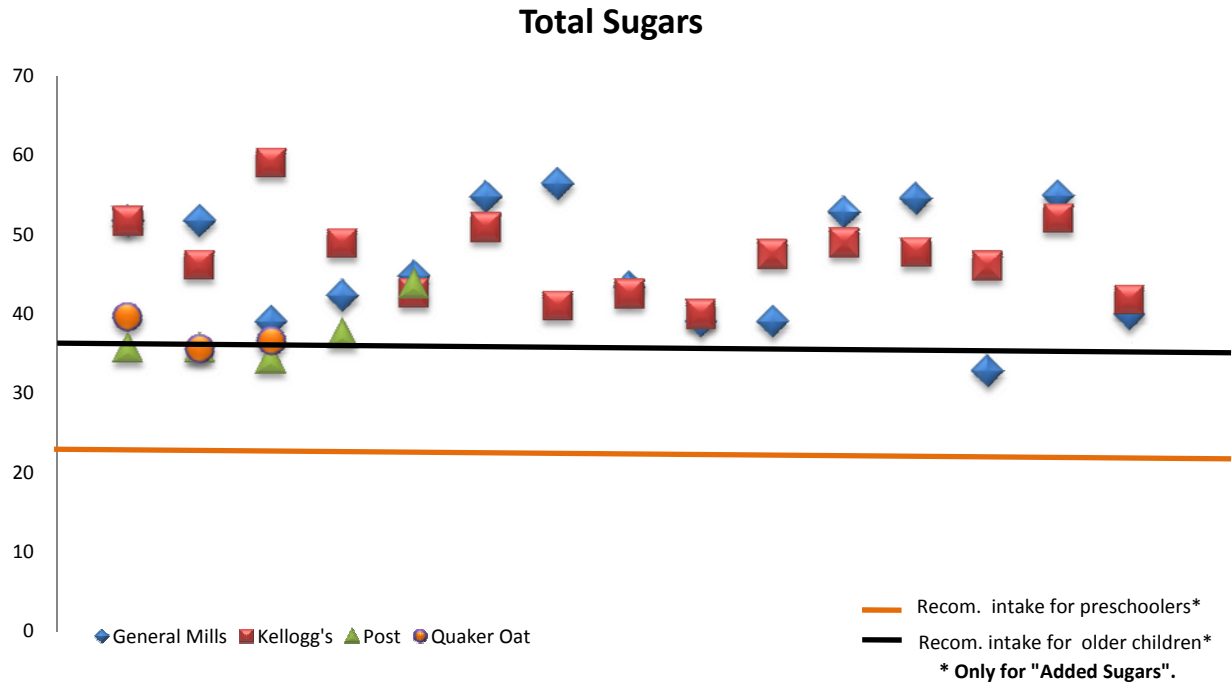


Figure 10

The distribution of total sugars within the sample by the product manufacturer.

Dietary Fiber

Children who eat the breakfast typically depicted in the cereal ad disclaimers in this study will consume an average 5.6 grams of dietary fiber. As discussed in the methodology chapter, the recommended dietary fiber intake is 5.4 grams at the 388 kcal level (preschoolers) and 7.6 grams at the 544 kcal level (older children).

Figure 11 illustrates the distribution of dietary fibers within the sample by the product manufacturer. The results show that 66% (n=25) of the commercial disclaimers fail to meet nutritional needs in terms of dietary fiber for children between the ages of 3- to 5-year-old. For children between the ages of 6- to 8-year-old who require 7.6 grams of

Dietary Fiber

Legend:

- General Mills (Blue Diamond)
- Kellogg's (Red Square)
- Post (Green Triangle)
- Quaker Oat (Blue Circle)

Recommendations:

- Recom. intake for preschoolers (Orange line at 5.9g)
- Recom. intake for older children (Black line at 7.8g)

Brand	Intake (g/day)
General Mills	11.7, 11.7, 10.5, 11.7, 15.5, 5.4, 5.7, 5.7, 5.7, 5.7, 14.5, 12.0
Kellogg's	5.3, 4.2, 2.5, 2.5, 2.5, 2.5, 2.5, 2.5, 1.5, 2.8, 7.0, 5.3, 4.0, 2.0
Post	7.2, 7.2, 5.0, 5.0, 7.5
Quaker Oat	2.5, 2.5, 2.5

The distribution of dietary fibers within the sample by the product manufacturer.

The data from dietary guidelines translates to a saturated fat intake of 3.3 g per breakfast for preschoolers and 4.6 g per breakfast for older children. As illustrated in Figure 12, while 18% (n=7) of the disclaimers in this study depicted a breakfast exceeding the recommended saturated fat intake value for preschoolers, none of the

breakfasts portrayed in the disclaimers contained more than the recommended saturated fat intake for older children. Commercials produced by General Mills (2 g), Kellogg's (1.3 g), and Post (3.3 g) portrayed breakfasts that contain saturated fat well within the recommended levels for children of all ages. The disclaimers aired during Quaker Oats brand cereal commercials depicted breakfasts within the recommended intake value for older children but containing slightly more than the recommended values (3.4g) for preschoolers.

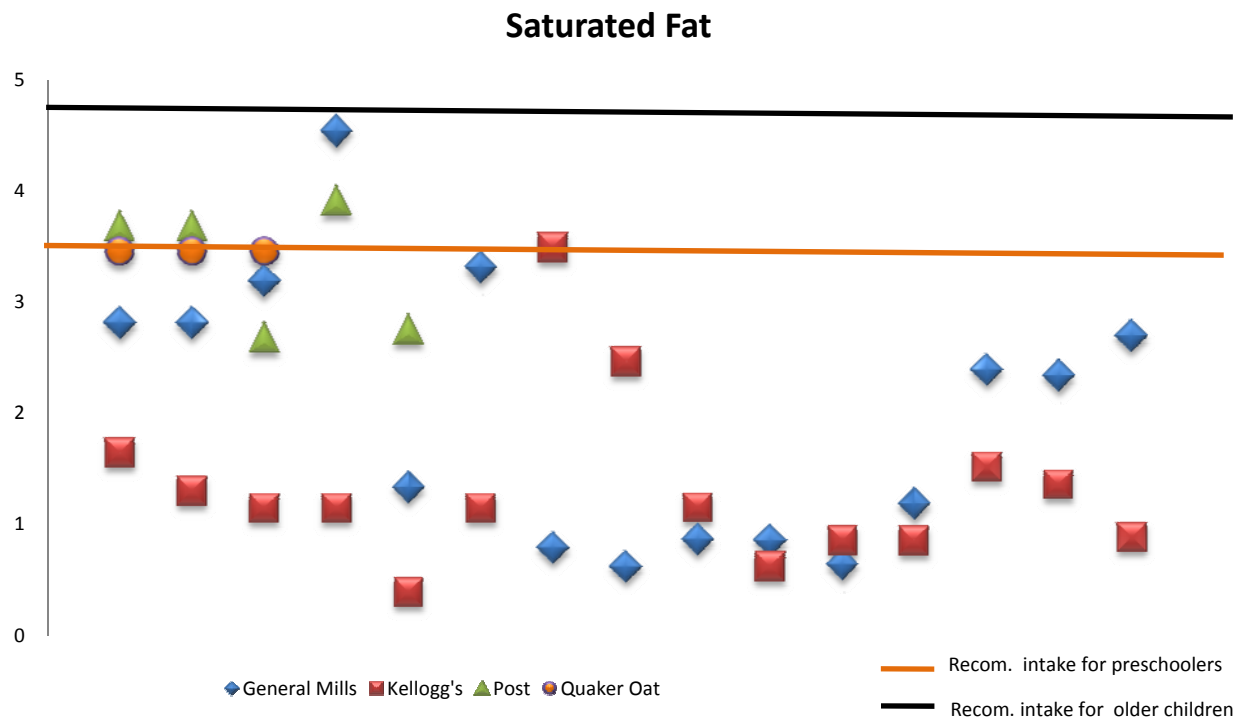


Figure 12

The distribution of saturated fats within the sample by the product manufacturer.

Cholesterol

Based on USDA Food Guide System guidelines, breakfasts depicted in the health disclaimers analyzed in this study should not provide more than 44.6 milligrams of

Mills brand commercial disclaimers contain the most cholesterol, exceeding the other three brands (27.9 mg average). Breakfasts from the other three brands' disclaimers contain far less cholesterol: Kellogg's, 9.8 mg; Quaker Oat 6 mg.

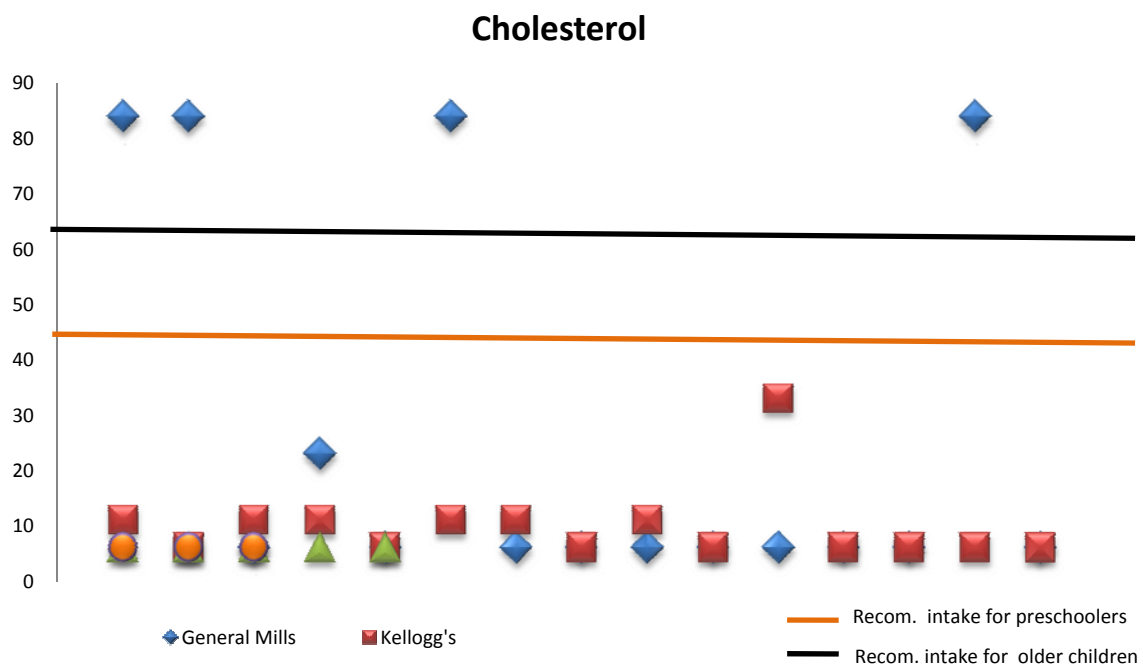


Figure 13

The distribution of cholesterol within the sample by the product manufacturer.

Sodium

When the data from the USDA's Dietary Guidelines for Americans and IOM's Dietary Reference Intakes were extrapolated based on the calorie levels set by the SBP, it is estimated that a limit for sodium in health disclaimers should be 345 mg for younger children and 483 mg for older children. The analysis of the foods portrayed in the cereal ad disclaimers revealed a breakfast that typically contained an average of 632 grams of sodium -- well exceeding the values set by the nutritional guidelines. The analysis also revealed that only 8% (n=3) of the cereal commercials featured a breakfast disclaimer consisting of food items containing sodium within the acceptable levels for preschool age children. For older children this increased to 21% (n=8). Of note, 23% (n=9) of the disclaimers depicted a breakfast containing more than 800mg of sodium, which is half the recommended daily intake for a healthy adult.

There was a big difference between brands in terms of the amount of sodium included in the breakfasts featured in the disclaimers. Kellogg's featured the most sodium conscious breakfasts with an average of 488.4 mg, while General Mills brand cereal ad disclaimers contained the most sodium with an average of 750.5 mg. Commercials produced by Post (614 mg) and Quaker Oats (718.8 mg) also portrayed breakfasts high in sodium content. Figure 14 illustrates the distribution of sodium nutrient within the sample by the product manufacturer.

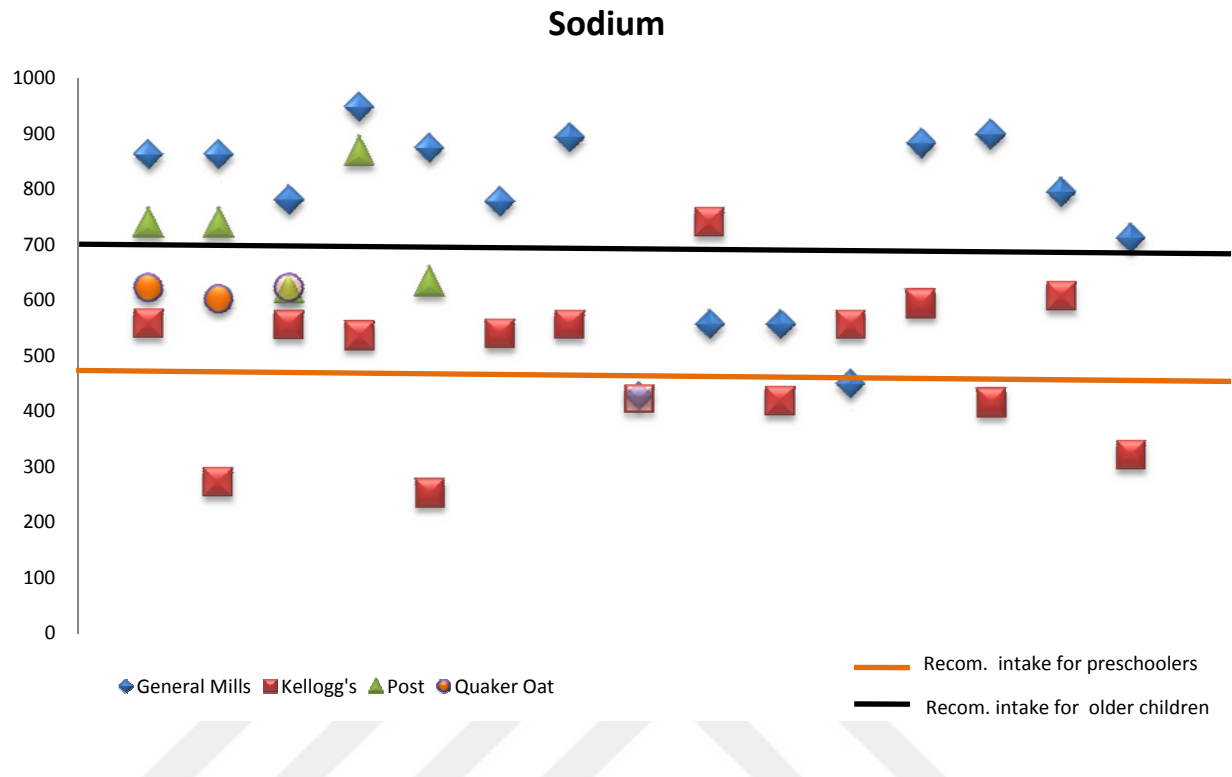


Figure 14

The distribution of sodium nutrient within the sample by the product manufacturer.

Representation of Different Food Groups in the Depicted Breakfasts Featured in Disclaimers

According to the Dietary Guidelines for Americans (USDHHS/USDA, 2005), one of the key aspects of consuming a healthy diet is to establish a balance of selections from the different food groups while staying within the recommended energy intake limits.

Children who watch cereal commercials will see uniform, almost identical representations of a breakfast. Besides cereal, the most common food items featured in the disclaimers are milk (100%), toast (60%), orange juice (58%), and an orange (26%). The commercials analyzed for this study showed 23% of the disclaimers featured two or

more servings of fruits and 31% include three or more servings of grains. On the other hand, there was no representation of vegetables, vegetable juice, meat or meat alternatives, cheese, eggs, yogurt, nuts or nut/seed butters (e.g. peanut butter or almond butter) as recommended in the SBP guidelines.

The school breakfast program does not include any recommendations for margarine or jam/jelly -- two of the common food items seen in the disclaimers. Just over a fourth, 26%, of the breakfast depictions analyzed in this study contained some type of jam or jelly and 34% included margarine (1 tsp average for each item). Even though there is no SPB dietary recommendation regarding these two items, USDA guidelines recommend only 1 tablespoon per day as the recommended serving size. Overall, only half of the disclaimers meet the nutritional recommendations made in SBP.

CHAPTER IV

Discussion and Implications

Implications for Cereal Advertisements

Since the adoption of the now defunct NAB TV Code in 1975, the use of disclaimers in breakfast cereal commercials and the occasional public service announcement (Gantz, Schwartz, Angelini, & Rideout, 2007) are the two major approaches for informing young children about the benefits of eating a healthy and balanced breakfast. This content analysis investigated the former in order to determine the nature of the messages regarding healthy, balanced breakfasts conveyed to children between the ages of three to eight years of age who watch hundreds of these commercials in any given week. The first part of the analysis examined the structural features used in these disclaimers to attract and hold children's attention. The second part of the analysis focused on the nutritional composition of the breakfasts portrayed in the disclaimers and their compliance with dietary guidelines.

Interpretation of the Results Regarding the Format of the Disclaimers

As previously discussed, children's attention to the screen is determined by both perceptual stimuli and semantic content (Calvert, 2004; Livingstone & Helsper, 2006). Many scholars are in agreement that due to limited cognitive development, younger children are more dependent on perceptual stimuli (Valkenburg, 2004; Van Evra, 2004). Commercials are very rich in structural features due to the fact that there is very little

time to communicate the intended message to the target audience. Since the disclaimers can be considered as commercials within commercials, carrying their own independent messages, it is important to know the nature of the structural features utilized in these disclaimers in order to determine how efficiently the intended message is presented to children.

Message length and positioning.

Roughly nine of every ten disclaimers were three seconds long. This means that in three seconds, the producers needed to capture children's attention, portray a healthy, balanced breakfast, and convey the benefits of eating a healthy balanced breakfast at a pace and format that young children can easily comprehend. The question is, how realistic is it to expect all these things to happen in three seconds?

Expecting children to grasp the concept of a healthy and balanced breakfast through information presented in a three-second segment is contradictory to what is known about how children learn from mediated messages. Many researchers, such as Cantor (2004), asserted that children learn better from slow-paced presentation of content with lots of repetition. Research on advertising effects has indicated that television commercials are designed to create brand awareness and brand association (Story, 2004) through fast paced segments, vivid audio, and visual features; this creates almost a type of subliminal conditioning rather than conveying meaningful, comprehensible messages (Van Evra, 2004). Children's ability to comprehend messages presented in such short segments needs further investigation. An experiment designed to measure children's

recognition of disclaimers within commercials and their recall of disclaimer content will inform efforts to improve the effectiveness of such messages.

More than two decades ago, Stern and Harmon (1984) examined the format of the disclaimers featured in commercials shown during children's programs. Their analysis showed that the majority of disclaimers (61.6%) were positioned later in the commercials. Citing the primacy-recency model of memory literature (see Choi and Lee, 2007, for an in depth analysis), the researchers hypothesized that positioning the disclaimers later in the commercials may positively affect children's recall of disclaimer messages.

Congruent with the findings of Stern and Harmon (1984), this study revealed that the majority of the disclaimers (70%) were positioned towards the end of the commercials. More recent literature on message order effects, however, does not fully support Stern and Harmin's hypothesis. In order for primacy or recency effects to occur, there have to be two competing messages in similar formats (Choi & Lee, 2007; Tulving, 2008). Since there is only one disclaimer featured in each commercial there is insufficient evidence to justify the positioning of disclaimers later in the commercials. A future study could incorporate an experimental condition in which multiple disclaimers are included in each commercial to discern the effects of message order and to determine the ideal positioning of disclaimers.

Characters and character movement.

Peers, celebrities, action heroes, sympathetic characters (animated or live action) specifically created to promote certain products (IOM 2006), and even tricksters (Green,

2007) are frequently used in commercials targeting children in order to center attention around the advertised product (Harrison & Marske, 2005; Van Evra, 2004). Van Evra (2004) suggested that children's opinions about a product or item can be influenced by a celebrity or a television character endorsing the product. Not surprisingly, characters from one or more of the categories described above were present in all of the cereals ads analyzed in this study. On the other hand, almost half of the disclaimers (47%, n=18) did not feature any characters.

Studies have shown that when peers and characters exhibit positive attitudes towards a product, viewers tend to express positive attitudes towards the same product (IOM, 2006; Valkenburg, 2004). Based on this assumption, it can be argued that the lack of peers and characters in disclaimers may have an adverse effect on children's attitudes towards the healthy breakfast message. When the young viewers realize that their peers and the characters they love show no interest in eating the healthy breakfast, they may quickly lose interest in the intended message. Adding to this concern, in the disclaimers in which characters were present (52.6%, n=20), none of the characters were shown eating or enjoying any of the breakfast items other than the advertised cereal.



Figure 15

Examples of healthy breakfast placement in the disclaimers in relation to the characters.

This is illustrated in Figure 15; The screenshot on the left shows three characters eating the advertised product while the healthy breakfast is on the other side of the table, away from the characters. The picture on the left illustrates a scene from a disclaimer where the character eats the cereal while the depicted healthy breakfast is placed on the opposite side of the bench separated from the character by the cereal box which centers the screen.

Some scholars asserted that the success of using peers, well-known characters, or celebrities in commercials can be explained with social learning theory as spearheaded by Albert Bandura's work in the sixties (Valkenburg, 2004; Van Evra, 2004). The basic premise of this model is that children are able to imitate behaviors they see on television, and they are more likely to do so if: a) this behavior is exhibited by credible models such as celebrities, peers, or media characters, and b) they can associate the consequences of the behavior with something positive, i.e., sweet taste or being more powerful or popular (Van Evra, 2004). Therefore, the lack of characters shown eating healthy balanced

breakfast items in disclaimers should be considered a missed opportunity in terms of modeling a healthy behavior to young children. In the light of these findings, it is recommended that the characters used to promote the products also be depicted enjoying the healthy breakfast featured in the disclaimer.

This study also examined the movements of characters, as research conducted in the 1980s supported the idea that rapid character movement is one of the structural features that guides children's attention (Calvert, Hutson, Watkins, & Wright, 1981; 1982; Huston, et al., 1981; Rice, Huston & Wright, 1983). In 75% (n=15) of the 20 disclaimers in which one or more characters were present, the characters were moving faster than the speed of walking. Since all of these movements were irrelevant to the intended message of the disclaimers, the idea that these character movements may actually guide children's attention away from the disclaimer's message should not be considered as too farfetched.

The two screenshots in Figure 16 illustrate character movements in relation to the depiction of a healthy breakfast. The picture on the left shows the characters cheering, yelling, and throwing the main character into the air while all of them are eating the advertised cereal. The picture on the right was taken from a scene in the disclaimer where the main character fights an angry bear. Neither of these actions direct the viewer to the 4 slices of bread (which could easily be mistaken as cake slices), the bowl full of cereal, the milk, the orange juice, or the apple that are depicted as a part of the healthy breakfast.



Figure 16

Character movements in relation to the depiction of a healthy breakfast.

Visual features.

A small number of visual structural features: cuts, zooms, and visual special effects, were examined in terms of presence and frequency. It has long been established that these three structural features can direct children's attention to screen (Calvert, Hutson, Watkins, & Wright, 1981; 1982; Huston, et al., 1981; Lang, 1990; Rice, Huston & Wright, 1983; Valkenburg, 2004; Van Evra, 2004). This study revealed that zooms (21%, n=8) and cuts (8%, n=3) were rarely employed in the disclaimers, while one in every three disclaimers (37%, n=14), made use of visual special effects as a way of drawing attention to the healthy breakfast. According to Van Evra (2004), visual structural features often serve as markers to inform children about important changes in content. Researchers, who investigate the cognitive processing of television messages, predict that structural features grab viewers' attention by eliciting an orienting response, one of the automatic attention mechanisms of human cognition. (Lang, 1990; Valkenburg, 2004; Van Evra, 2004). Citing earlier literature, Valkenburg explained,

"When persons of any age are confronted with a flash of light, a sudden movement or a loud noise, they orient their attention to it, even before they identify what it is" (2004, p.28). Scholars have hypothesized that because of their lack of real life experience, young children are more prone to elicit orienting responses to a stimuli (in this case, structural features) than older children and adults (Lang, 1990; Van Evra, 2004; Valkenburg, 2004).

While visual structural features such as zooms, cuts, and visual effects have been shown to be effective in capturing children attention, the latest research has suggested that the effect of these features on children's comprehension can go both directions. Lang (1990, 2000, 2006) has suggested that frequent exposure to visual features may actually have a deteriorating effect on learning since a constant orienting response will interfere with memory and recall by leeching the cognitive resources.

Determining whether the visual features utilized in disclaimers enhance or interfere with children's comprehension is beyond the scope of this study. Future experimental research that focuses on measuring the extent and direction of the effects of such structural features on attention, memory, and comprehension will provide evidence on the effectiveness of using disclaimers as a way of educating children about eating healthy and nutritionally balanced breakfast.

Audio features.

As discussed earlier, aural structural features affect viewers' attention similar to visual structural features and may improve or impede comprehension of the content depending on factors such as viewer age or motivation. The audio features of sound effects, character dialog, and disclaimer narration were examined for this study. Sound

effects were present in more than 30% (n=12) of the disclaimers analyzed; character dialogue was featured in 26% (n=10) of the disclaimers.

Investigation of disclaimer narration yielded the most notable results as nearly all the audio information regarding a healthy breakfast was communicated to viewers through this feature. Interestingly, but not surprising, despite the fact that this part of the message should be reserved for promoting a healthy/balanced breakfast, manufacturers managed to include references to their products. In almost half of the disclaimers (44.7%, n=17) the cereal's name was mentioned. One in every five (21.1%, n=8) of the disclaimers featured an audio reference to the cereal's taste or flavor (i.e. chocolaty, cinnamony, peanutbuttery or fragrantly fruity). Health claims such as, "Part of this good breakfast with 12 key vitamins and minerals," were made in just over one fourth of the disclaimers (26.3%, n=10). All of these references are about the advertised product; they do not provide information about a healthy breakfast. Given the fact that there is already a very limited time, three to four seconds, for auditory information about healthy breakfast in the disclaimers, the entirety of this limited time should be used to provide this important information.

Further investigation of structural features is needed to provide empirical evidence regarding the effectiveness of disclaimers. Two examples encountered during the course of this investigation help to illustrate the ineffectiveness of the current format. The first occurred when a class of undergraduates was shown the commercials. Even though the students had been told they were going to watch cereal commercials with disclaimers, few could recall any of the disclaimers after viewing; likewise, none of the adults who watched the breakfast cereal commercials during numerous presentations and

academic discussions were able to recall the presence of disclaimers when asked. The second example involves the original coding of food ads that was done for the Kaiser Family Foundation study (Gantz et al. 2007). Although coders had undergone several hours of training, worked through dozens of examples, and were specifically looking for the presence of disclaimers, nearly one third of the disclaimers were “missed” by coders upon initial viewing (Nancy Schwartz, personal communication, January, 28, 2008). If trained adults do not take notice of the disclaimers, it is unlikely that children, who are casually viewing the commercials, will do so.

Interpretation of the Results Regarding the Nutritional Information Presented in the Disclaimers

The 1975 NAB Television Code required cereal commercials targeting children to include disclaimers indicating that the cereal is one part of a healthy balanced breakfast and displaying an image of a healthy and balanced breakfast. As research has provided more information about nutrients and their effects on human development dietary guidelines have been improved to provide the public with the most effective strategies for maintaining a healthy diet. In response to growing public concern regarding the childhood obesity epidemic, the USDA recently revamped the existing dietary guidelines in an attempt to offer solutions, more suitable to the nutritional needs of young children.

As discussed in the prior section, this study found that the frequency and format of disclaimers in the advertisements examined was very similar to the findings in a study conducted 24 years ago by Stern & Harmon (1984). The next question is, then, does the

nutritional information presented in today's disclaimers reflect the recommendations currently provided by dietary guidelines?

Age difference.

Children's nutritional needs vary with age. The three dietary guidelines that were used in this study to benchmark the nutritional information provided by disclaimers assign different recommended levels for each nutrient by age groups. For example, the School Breakfast Program recommends two different calorie intake levels and varying serving sizes for preschool age and older children. The Dietary Guidelines for Americans (USDHHS/USDA, 2005), assigned different calorie intakes based not only on age, but also on gender and physical activity levels. (A detailed list is included in Appendix C) According to these guidelines, a 1000 kcal daily energy intake is adequate for a 3-year-old child who lives a sedentary life style, while an active 8-year-old requires twice as much energy from food consumption. Analysis of the major nutrients included in the food items portrayed in the disclaimers showed, for the most part, that the breakfasts depicted in the disclaimers are suitable for the dietary needs of older children but exceed the needs of younger children. Eighty-four percent (n=32) of the disclaimers analyzed contained more than 400 kcal, thus exceeding the recommended calorie intake for preschool age children; only 1 in every 5 (21.1%, n=8) breakfasts depicted in the disclaimers supplied more calories than recommended for older children (544 kcals per breakfast). Similarly, nearly 9 out of every 10 breakfasts (86.8%, n=33) that appeared in the disclaimers contained more carbohydrates than recommended for younger children, while only 34% (n=13) exceed the recommended intake for older children.

These findings indicate that the disclaimers are designed for children eight years and older who live an active lifestyle. Given that these commercials are broadcasted during a variety of children's programming, including programs watched by very young viewers, production of a variety of disclaimers that portray differing versions of healthy breakfasts suitable to the dietary needs of different ages of children, should be considered. Part of the problem may stem from the possibility that the FDA's Nutrition Fact Label system is the only dietary reference taken into account during the preparation of the disclaimers. Designed for the consumers who want a quick reference point when shopping, the values on the Nutrition Fact Label are set to a 2000 kcal/daily diet. Therefore, utilizing only the Nutrition Facts Label when preparing disclaimers results in neglecting the dietary needs of a wide range of viewers. Given that these commercials are broadcasted during a variety of children's programming, including programs watched by very young viewers, production of a variety of disclaimers that portray differing versions of healthy breakfasts suitable to the dietary needs of different ages of children, should be considered.

Inclusion of food groups.

The USDA recommends that individuals should include all the food groups in their diets since different foods provide different nutrients to the body (USDHHS/USDA, 2005). The Dietary Guidelines for Americans present a body of evidence indicating the health benefits of including a variety of food groups in one's diet. Consuming adequate amounts of fruits and vegetables helps protect against certain types of chronic diseases (such as certain types of cancers and type 2 diabetes); including more grains into the

daily diet may improve cardiovascular health, and consumption of milk and milk products helps develop bone mass (USDHHS/USDA, 2005).

Examination of disclaimers in breakfast cereal commercials reveal that children who watch these commercials see representations of a breakfast that is quite standardized and unvarying in terms of the food items provided. The lack of representation of vegetables, vegetable juices, meat or meat alternatives, certain dairy products (i.e. cheese, yogurt) or nuts in all of the commercials examined in this study, underlines an important oversight, as these food groups are recommended as part of a healthy and balanced diet. Including the items from these of food groups would be in the best interest of young children.

Distribution of the major nutrients in the depicted breakfasts.

The breakfasts depicted in the disclaimers were examined for the inclusion of nine major nutrients: calories, protein, total fat, carbohydrates, sugars, dietary fiber, saturated fat, cholesterol, and sodium. The results were compared with the recommended levels set by three major dietary guidelines: the USDA School Breakfast Program, USDA Dietary Guidelines for Americans, and IOM Dietary Reference Intakes. The findings illustrate that the breakfasts shown during the disclaimers do not necessarily demonstrate a healthy and balanced breakfast. Most of the disclaimers examined in this study depict a breakfast high in energy, sugar, and sodium.

Figures 17.1 and 17.2 illustrate the percentage of each nutrient analyzed in this study in regards to compliance with dietary guidelines for children between the ages of 3- to 5 and 6- to 8-year-old. As shown in the figures, disclaimers failed to meet the

recommended nutritional levels in five out of nine categories. There was insufficient data to make comparison for sugars. This issue is further discussed below.



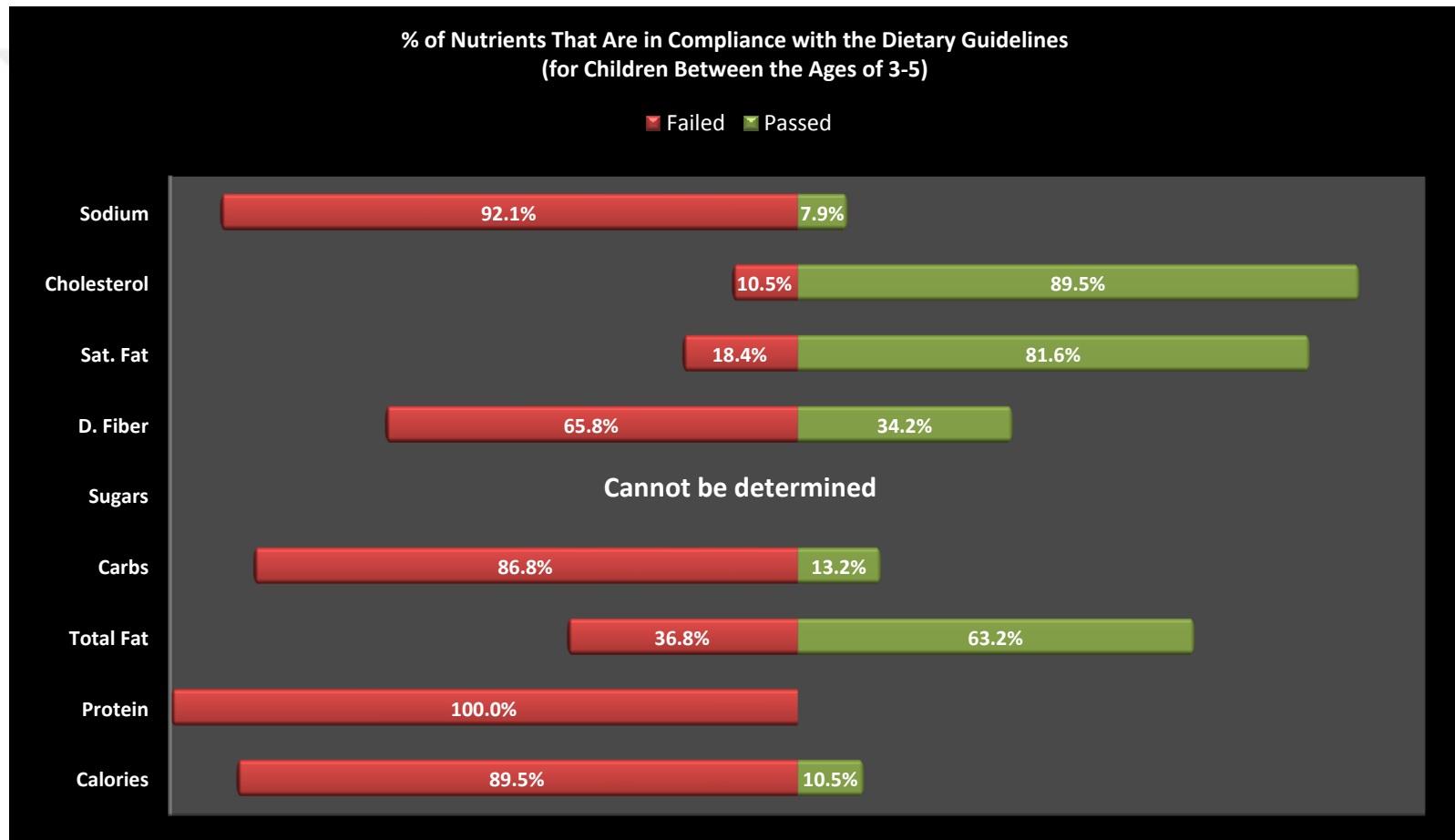


Figure 17.1

The percentage of each nutrient analyzed in this study in regards to compliance with dietary guidelines for children ages three to five.

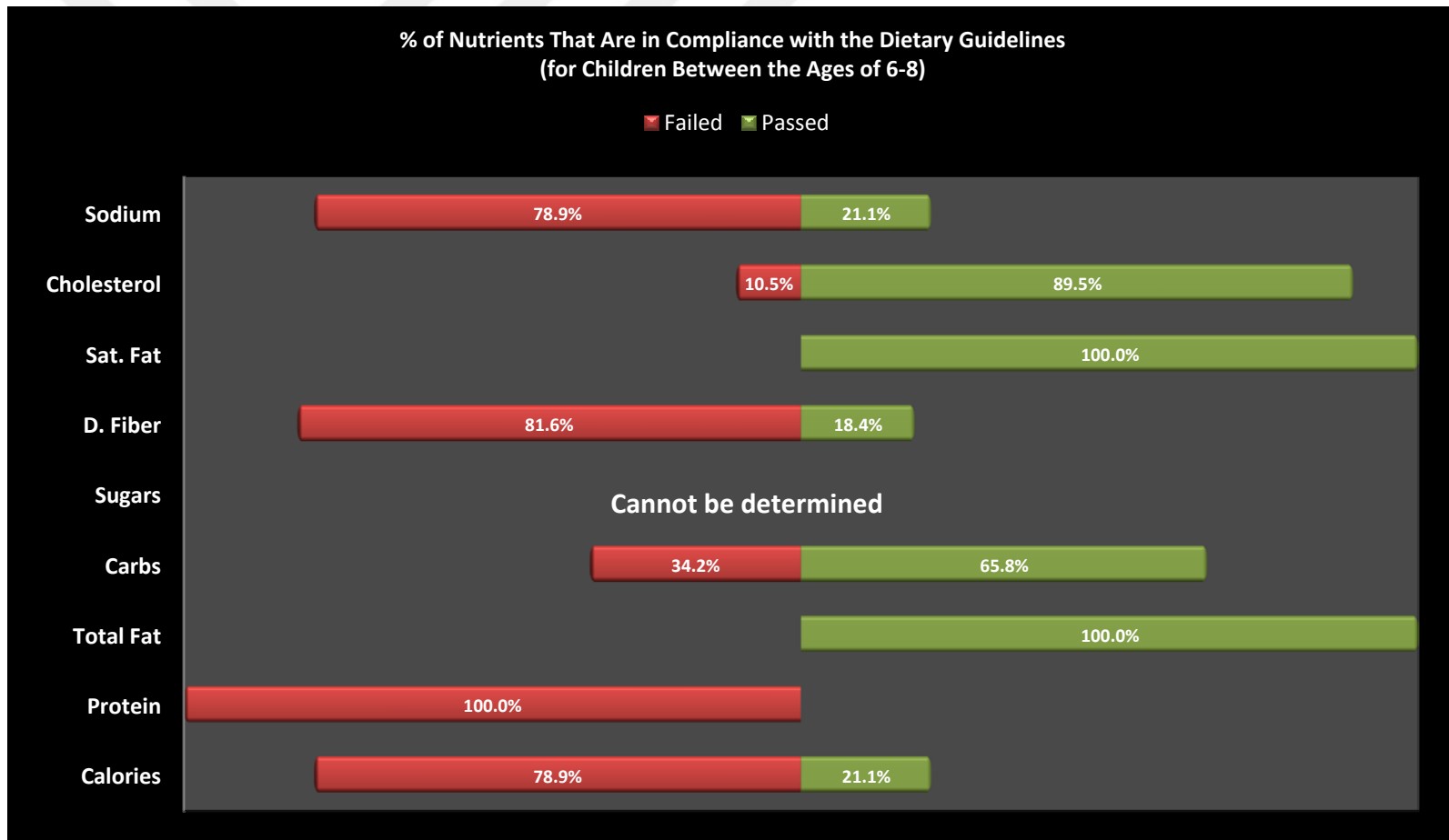


Figure 17.1

The percentage of each nutrient analyzed in this study in regards to compliance with dietary guidelines for children ages six to eight.

Counting calories.

Examination of the content revealed that cereal commercials typically portray an energy rich breakfast. As shown in figures 17.1 and 17.2, the majority of breakfasts depicted in the disclaimers exceeded the recommended levels in calories, carbohydrates, and proteins. All of these nutrients significantly contribute to energy intake (Samour & King, 2005; USDHHS/USDA, 2005). Although the nutrients in the sugary cereals depicted were the biggest contributor to this situation, the composition of the remaining food items depicted also affected the high energy levels. Protein rich food items such as margarine or butter (which were always coded as margarine), toasts and pancakes which are full of carbohydrates, and sugary food items such as jams and muffins were frequently observed and coded during the investigation.

According to dietary guidelines, any conscious effort to eliminate bad carbohydrates in children's diet should focus on the inclusion of food items that are high in dietary fiber (USDHHS/USDA, 2005). Low obesity rates have been reported in societies with high dietary fiber consumption (Kleinman, 2004). The analysis of the health disclaimers featured in cereal commercials revealed that a majority of the disclaimers exhibited a breakfast poor in dietary fiber content. Food items that are rich in dietary fiber such as raspberries, figs, dates, broccoli, black beans, pinto beans, and bananas (USDHHS/USDA, 2005) almost never show up in the disclaimers. In addition, ready-to-eat bran cereals, which are recommended in dietary guidelines as a source of dietary fibers (Kleinman, 2004; USDHHS/USDA, 2005) are rarely advertised to children. The cereals examined in this study contributed an average of 1.074 grams of dietary fiber to children's breakfast while providing an average 155.6 kcal energy. One medium

orange, on the other hand, provides 3.1 grams of dietary fiber while containing only 62 calories.

As discussed in Chapter II, obesity occurs when there is an imbalance of consumed and spent calories (Doak, Visscher, Renders, & Seidell, 2006; Harper, 2006; Wardley, Puntis, & Taitz, 1997). Therefore, it is crucial for children to learn about the low-energy breakfast alternatives. Many scholars recommended that avoiding carbohydrate and protein rich foods while including fresh fruit and vegetables in the diet will help children get the necessary energy for their growth without the danger of over consuming calories (IOM, 2006; Kleinman, 2004; USDHHS/USDA, 2005). The disclaimers portraying a healthy/balanced breakfast should reflect this reality.

How'd you get to be so sweet?

As noted in the results chapter, the FDA's Nutrition Facts Label System only requires manufacturers to list total sugar for the food items on the food labels without separating added sugars from natural sugars (FDA, 2004; USDHHS/USDA, 2005). The USDA recommendations regarding sugars only concern the added sugar intake since DRI values for natural sugars have not yet been set due to lack of scientific evidence (IOM, 2002/2005, 2006a, 2006b; USDHHS/USDA, 2005).

Thus, even though all of the cereals examined in this analysis were sugary in nature and contained large amounts of added sugar, because the amount of added sugar was not listed separately from natural sugar on the product labels, it is impossible to determine whether the total sugar values found in the analysis are dangerous to children's

health or not. Unless there is a policy change regarding this issue, all future research will suffer from the same limitation.

Protecting children's hearts.

Analysis of the disclaimers showed that the majority of the breakfasts portrayed met the recommended levels of saturated fat, total fat, and cholesterol at both age levels. The main reason for the low level of fat content appears to be the lack of high-fat food items such as eggs, meat, poultry and dry beans (USDHHS/USDA, 2005) depicted in the disclaimers.

The USDA's Dietary Guidelines for Americans acknowledge the role of fats and oils in a healthy diet. However, individuals are cautioned about the possibility of heart diseases that can occur with excessive fat intake (USDHHS/USDA, 2005). Thus, rather than eliminating food items rich in fat content, producers should focus on portraying a balanced combination of food groups that contribute different nutrients to a healthy diet.

Could you pass the salt please?

Many scientists warn the public that excessive sodium intake can lead to high blood pressure and coronary diseases (IOM, 2006a; 2006b; USDHHS/USDA, 2005; Whitney & Rolfes, 2002). Scientists are particularly concerned because surveys show that many Americans are already consuming more sodium than the recommended levels (IOM, 2006a; 2006b; USDHHS/USDA, 2005). The nutritional analysis of the disclaimers revealed that 92% of the breakfasts portrayed consist of food items that provide more

than the recommended levels of sodium for preschoolers, and almost 80% of these breakfasts contain more sodium than recommended for older children.

Roughly 30% of this high sodium is contained in the cereals (an average of 170.5 g of 632 g total). The remaining 70% comes from food items such as toast (up to 4 slices), pancakes, muffins, and margarine. Clearly there is room of improvement here. Future efforts should include collaboration with nutritionists in order to determine lower sodium breakfast alternatives to present in the disclaimers.

Overall, the nutritional analysis of the content showed that the breakfasts portrayed as healthy and balanced in the disclaimers do not reflect the nutritional composition of a healthy and balanced breakfast as recommended by the dietary guidelines. The breakfasts depicted in the disclaimers are high in energy, sugar, and sodium. Further analysis showed that although the cereals themselves contributed significantly to these totals, depiction of other food items that contained high levels of certain nutrients, resulted in breakfasts that provided inadequate levels of nutrients for children.

Recommendations for CARU

With the alarming increase in the prevalence of childhood obesity, public attention on food and beverage advertising to children has been heightened. Review of the literature suggests that sugary breakfast cereals are one of the most frequently advertised products to children under the age of 12 (Barcus, 1981; Gantz, Schwartz, Angelini, & Rideout, 2007; Kunkel & Gantz, 1992). This should not be surprising since

the major players in the ready-to-eat breakfast cereal business invest \$400 million dollars every year in advertising to children (IOM, 2006). Literature has also suggested that the disclaimer format in television advertisements promoting cereals has remained unchanged for more than 30 years (Gantz, Schwartz, Angelini, & Rideout, 2007; Kunkel and Gantz, 1993; Stern & Harmon, 1984). As studies have provided empirical data on advertising effects on children's food preferences, the advertising industry and food manufacturers, under public pressure, have acknowledged the problem and the need for increased efforts to better inform children about the nature of advertising and healthy dietary choices (National Advertising Review Council, 2004).

The Children's Advertising Regulatory Unit (CARU) has provided wide-ranging self-regulation policies to the industry for advertising to children since 1974.

CARU Guidelines state:

- " Advertisements for food products should clearly depict or describe the appropriate role of the product within the framework of the eating occasion depicted.
 - a. Advertisements representing a mealtime should depict the food product within the framework of a nutritionally balanced meal.
 - b. Snack foods should be clearly depicted as such, and not as substitutes for meals." (CARU, 2006, p. 5)

Furthermore, CARU Guidelines urge advertisers not to mislead children about product characteristics, including the nutritional benefits, and to encourage young viewers "for the responsible use of the product" to make healthy lifestyle choices and to increase the consumption of healthier foods as recommended by current USDA Dietary Guidelines for Americans (CARU, 2006).

This study investigated the industry's compliance with the above principals by examining breakfast cereal commercials that appear during children's programming. In light of the findings of this investigation, the recommendations below are presented to the CARU officials:

1- The majority of disclaimers stay on screen only three seconds. Research has suggested that children's ability to effectively process a meaningful message about a healthy, balanced breakfast in such a short time may be very limited. More research efforts focusing on children's cognitive processing abilities should be supported in order to determine the effectiveness of presenting the healthy breakfast concept in the current format.

2- Most manufacturers produce commercials that promote an active life style in an effort to comply with CARU guidelines. However, findings from this study show that very few disclaimers reflect this trend. In most of the commercials the health disclaimer consists of a static close up shot of the breakfast table while an adult voice-over provides the disclaimer narration. The disclaimers should portray physical activity just like the commercials in which they are featured do.

3- Research on children's learning has suggested that imitation of models is a common way for children to learn. Examination of the breakfast cereal commercials revealed that none of the characters portrayed were shown eating the healthy breakfast in the disclaimers; most of the characters were shown eating the promoted cereals, but were not shown eating any of the items depicted as part of the healthy breakfast. Manufacturers should be encouraged to produce ads in which characters are depicted enjoying the complete healthy.

4- Examination of disclaimer narrations identified three advertising trends: use of disclaimer narration to mention the product's name, i.e., "with Kellogg's Frosted Flakes as part of a complete breakfast," use of words to refer to the product's flavor, e.g., "A cinnamon part of this complete breakfast," and the use of health claims regarding the advertised product, e.g., "part of this good breakfast with 12 key vitamins and minerals." None of these three types of claims are related to the quality of the breakfast depicted in the disclaimers. Advertisers should be encouraged to use already limited time to promote the healthy breakfast rather than their products.

5- Analysis of the nutritional content depicted in the disclaimers clearly shows that children's ages have not been taken into consideration. Most of the breakfast depictions in the disclaimers consist of food items containing nutrients that exceed the recommended levels for younger children. Advertisers should be encouraged to produce two separate disclaimers suitable for the dietary needs of younger (ages 3 to 5) and older (ages 6 to 8) children and to show these disclaimers during programs appropriate to the age group.

6- Nutritional analysis of the breakfast depictions also suggests that the breakfasts portrayed during disclaimers are high in energy and sodium. This is mostly due to limited and/or poor choices for the food items included in the breakfast. More stringent guidelines requiring advertisers to follow USDA Dietary Guidelines are needed. Advertisers should be encouraged to avoid depicting food items that are high in calories and sodium in disclaimers.

7-CARU should adopt guidelines advising advertisers to depict breakfasts that include a greater variety of food items, to include items such as vegetables, meats, beans, and nuts in order to represent a healthy and balanced breakfast.

Media Education: An Option for Parents and Early Childhood Educators

In the summer of 1961, Newton Minow, chairman of the Federal Communications Commission (FCC) addressed a group of people who owned and operated television stations in the United States. In his, what is now called, "Vast Wasteland" speech, Minow pointed out: "If parents, teachers, and ministers conducted their responsibilities by following the ratings, children would have a steady diet of ice cream, school holidays, and no Sunday school" (Minow & LaMay, 1995, p.72).

While most people would agree that television did not become the "vast wasteland" that Minow portrayed, it has continued to have its share of critics on issues ranging from portrayals of sex and violence to the lack of educational programming. As the body of evidence grows on the media's role in the increasing rates of childhood obesity, television again in the spotlight, and the need for more effective strategies for coping with the adverse effects of food advertising has arisen. In addition to industry regulation and related industry efforts, parents and teachers can take an active role.

Teaching media literacy to young children is one of the strategies recommended by many scholars in order to reverse the adverse influence of food and beverage advertisements (Harrison, 2005; KFF, 2003; Kunkel, D., Wilcox, B., Cantor, J., Palmer, E., Linn, S., & Dowrick, P., 2004; Robinson, 1999; Van Evra, 2004). Media literacy,

according to Hobbs (1997) who provided one of the most frequently quoted definitions, is "an ability to access, analyze, evaluate and communicate messages in a variety of forms" (p.7). In regard to food advertising, media literacy focuses on the ways that are used to teach young audiences to be "active, selective, and critical of food promotion" in order to mediate the effects of advertising (Livingstone & Helsper, 2004, p. 8).

The Report of the American Psychology Association Task Force on Advertising and Children (Kunkel et al. 2004) recommends:

Education, in the form of media literacy, may assist parents and older children to consider the influence of advertising in their lives more seriously and to take actions protecting them from unwanted commercial influence (p. 8).

Media literacy most certainly starts at home. Many scholars advise parents to watch television with their children and talk about what is happening on screen in order to explain the content (Buerkell-Rothfuss & Buerkell, 2001; Potter, 2001). Findings from studies focusing on the effects of media on children have suggested that younger children (0 to 8-years-old; the years defined as early childhood) are most vulnerable to the effects of televised advertisements because they have a limited understanding of the persuasive intent of the commercials (Committee on Food Marketing and the Diets of Children and Youth, 2006; KFF, 2003; Kunkel & Gantz, 1992). This generates an added layer of responsibility for parents and teachers of children at these ages.

In their Model of Factors that Influence Children's Food Choice, Habits and Health, Livingstone and Helsper (2004) characterized schools "as another mediating element through their influence on media literacy", which in turn, they stated, "mediates the influence of television exposure and other types of promotion" (Livingstone &

Helsper 2004, p. 34). Although still in its infancy, more attempts to incorporate media literacy into school curriculum are being made. For example, Robinson (1999) used media literacy curriculum in conjunction with regulating children's television viewing and found that the intervention helped children in the treatment group attain a significantly lower body mass index compared with children in the control group. It is essential for early childhood educators to become familiar with the findings of such studies.

My experience as an instructor at a community college showed me how little some preservice teachers in the early childhood program know about the effects of television advertisements on children, particularly in relation to childhood obesity. Most of the teachers I talked with about the issue agreed that obesity is a big issue and that advertising food to young children is a significant contributor, but they also stated that when it comes to television programming and advertising, their strategy is to completely avoid the topic in the classroom. There is no reason to avoid talking about television in the classroom. In fact, it is important that children be taught how to interpret the messages conveyed by television commercials.

The primary aim of the current study is to inform the public about the way the advertising industry portrays the depiction of a healthy diet. When the findings of this study become available, early childhood educators can use them to:

- initiate a discourse with parents about a healthy breakfast and sugary cereals.
- talk to children about the commercials and disclaimers. (What is a disclaimer?

Why is it there?)

- initiate a discussion about the things they eat at breakfast. (What do they eat and how do they choose it? What are the differences and similarities between the breakfasts they eat and the breakfasts portrayed in the commercials?)

- talk about serving sizes. (How much is too much? Ask children to demonstrate how much cereal they-or their parents- put in their bowls).

When planning strategies for incorporating media literacy into early childhood classrooms, a developmentally appropriate approach that takes children's age and cognitive maturity into consideration will yield the best results (Potter, 2001). Unfortunately, there are very few resources available to educators to guide them in these efforts. More media literacy research is needed to develop the most effective approaches for teaching children to make informed consumer decisions and for protecting them from commercial influences. Perhaps Harrison's (2005) conclusion provides the best summary for the issues discussed in this section:

"In a world where children are constantly exposed to media misinformation, a media-literate child is a healthier child" (p. 130).

CHAPTER V

The Good, the Bad and the Ugly

Essentially, this investigation was inspired by the increasing attempts of scholars from different disciplines to inform the public about the causes of and methods to prevent childhood obesity, a very serious health issue threatening millions of children worldwide. In this study, I focused on what is to be described in the literature as a major contributing factor to this epidemic: food advertising -specifically breakfast cereal advertising- on television that targets young children. Health disclaimers that appear during breakfast cereal commercials, were examined in order to assess effectiveness of current regulations.

It is a relief to see that public awareness regarding childhood obesity is now greater than ever in the United States, mostly due to studies conducted by researchers such as Ogden and colleagues (Ogden et al. 2002, 2006) During the last decade, international organizations such as the World Health Organization (WHO) have been carrying the flag in terms of urging governments to take drastic measures to prevent childhood obesity (WHO 2000, 2003, 2006). Following these footsteps, many national organizations such as the American Heart Association (AHA), American Academy of Pediatrics (AAP) and the Institute of Medicine (IOM) adopted policy statements and published reports advocating implementation of better childhood obesity intervention policies (AAP 2003, 2006; AHA, 2005, 2006; IOM, 2005).

As a consequence of the mounting evidence regarding the effects of food advertising on children's food preferences (Gantz, Schwartz, Angelini, & Rideout, 2007),

most of these reports and policy statements include special mention of television's role in childhood obesity especially concerning food advertisements to children. As a result of growing public concern, the advertising industry and food manufacturers seem to have acknowledged the problem and are taking steps to counter the adverse effects of food commercials that target young children. In November, 2006, the Better Business Bureau (BBB), the parent organization of Children's Advertising Unit (CARU), announced the Food and Beverage Advertising Initiative. The initiative requires all participating companies to devote "at least 50% of their television, radio, print and internet advertising primarily directed to children under 12 to advertising that will further the goal of promoting healthy dietary choices and healthy lifestyles" (Children's Food and Beverage Advertising Initiative, 2006, p 2).

Another important development was an announcement by the Kellogg Company announced, in June, 2007 that by the end of 2008 it will limit its advertising of certain products to children under 12 unless the products meet their internal nutritional criteria. (Kellogg strengthens marketing practices to children, announces front-of-pack nutrition labeling, 2007). These developments confirm the necessity of frequent examination of the content as it was suggested by Kunkel and Gantz (1992).

Positive efforts from the industry are certainly good for children and their parents. However, my investigation revealed that when it comes to practicing what has been pledged, the advertising industry is less than enthusiastic. To my (and many others' who reviewed my analysis) surprise, I detected three breakfast commercials that did not feature any disclaimer or utilize any other method to portray a healthy/balanced breakfast. Even though these commercials were broadcast during children's

programming, no disclaimers were included to inform children about a healthy diet. In addition, there was one promotion that did not include any audio disclaimer. Even though this promotion was essentially designed as a segway between the programs, it possessed every structural characteristics of a regular commercial and thus was included in the analysis as one.

Although the majority of the advertisements, in compliance with policy, did include disclaimers, this study revealed that disclaimer messages were three to four seconds long commensurate with the practice that dates back to the beginning of the self-regulatory policy almost 30 years ago. Three seconds is a brief duration of time to communicate complex messages regarding a healthy breakfast. Findings from research projects that experimented with message processing under the Limited Capacity Model of Mediated Message Processing have suggested that three seconds may be enough to encode the visual information since visual encoding is relatively automatic (Lang, Potter & Bolls, 1999), however, encoding is only one part of the information processing system. A televised message also needs to be successfully stored and retrieved at a later time in order to be regarded as thoroughly processed (Lang, 2000; Lang, Schwartz, Chung & Lee, 2004). Furthermore, Valkenburg (2004) noted that young children, due to their lack of prior knowledge and experiences, may need more time to process televised messages than do adults and older children. More research is needed to determine whether using three second disclaimers appearing in 30-second commercials is the best format for conveying a healthy diet message to young children.

Repetition is another factor affecting children's comprehension of content (Valkenburg, 2004). Considerable amount of repetition occurs as children watch the same

advertisements numerous times during one week period (i.e. in the sample, there were 41 unique commercials that were aired 744 times all together). On the other hand, researchers like Valkenburg (2004) stated that repetition is more effective when it occurs in a slow pace program such as the Teletubbies.

As previously discussed, orienting responses to structural features may enhance encoding through the automatic allocation of processing resources (Lang, 2000), particularly for kids (Lang et al., 2004). Analysis of the structural features utilized in the healthy breakfast disclaimers revealed that conventional structural features that assist information processing by eliciting orienting responses were used scarcely in the disclaimers (i.e. cuts were used in only 8% of the disclaimers, only 1/3 of the disclaimers featured visual effects, and only 1/3 used audio effects). On the other hand, the same researchers also pointed out that exposing the viewer to structural features too frequently in a short period of time may have an adverse effect on encoding by exhausting cognitive resources (Lang 1990, 2000, 2006; Lang et al., 2004). Given the lack of structural features that elicit orienting responses in the disclaimers analyzed in this study, it can be concluded that structural features are unlikely to assist message encoding, but nor are they likely to lead to an overload situation.

This study is limited to exploring the presence and frequency of the structural features in the healthy breakfast disclaimers and did not include an experimental component to test children's comprehension of the messages conveyed through the disclaimers. Future studies could employ an experimental design in which structural features are manipulated (e.g. cuts and special effects that are used to make the healthy food light up or sparkle or twirl on the plate, etc.) and children's recognition and of the

features is tested. A definitive judgment regarding the effectiveness of the structural features in disclaimers can only be made after more research focusing on children's cognitive processing of these messages is conducted.

Another observation revealed in this analysis is that half of the commercials used popular characters used in the commercials but not in the disclaimers. This means that in these commercials the characters were used to promote the advertised cereal but not the healthy breakfast. In the advertisements that feature characters in the disclaimers, the characters never touched the healthy breakfast but were almost always depicted eating the cereal. In some disclaimers the healthy breakfast items were shown as clustered on one side of the table while the characters enthusiastically gobble up the cereal on the other side.

Another disturbing trend was observed in regard to disclaimer narration. This is a very important component of the disclaimer as it is where most of the information about a healthy breakfast is communicated. In all except two disclaimers, the advertisers used the precious time to further promote their products. This advertisement within an advertisement strategy was observed throughout the sample in three forms. The advertisers either: mentioned the product name (e.g. "get my Post Cocoa Pebbles cereal, part of a good breakfast!"), made health claims (e.g. "part of this good breakfast with twelve vitamins and minerals), or made taste, flavor, or texture references related to the products (e.g. "Cinnamony part of this complete breakfast," or "with ridges that rock, a ramped up part of this nutritious breakfast!"). These claims are irrelevant to the healthy breakfast message that was supposed to be transmitted to the targeted audience.

The second part of the analysis examined the nutritional composition of the breakfasts presented as healthy and balanced in the disclaimers. The goal in doing this was to investigate whether the advertisers were following the dietary guidelines in their representation of healthy and balanced breakfasts. The results indicate that children who watch these commercials are exposed to a very standardized, unvarying representation of breakfast. The breakfast table features the same food items with very little difference among commercials. Certain nutrients are over-represented, while others – though their roles in a healthy diet are important – are not seen by children at all. As discussed in the methodology section, the food items were being coded, according to the healthiest alternative based on the assumption that the food items depicted in a health disclaimer would always be the most health conscious options. Milk, for example, was always coded as skim milk; orange juice was coded as freshly squeezed and muffins were coded as whole wheat. Nevertheless, the analysis revealed that the breakfasts depicted in cereal commercials were high in energy (calories and protein) and sodium, and low in dietary fiber. Part of the problem may be explained with the fact that, when preparing the disclaimers, the advertisers followed the nutritional values defined in the Nutrition Facts Label which reports nutritional values based on a 2000 kcal diet. However, dietary guidelines suggest that younger children have lower energy needs. Moreover, the nutritional values listed in the Nutrition Facts Label represents the upper limits of the nutrient intakes. The dietary guidelines used as the base of the coding instrument in this study, on the other hand, adopts a more modest approach regarding nutrients intake by establishing a daily value between the lower and the upper limits.

Beyond this issue of nutrient intake, conceptualizing and operationalizing the concept of healthy and balanced breakfast proved challenging as none of the current dietary guidelines represents a complete picture. The only federal dietary guideline specifically for breakfast, The School Breakfast Program Guidelines does not provide reference values for many essential nutrients analyzed in this study. Likewise, the other two dietary guidelines (USDA Dietary Guidelines for Americans and IOM Dietary Reference Intakes) do not clearly define reference values for some nutrients. In the end, I was able to figure out these values, but given extra research and computation required, it is unlikely that a parent who wants to do some health conscious shopping for his/her kids or a child care professional who wants to prepare an age appropriate healthy and balanced breakfast is going to be able to access this information. Maybe this is the reason the Kellogg Company decided to use their internal nutritional guideline instead of what is currently available (or unavailable!) to the public (Kellogg strengthens marketing practices to children, announces front-of-pack nutrition labeling, 2007).

Another challenge arose when I attempted to calculate the amount of sugar contained by the breakfasts depicted in the disclaimers. I discovered that both added sugars and natural sugars, the two types of sugars found in cereals and other prepared foods, are listed together in nutrition facts labels found on cereal boxes. Unfortunately, in the current dietary guidelines, the recommended levels are established for added sugars, but not for natural sugars. Thus, it was not possible to determine whether the sugar content of the breakfasts portrayed in the disclaimers was suitable for children's dietary needs. These challenges emphasize the need for inter-disciplinary research collaboration between educators, advertising effect researchers and nutritionists.

The last two sections of the previous chapter, discuss what the implications of this research for two different groups of people: administrators of CARU (the self-regulatory control mechanism of the advertising industry) and early childhood educators. I concluded that when it comes to informing children about a healthy and balanced breakfast, a 3-second disclaimer appearing within a fast-paced commercial filled with audio-visual trickery is not likely to get the job done. I believe the healthy breakfast message should be apparent throughout the commercial. It is crucial that the characters interact with the breakfast and be depicted actually eating the food items included in the representation of the breakfast. The audio narration of the disclaimer message, should not be used by advertisers to sneak in more messages about their product but rather to further explain the importance of a healthy and balanced breakfast. Additionally, advertisers should strictly follow the established nutritional values in the dietary guidelines in selection of food items for the breakfast representations and avoid using the same food items over and over again for cosmetic reasons; they should include a wider variety of healthy food choices on the breakfast table. Finally, in preparation of the disclaimers, the advertising industry should take the age factor into account and create at least two representations of the healthy breakfast in order to meet the dietary needs of younger and older children.

Early childhood educators can use the major findings of this research to initiate a discourse with parents regarding advertisements and their effects on children's diets. This research can pave the way for classroom activities in which early childhood professionals help children to critically examine the messages they are exposed to on a daily basis. Most importantly, early childhood teachers can use the findings of this study as a

leverage point in their demands to include media literacy in early childhood education curriculum.



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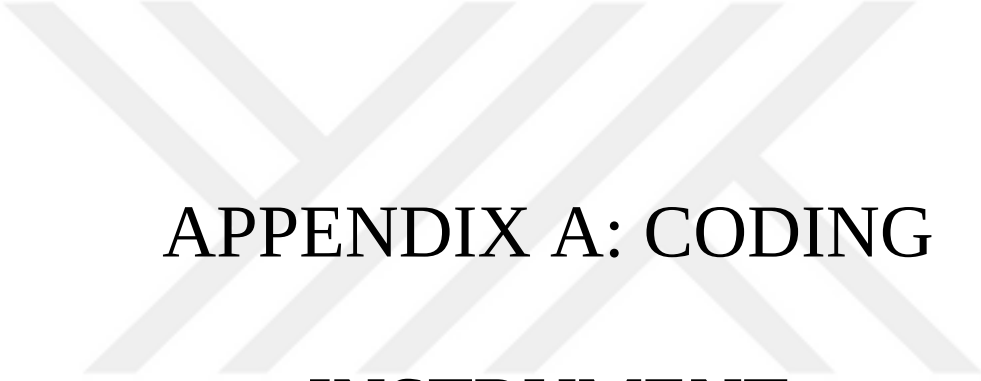
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APPENDIX A: CODING INSTRUMENT

SECTION I: COMMERCIAL INFO

Coder		
Channel		
Date		
Manufacturer		
Brand		
Cereal Name		
Ad Length		
Disclaimer Length		
Featured Food Items	Quantity/serving size	Food Group

SECTION II: NUTRITIONAL INFORMATION

Food Item Name ->							
Serving size							
Calories (kcal)							
Total Fat (g)							
Saturated Fat (g)							
Cholesterol (mg)							
Sodium (mg)							
Total Carbohydrate (g)							
Dietary Fiber (g)							
Sugars (g)							
Protein (g)							

SECTION III: STRUCTURAL FEATURES

Visual Variables	
Air Time (seconds)	
Animated vs. Live action	
Number of characters	
Rapid Character Action (quantity)	
Cuts	
Zooms	
Visual Effects	
Audio Variables	
Disclaimer Narration	
Character Dialog (present/not-present)	
Audio effects (quantity)	

Health Disclaimer:

A health disclaimer in a breakfast cereal commercial is defined as the part of the program where the image of a “healthy breakfast” (the product surrounded by a number of other food items) is shown while a voice over claims that the particular cereal “is part of ‘a healthy, balanced’, ‘this complete’ breakfast.

Section I: Commercial Info

Coder Name, Channel, Date, Manufacturer, Brand.

Cereal Name, Ad length, Disclaimer Length.

Featured Food Items: Enter all the food items featured in the disclaimer as part of a healthy/balanced/good breakfast.

Quantity/Serving Size: Quantity of each food item shown in the disclaimer. For single serving foods like apples, oranges, muffins and pancakes always code “medium” as a serving size.

Food Groups:

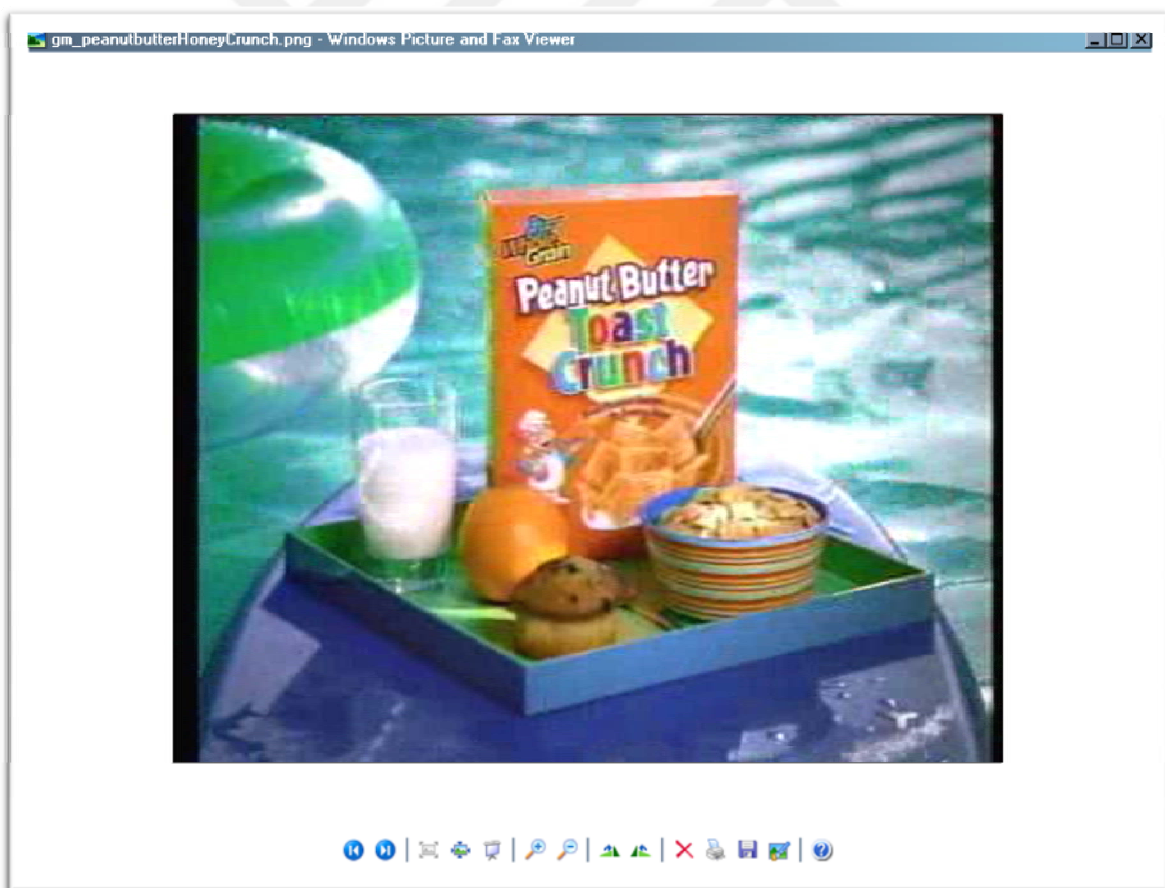
Enter the number of the food group.

1. Bread, Cereal & Potatoes (Bread, potatoes, yams, breakfast cereals, other cereals such as pasta, rice, oats, noodles, maize and millet.)
2. Fruit and Vegetables (Fresh, frozen, canned, or dried fruit, fruit juices and vegetables.)
3. Dairy (Milk, cheese, and yoghurt. This group **does not** include butter, eggs and cream.)
4. Fish, Meat & Alternatives (Fish, meat, poultry, eggs, nuts, beans and pulses. Meat includes bacon, salami, sausages, beef burgers and pâté. Fish includes frozen and canned fish, e.g. sardines, tuna, fish fingers and fish cakes. Beans such as canned baked beans and pulses.)

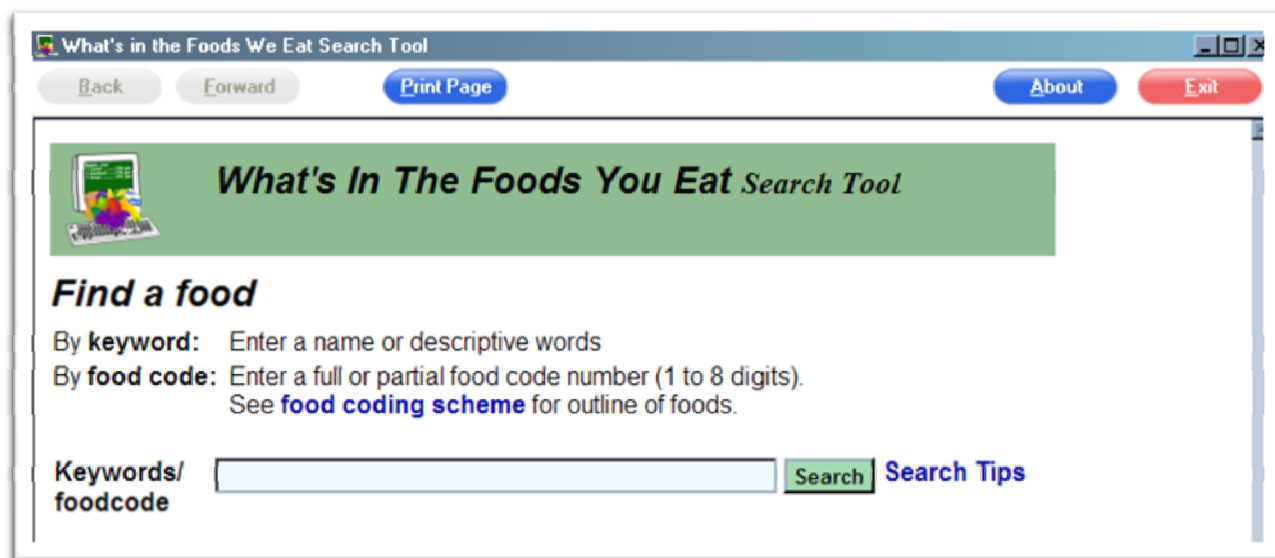
5. Fat and Sugar (Fat: margarine, butter and other spreading fats; cooking oils, oil based salad dressings, mayonnaise, cream, chocolate, crisps, biscuits, pastries, cakes, puddings, ice cream, rich sauces and gravy. Sugar: soft drinks, sweets, jam, cakes, puddings, ice cream and pastries.)

Section II: Nutritional information

- 1- Select the folder containing the breakfast cereal commercial you want to code.
- 2- Select the disclaimer snapshot you are interested in and identify the food items needs to be coded.



3- Run Food Search 2.0 tool



What's in the Foods We Eat Search Tool

Back Forward Print Page About Exit

 **What's In The Foods You Eat Search Tool**

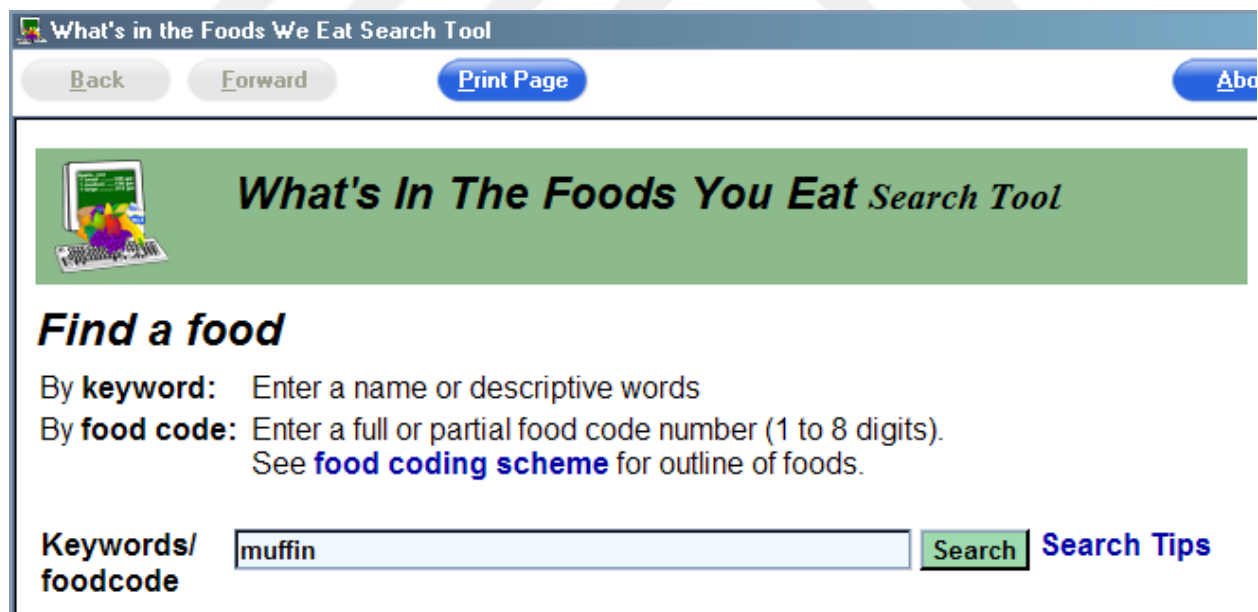
Find a food

By **keyword**: Enter a name or descriptive words

By **food code**: Enter a full or partial food code number (1 to 8 digits).
See [food coding scheme](#) for outline of foods.

Keywords/foodcode Search Search Tips

4- Enter the keyword for the food item.



What's in the Foods We Eat Search Tool

Back Forward Print Page About

 **What's In The Foods You Eat Search Tool**

Find a food

By **keyword**: Enter a name or descriptive words

By **food code**: Enter a full or partial food code number (1 to 8 digits).
See [food coding scheme](#) for outline of foods.

Keywords/foodcode Search Search Tips

Healthy Look at Junk Food
APPENDIX A: CODER'S BOOK

5-Find the closest match to the food item you are looking for.

What's in the Foods We Eat Search Tool		
Back	Forward	Print Page
		About
Food Code	Description	Includes
52303010	Muffin, whole wheat	graham
52303500	Muffin, wheat	
52303550	Muffin, buckwheat	
52304010	Muffin, wheat bran	with raisins and nuts
52304040	Muffin, bran with fruit, lowfat	Jenny's Cuisine Banana Bran muffin
52304060	Muffin, bran with fruit, no fat, no cholesterol	McDonald's Apple Bran muffin
52304100	Muffin, oatmeal	Granola
52304150	Muffin, oat bran	with nuts
52304200	Muffin, oat bran with fruit and/or nuts	Hardee's Bran muffin with Raisins
52306010	Muffin, plain	Matzo Meal, spiced, poppyseed
52306300	Muffin, cheese	
52306500	Muffin, pumpkin	with raisins, with nuts
52306550	Muffin, zucchini	squash muffin, with nuts
52306700	Muffin, carrot	with raisins, with nuts
52307020	Muffin, multigrain, with nuts	
52307120	Muffin, multigrain, with fruit	
52320100	Toaster muffin, fruit, untoasted	toaster muffin, NS as to flavor, blueberry, apple spice
52320110	Toaster muffin, fruit, toasted	toaster muffin, NS as to flavor, blueberry, apple spice, NS as to toasted or untoasted
58106230	Pizza, cheese, thick crust	English muffin, pizza, thick crust, NS as to topping, French bread pizza, hand tossed pan pizza, deep dish

6-Select the serving size.

52307120 Muffin, multigrain, with fruit

[About column headings](#)

[NFS/NS & other terms](#)

	Servings	Measure Description	Measure Weight (g)
☐		100 Grams	100
☐		1 large	154
☒	1	1 medium	113
☐		1 miniature	19
☐		1 small	66
☐		Quantity not specified	113

[View Nutrients](#)

[Search new food](#)

[Print](#)

7- Record values for the following nutrients to your coding sheet: 7- Record values for the following nutrients to your coding sheet: Serving size, energy/calories (kcal), total fat (g), saturated Fat (g), cholesterol (mg), sodium (mg), total carbohydrate (g), dietary fiber (g), sugars (g), and protein (g).

[About column headings](#)

[NFS/NS & other terms](#)

Measure Description	1 medium
Servings	1
Servings Weight	113g
Water (g)	39.2
Energy (kcal)	293
Protein (g)	10.17
Fat, total (g)	6.54
Carbohydrate (g)	53
Sugars, total (g)	13.82

Special Rules:

- 1- For 'milk' always calculate nutrients for skim milk.
- 2- For single serving foods like apples, oranges, muffins and pancakes always code medium as a serving size.

List of the Food Codes

Enter these codes for the most frequently used food items.

11113000	Skim Milk
51601010	Bread, multigrain, toasted
61210010	Orange juice, freshly squeezed
52215200	Tortilla, flour (wheat)
51300120	Toast - Bread, whole wheat, NS as to 100%
81102020	margarine, tub, salted
63101000	Apple Raw
51208010	Bagel, whole wheat, 100%, toasted
51202020	English Muffin, Whole Wheat, 100%, toasted
63223020	Strawberries Raw
61101010	Grapefruit, raw
61119010	Orange, raw
63107010	Banana, raw

31101010 Egg, raw
31103000 egg boiled

Section III

Structural Features: Program attributes associated with production techniques such as pans, zooms, and music.

Visual Variables:

Air –Time: The time disclaimer stays on screen. Code as seconds.

Animated/Live Action: Characters and environment in the health disclaimer. Code as:

Animated = 1,

Live Action =2,

If animated/live-action shown simultaneously=3.

Number of characters: Number of human/non-human characters present during the disclaimer.

Rapid Character Action: Any salient movement performed by any of the characters during the disclaimer, more than the speed of walking. For example: Jumping up and down, dancing, flying, preparing to run and then dashing off-screen, travelling in a car, plane, spaceship or and other vehicle. Code '0' if not present, '1' if present.

Cuts: a transition between shots in which there is no overlap between images; a sudden transition. Record the number of cuts utilized during disclaimer.

Zooms: Zooming in: The camera does not move; the lens is focused down from a long-shot to a close-up whilst the picture is still being shown. The subject is magnified, and attention is concentrated on details previously invisible as the shot tightens (contrast tracking). It may be used to surprise the viewer. Zooming out: Reveals more of the scene (perhaps where a character

is, or to whom he or she is speaking) as the shot widens. Record the number of zooms (in or out) utilized during disclaimer.

Visual Effects: Special visual effects are production techniques other than text that add or modify any part of the image shown during the disclaimer. For example: Characters or inanimate objects such as food items or furniture float on air, fly, suddenly get brighter, move, shake, change shape, size or color (if a character(s) fly or move more than walking speed as a part of special effect also code as “rapid movement”).

Audio Variables:

Disclaimer Narration: Exact wording of the disclaimer voice-over. I.e.: “CocoPuff is the part of this complete breakfast.” Add the prefix “1-“ if the disclaimer narration is uttered by a character present on screen. Add the prefix “2“ if the disclaimer narration is being uttered by an unknown narrator who is not on screen. Add the prefix “A-“ if the narration is being made by an adult voice. Add the prefix –“C” if the disclaimer is being narrated by child voice. Record the exact wording on the coding sheet. Rewind and listen again if necessary.

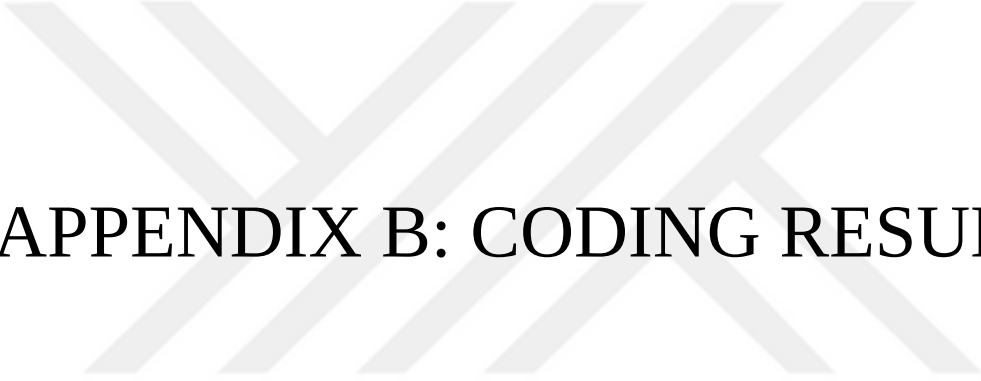
For example: **1A- “Cinnamon Toast Crunch is the part of a healthy breakfast with twelve minerals and vitamins”** indicates that the narration was done by an adult character.

2C- Honeycomb Cereal is the part of this complete breakfast” means that this disclaimer was narrated by an child narrator who was not one of the characters present on screen during the disclaimer.

Character Dialog: Any character dialog that occur during disclaimer but NOT a part of the disclaimer narration including verbal communication such as characters talking to each other as well as non-verbal vocalizations and singing. I.e. Oohs and/or ahhs and/or wow! Code “0” (Zero) for not-present, 1 for present.

Audio effects: Sounds that are used for emphasizing, marking or implying motions or emotions. For example, beeps, bell ring, swooshing sound, pops, cracks, car honking, explosion sound when a cereal box opened. Code the number of different sounds effects occur during the disclaimer. DO NOT INCLUDE character dialog.





APPENDIX B: CODING RESULTS

A Healthy Look at Junk Food
FORMAT ANALYSIS I

APPENDIX B

Manufacturer	Product Name	Ad Length (Seconds)	No. of Characters	Disclaimer Placement	Animated vs. Live Action	Disclaimer Narration
General Mills	Cinnamon Toast Crunch	30	0	14-17	live	A winning part of this complete breakfast
General Mills	Cinnamon Toast Crunch 2	30	0	22-25	live	Part of this breakfast with 12 vitamins and minerals.
General Mills	Cinnamon Toast Crunch 3	30	0	27-30	live	(from the previous scene) stick to eating your cereal....not analyzing it! (no audio disclaimer)
General Mills	Honey Nut Cheerios	30	4	23-27	ani	It's the honey sweet part of a good breakfast.
General Mills	Honey Nut Cheerios 2	19	2	13-17	ani	protecting our honey n cheerios, keeping it a tasty part of a good breakfast!
General Mills	Peanutbutter Toast Crunch	30	0	19-23	live	Peanut Butter Toast Crunch Cereal part of this good breakfast with 12 vitamins and minerals.
General Mills	Lucky Charms	30	1	21-24	ani	it's part of this good breakfast with 12 key vitamins and minerals.
General Mills	Chocolate Lucky Charms	30	4	22-25	ani	it's Cho. L. Charms meet with whole grain plus 12 vitamins and minerals part of a complete breakfast.
General Mills	Cocoa Puffs	30	1	22-25	ani	with 10 important vitamins and minerals it's part of this balanced breakfast
General Mills	Cocoa Puffs 2	30	1	22-26	ani	Chocolaty, tasty cocoa puffs part of this balanced breakfast with 10 key vitamins and minerals
General Mills	Trix	30	0	25-28	ani	Trix cereal part of this good breakfast with 12 vitamins and minerals
General Mills	Reeses's Puffs	30	0	21-24	live	part of this good breakfast with 12 key vitamins and minerals.
General Mills	Golden Grahams	30	0	26-29	live	with ridges that rock. A ramped-up part of this nutritious breakfast.
General Mills	Cookie Crisp	30	0	23-26	ani	part of this good breakfast with 12 key vitamins and minerals.
General Mills	Cookie Crisp 2	30	0	23-26	ani	the chocolaty chip cookie cereal part of this good breakfast with 12 key vitamins and minerals
Kellogg's	Kellogg's Combined Promotion 1	15	0	9-12	both	The interactive part of this complete breakfast
Kellogg's	Kellogg's Combined Promotion 2	15	0	12-15	live	the woobly good part of a complete breakfast
Kellogg's	Mini Swirls_Fudge Ripples	30	0	19-22	live	A captivating part of this complete breakfast.
Kellogg's	Mini Swirlz_Cinnamon Bun	30	0	19-22	live	A captivating part of this complete breakfast.
Kellogg's	Corn Pops	30	7	26-30	live	Part of this complete breakfast. Gotta have my pops!
Kellogg's	Corn Pops_Starwars	15	0	10-13	live	The power in your complete breakfast.
Kellogg's	Smorz	30	1	19-23	live	...in every delicious bite. It's gotta be Kellogg's Smorz cereal. As part of a complete breakfast.
Kellogg's	Apple Jacks	30	4	26-29	both	A cinnamon part of this complete breakfast.
Kellogg's	Rice Krispies	30	2	25-29	both	Rice Krispies are part of this complete breakfast.
Kellogg's	Frosted_Flakes	30	3	20-23	both	with KI frosted flakes as part of a complete breakfast
Kellogg's	Frosted Flakes 2	15	1	7-10	live	free in KI frosted flakes the delicious part of a complete breakfast
Kellogg's	Frosted Flakes (Reduced Sug)	30	1	18-21	both	with KI frosted flakes as part of a complete breakfast
Kellogg's	Froot Loops	30	0	15-18	ani	KI froot loops cereal the fragantly fruity part of this breakfast.
Kellogg's	Cocoa Krispies	30	0	22-25	live	as part of this...(after the disclaimer) completed breakfast
Kellogg's	Cocoa Krispies 2	30	0	19-22	live	a delicious part of a complete breakfast
Post	Cocoa Pebbles	15	multiple	11-14	ani	post coco pebbles cereal, part of a good breakfast.
Post	Cocoa Pebbles 2	15	2	5-8	ani	get my post cocoa pebbles cereal part of good breakfast
Post	Marshmallow Mania Pebbles	15	3	12-15	ani	that's Marshmallow Mania Pebbles part of good breakfast.
Post	Fruitty Pebbles	15	2	10-13	ani	...with new Bedrock berry pink. Part of a good breakfast.
Post	Honey Combs	15	0	10-13	live	That's part of this good breakfast
Quaker Oat	Capt'n Crunch_Original	30	4	23-26	both	cpt crunch is a part of this complete breakfast that really packs a punch!
Quaker Oat	Capt'n Crunch_Swirled Berries	30	1	18-21	both	Swirlberries are the part of this good breakfast that better than ever!
Quaker Oat	Capt'n Crunch_Peanut Butter Crunch	30	1	22-25	both	Peanutbutter crunch is the peanutbuttery part of this good breakfast.

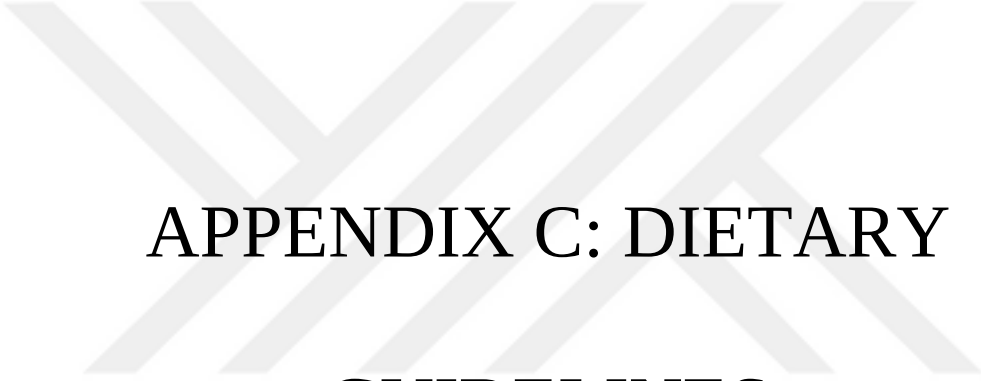
A Healthy Look at Junk Food
FORMAT ANALYSIS II

APPENDIX B

Manufacturer	Product Name	Rapid Character Action	Cuts	Zooms	Video Effects	Character dialog	Audio Effects
General Mills	Cinnamon Toast Crunch	0	0	0	0	0	0
General Mills	Cinnamon Toast Crunch 2	0	0	0	1	1	1
General Mills	Cinnamon Toast Crunch 3	0	0	1	0	1	0
General Mills	Honey Nut Cheerios	1	0	0	0	0	1
General Mills	Honey Nut Cheerios 2	1	1	1	1	1	0
General Mills	Peanutbutter Toast Crunch	0	0	0	0	0	0
General Mills	Lucky Charms	1	0	1	1	0	1
General Mills	Chocolate Lucky Charms	1	0	0	1	0	0
General Mills	Cocoa Puffs	1	0	0	0	0	1
General Mills	Cocoa Puffs 2	1	0	0	0	0	1
General Mills	Trix	0	0	1	0	0	1
General Mills	Reeses's Puffs	0	0	1	0	0	0
General Mills	Golden Grahams	0	0	1	0	0	0
General Mills	Cookie Crisp	0	0	0	1	0	0
General Mills	Cookie Crisp 2	0	0	0	0	0	0
Kellogg's	Kellogg's Combined Promotion 1	0	0	0	0	0	0
Kellogg's	Kellogg's Combined Promotion 2	0	0	0	0	0	0
Kellogg's	Mini Swirls_Fudge Ripples	0	0	0	1	0	0
Kellogg's	Mini Swirlz_Cinnamon Bun	0	0	0	1	0	0
Kellogg's	Corn Pops	0	2	0	0	1	0
Kellogg's	Corn Pops_Starwars	0	0	0	1	0	0
Kellogg's	Smorz	1	0	0	0	0	0
Kellogg's	Apple Jacks	0	0	1	0	0	1
Kellogg's	Rice Krispies	0	0	0	0	0	0
Kellogg's	Frosted_Flakes	0	0	0	0	0	0
Kellogg's	Frosted Flakes 2	0	0	0	0	0	0
Kellogg's	Frosted Flakes (Reduced Sug)	0	0	0	0	0	0
Kellogg's	Froot Loops	0	0	0	1	0	0
Kellogg's	Cocoa Krispies	0	0	0	0	0	0
Kellogg's	Cocoa Krispies 2	0	0	0	0	0	0
Post	Cocoa Pebbles	1	0	0	0	1	0
Post	Cocoa Pebbles 2	1	0	0	0	1	1
Post	Marshmallow Mania Pebbles	1	0	0	1	1	1
Post	Fruitty Pebbles	1	0	1	1	0	0
Post	Honey Combs	1	0	0	1	0	0
Quaker Oat	Capt'n Crunch_Original	1	1	0	1	1	1
Quaker Oat	Capt'n Crunch_Swirled Berries	1	0	0	1	1	1
Quaker Oat	Capt'n Crunch_Peanut Butter Crunch	1	0	0	0	1	1

NUTRITIONAL ANALYSIS

The Distribution of Major Nutrients (by manufacturer)	Calories (kcal)	Protein (g)	Total Fat (g)	Total Carbohydrate (g)	Sugars (g)	Dietary Fiber (g)	Saturated Fat (g)	Cholesterol (mg)	Sodium (mg)
01_gm_Cinnamon Toast Crunch	589.000	22.710	9.950	108.580	51.660	11.600	2.813	84.000	862.000
03_gm_Honeynut cheerios	799.000	27.710	15.660	136.160	42.200	5.400	4.537	23.000	947.000
04_gm_Peanutbutter toast crunch	589.000	23.710	10.950	106.580	54.660	11.600	3.313	84.000	777.000
21_gm_Cinn Toast Crunch (see 1)	589.000	22.710	9.950	108.580	51.660	11.600	2.813	84.000	862.000
22_gm_Cocoa Puffs	401.000	17.040	4.040	75.940	38.930	5.600	0.852	6.000	555.000
23_gm_Trix	406.000	15.660	3.140	83.160	52.740	5.600	0.634	6.000	448.000
26_gm_Reeses's Puffs	628.000	25.040	5.190	128.330	54.450	14.400	1.181	6.000	881.000
27_gm_Honey Nut Cheerios	557.000	23.220	6.220	105.520	44.670	10.500	1.333	6.000	873.000
28_gm_Golden Grahams	448.000	17.460	13.930	66.090	32.670	5.300	2.387	6.000	897.000
29_gm_Cocoa Puffs (garage sale)	401.000	17.040	4.040	75.940	38.930	5.600	0.852	6.000	555.000
32_gm_Cookie Crisp slinghot	493.000	16.930	14.960	74.170	39.920	3.800	2.690	6.000	710.000
34_gm_Cookie Crisp_Springs	569.000	21.840	8.020	109.250	54.750	11.800	2.332	84.000	793.000
35_gm_Lucky Charms_Shooting Star	670.000	26.370	3.530	140.830	56.340	15.400	0.783	6.000	892.000
37_gm_Cinnamon Toast Crunch	523.000	16.930	16.960	77.170	38.920	3.800	3.190	6.000	780.000
05_kl_combined tukansam	462.000	15.500	5.160	89.620	51.630	5.200	1.643	11.000	557.000
06_kl_Mini Swirls_fudge ripples	449.000	16.000	5.170	85.490	59.000	2.300	1.145	11.000	554.000
07_kl_pops_starwars	452.000	15.000	4.170	88.490	50.840	2.300	1.145	11.000	539.000
08_kl_smorz	499.000	15.000	17.560	71.570	40.890	2.200	3.485	11.000	555.000
09_kl_Apple Jacks	450.000	14.680	13.480	68.480	42.450	2.500	2.464	6.000	421.000
10_kl_Corn Pops	293.000	12.400	0.580	59.600	42.570	2.300	0.388	6.000	251.000
15_kl_Rice Krispies	452.000	16.000	4.170	89.490	39.840	1.300	1.145	11.000	739.000
16_kl_Mini Swirlz_Cinnamon Bun	454.000	16.000	6.170	85.490	48.840	2.300	1.145	11.000	535.000
17_kl_Frosted_Flakes	389.000	14.540	1.510	80.760	47.440	2.600	0.616	6.000	416.000
18_kl_Frosted Flakes (less sug)	476.000	17.430	2.560	97.200	47.660	6.800	0.848	6.000	593.000
19_kl_Froot Loops	393.000	14.770	2.770	78.560	46.020	5.300	1.514	6.000	415.000
24_kl_Cocoa Krispies	466.000	16.930	3.570	93.070	51.870	3.900	1.350	6.000	605.000
25_kl_Frosted Flakes (celeb)	456.000	16.930	2.570	93.070	48.870	3.900	0.850	33.000	555.000
30_kl_Cocoa Krispies_Motocross	288.000	12.280	1.530	57.210	41.730	1.900	0.885	6.000	320.000
41_kl_combined2	322.000	13.000	1.850	64.510	46.090	4.100	1.300	6.000	271.000
31_pt_Cocoa Pebbles	482.000	16.820	15.370	73.610	35.580	7.200	3.678	6.000	738.000
33_pt_Marshmallow Mania Pebbles	470.000	16.600	14.470	69.520	34.260	4.800	2.677	6.000	619.000
31_pt_Cocoa Pebbles_Hotel Cocoa	482.000	16.820	15.370	73.610	35.580	7.200	3.678	6.000	738.000
11_pt_Fruitty Pebbles	536.000	18.940	16.010	68.380	37.420	5.000	3.910	6.000	867.000
12_pt_Honey Combs	528.080	18.960	15.320	85.400	43.720	7.500	2.752	6.000	632.000
13_qo_Captain Crunch_Swirled Berries	426.000	14.540	14.400	61.680	35.490	2.500	3.456	6.000	601.000
14_qo_Captain Crunch_Peanut Butter	436.000	15.540	15.400	60.860	36.490	2.500	3.456	6.000	621.000
40_qo_Capn Crunch_Karate	436.000	14.540	14.400	62.860	39.490	2.500	3.456	6.000	621.000



APPENDIX C: DIETARY GUIDELINES



<http://www.fns.usda.gov/cnd/Breakfast/Menu/sbp-planning-approaches.doc>

MENU PLANNING IN THE SCHOOL BREAKFAST PROGRAM

School meals are intended to "safeguard the health and well-being of the Nation's children." Participating schools must serve breakfasts that are consistent with the applicable recommendations of the most recent Dietary Guidelines for Americans including: eat a variety of foods; choose a diet with plenty of grain products, vegetables and fruits; choose a diet moderate in sugars and salt; and choose a diet with 30% or less of calories from fat and less than 10% of calories from saturated fat. In addition, breakfasts must provide, on average over each school week, at least 1/4th of the daily Recommended Dietary Allowances for protein, iron, calcium, and vitamins A and C. To provide local food service professionals with flexibility, there are five menu planning approaches to plan healthful and appealing meals. Schools choose one of the approaches below. The choice of what specific foods are served and how they are prepared and presented are made by local schools.

The Traditional Food-Based Menu Planning Approach

Under the Traditional Food-Based Menu Planning Approach, schools must comply with specific component and quantity requirements by offering four food items from the following food components: vegetables and/or fruits; milk; and two servings of meat/meat alternate, two servings of grains/breads OR one serving of each of these components. Minimum portion sizes are established by ages and grade groups.

(See chart on following page)

TRADITIONAL FOOD-BASED MENU PLANNING APPROACH-MEAL PATTERN FOR BREAKFASTS			
FOOD COMPONENTS AND FOOD ITEMS	AGES 1-2	AGES 3,4 AND 5	GRADES K-12
MILK (fluid) (as a beverage, on cereal or both)	4 fluid ounces	6 fluid ounces	8 fluid ounces
JUICE/FRUIT/VEGETABLE: Fruit and/or vegetable; or full-strength fruit juice or vegetable juice	¼ cup	½ cup	½ cup
SELECT ONE SERVING FROM EACH OF THE FOLLOWING COMPONENTS, TWO FROM ONE COMPONENT, OR AN EQUIVALENT COMBINATION: GRAINS/BREADS :			
Whole-grain or enriched bread	½ slice	½ slice	1 slice
Whole-grain or enriched biscuit, roll, muffin, etc.	½ serving	½ serving	1 serving
Whole-grain, enriched or fortified cereal	¼ cup or 1/3 ounce	1/3 cup or ½ ounce	¾ cup or 1 ounce
MEAT OR MEAT ALTERNATES:			
Meat/poultry or fish	½ ounce	½ ounce	1 ounce
Alternate protein products ¹	½ ounce	½ ounce	1 ounce
Cheese	½ ounce	½ ounce	1 ounce
Large egg	½	½	½
Peanut butter or other nut or seed butters	1 tablespoon	1 tablespoon	2 tablespoons
Cooked dry beans and peas	2 tablespoons	2 tablespoons	4 tablespoons
Nuts and/or seeds (as listed in program guidance) ²	½ ounce	½ ounce	1 ounce
Yogurt, plain or flavored, unsweetened or sweetened	2 ounces or ¼ cup	2 ounces or ¼ cup	4 ounces or ½ cup

¹ Must meet the requirements in appendix A of 7 CFR 210.

² No more than 1 ounce of nuts and/or seeds may be served in any one breakfast.

The Traditional Food-Based Menu Planning Approach is designed to meet nutritional standards set forth in program regulations.

The Enhanced Food-Based Menu Planning Approach

The Enhanced Food-Based Menu Planning Approach uses the same meal pattern and age groups as the Traditional Food-Based Menu Planning Approach. The only difference is the addition of an optional age/grade group was added for grades 7-12 to better meet the needs of children in that crucial growth period by adding low fat calories from additional servings of grains/breads.

ENHANCED FOOD-BASED MENU PLANNING APPROACH-MEAL PATTERN FOR BREAKFASTS				
FOOD COMPONENTS AND FOOD ITEMS	REQUIRED FOR			OPTION FOR
	AGES 1-2	PRESCHOOL	GRADES K-12	GRADES 7-12
Milk (fluid) (as a beverage, on cereal or both)	4 fluid ounces	6 fluid ounces	8 fluid ounces	8 fluid ounces
JUICE/FRUIT/VEGETABLE: Fruit and/or vegetable; or full-strength fruit juice or vegetable juice	¼ cup	½ cup	½ cup	½ cup
SELECT ONE SERVING FROM EACH OF THE FOLLOWING COMPONENTS, TWO FROM ONE COMPONENT OR AN EQUIVALENT COMBINATION:				
GRAINS/BREADS:				
Whole-grain or enriched bread	½ slice	½ slice	1 slice	1 slice
Whole-grain or enriched biscuit, roll, muffin, etc.	½ serving	½ serving	1 serving	1 serving
Whole-grain, enriched or fortified cereal	¼ cup or 1/3 ounce	1/3 cup or ½ ounce	¾ cup or 1 ounce	¾ cup or 1 ounce plus an additional serving of one of the Grains/Breads above.
MEAT OR MEAT ALTERNATES:				
Meat/poultry or fish	½ ounce	½ ounce	1 ounce	1 ounce
Alternate protein products ¹	½ ounce	½ ounce	1 ounce	1 ounce
Cheese	½ ounce	½ ounce	1 ounce	1 ounce
Large egg	½	½	½	½
Peanut butter or other nut or seed butters	1 tablespoon	1 tablespoon	2 tablespoons	2 tablespoons
Cooked dry beans and peas	2 tablespoons	2 tablespoons	4 tablespoons	4 tablespoons
Nuts and/or seeds (as listed in program guidance) ²	½ ounce	½ ounce	1 ounce	1 ounce
Yogurt, plain or flavored, unsweetened or sweetened	2 ounces or ¼ cup	2 ounces or ¼ cup	4 ounces or ½ cup	4 ounces or ½ cup

¹ Must meet the requirements in appendix A of 7 CFR 210.

² No more than 1 ounce of nuts and/or seeds may be served in any one breakfast.

The Enhanced Food Based Menu Planning Approach is designed to meet the nutritional standards set forth in program regulations.

The Nutrient Standard Menu Planning Approach

Nutrient Standard Menu Planning (sometimes called “NuMenus”) is a computer based menu planning system that uses approved computer software to analyze the specific nutrient content of menu items automatically while menus are being planned. It is designed to assist menu planners in choosing food items that create nutritious meals and meet the nutrient standards.

The Assisted Nutrient Standard Menu Planning

Assisted Nutrient Standard Menu Planning (sometimes called “Assisted NuMenus”) is a variation of Nutrient Standard Menu Planning. It is for schools that lack the technical resources to conduct nutrient analysis themselves. Instead, schools have an outside source, such as another school district, State agency or a consultant, plan and analyze a menu based on local needs and preferences. The outside source also provides schools with recipes and product specifications to support the menus. The menus and analyses are periodically updated to reflect any changes in the menu or student selection patterns.

Here are the required minimums for nutrients and calories for these nutrient standard menu planning approaches:

MINIMUM NUTRIENT AND CALORIE LEVELS FOR SCHOOL BREAKFASTS NUTRIENT STANDARD MENU PLANNING APPROACHES (SCHOOL WEEK AVERAGES)			
	MINIMUM REQUIREMENTS		OPTIONAL
NUTRIENTS AND ENERGY ALLOWANCES	PRESCHOOL	GRADES K-12	GRADES 7-12
Energy allowances (calories)	388	554	618
Total fat (as a percentage of actual total food energy)	¹	^{1,2}	²
Saturated fat (as a percentage of actual total food energy)	¹	^{1,3}	³
RDA for protein (g)	5	10	12
RDA for calcium (mg)	200	257	300
RDA for iron (mg)	2.5	3	3.4
RDA for Vitamin A (RE)	113	197	225
RDA for Vitamin C (mg)	11	13	14

¹ The Dietary Guidelines recommend that after 2 years of age “...children should gradually adopt a diet that, by about 5 years of age, contains no more than 30 percent of calories from fat.”

² Not to exceed 30 percent over a school week

³ Less than 10 percent over a school week

Any Reasonable Menu Planning Approach

This menu planning approach allows states and school districts to develop their own innovative approaches to menu planning, subject to the guidelines established in our regulations. These guidelines protect the nutritional and fiscal integrity of the program.



APPENDIX D: CARU GUIDELINES



Self-Regulatory Program for Children's Advertising

Children's Advertising Review Unit

Administered by the Council of Better Business Bureaus, Inc.

Policies and Procedures set by the National Advertising Review Council

70 West 36th Street, New York, NY 10018

The Children's Advertising Review Unit

Self-Regulatory Program for Children's Advertising

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I. INTRODUCTION

A. Overview of the Self-Regulatory Program

In 1974, the National Advertising Review Council (NARC) established the Children's Advertising Review Unit (CARU) as a self-regulatory program to promote responsible children's advertising. CARU is administered by the Council of Better Business Bureaus (CBBB) and funded by members of the children's advertising industry.

CARU's self-regulatory program sets high standards for the industry to assure that advertising directed to children is not deceptive, unfair or inappropriate for its intended audience. The standards take into account the special vulnerabilities of children, e.g., their inexperience, immaturity, susceptibility to being misled or unduly influenced, and their lack of cognitive skills needed to evaluate the credibility of advertising.

CARU's standards are embodied in principles and guidelines that were first adopted by CARU in 1975 and have been periodically revised to address changes in the marketing and media landscapes. For example, in 1996, CARU added a new section of the guidelines to address concerns about online data collection practices.

B. CARU's Role

CARU monitors and reviews advertising directed to children, initiates and receives complaints about advertising practices, and determines whether such practices violate the program's standards. When it finds violations, it seeks changes through the voluntary cooperation of advertisers and Website operators. CARU also offers a general advisory service for advertisers and agencies, provides informational material for children, parents and educators, and encourages advertisers to develop and promote the dissemination of educational messages to children consistent with the Children's Television Act of 1990.

C. Boards and Advisory Bodies

Policy for CARU's self-regulatory program is set by the Board of Directors of NARC, a strategic alliance of the advertising industry and the CBBB. The Board is composed of key executives from the CBBB, the American Association of Advertising Agencies, the American Advertising Federation, and the Association of National Advertisers.

CARU's Academic/Expert Advisory Board includes leading experts in education, communication, child development, child mental health, marketing and nutrition. These advisors provide CARU with guidance on child psychology and behavioral issues, market trends and research, and other issues as they relate to advertising and marketing to children. Members of the Advisory Board also consult with CARU on individual cases and participate in the review and revision of the principles and guidelines of the self-regulatory program.

The CARU Supporters' Council, composed of representatives of the companies that support the children's advertising industry's self-regulatory system, provides CARU with advice on trends and developments in children's advertising and media and participates in the review and revision of the principles and guidelines of the self-regulatory program.

D. Procedures and Review Process

The procedures governing the review and resolution of cases, including the opportunity for appellate review by the National Advertising Review Board, are set forth in The Advertising Industry's Process of Voluntary Self-Regulation, which can be found at http://www.caru.org/05_Procedures.pdf. Under the procedures, at least ten times a year, the CBBB publishes Case Reports that include CARU's final case decisions, an Activity Report summarizing actions other than formal case decisions, and guidance based on prior published decisions. CARU's Case Reports can be found at <http://www.caru.org>.

II. THE SELF-REGULATORY PROGRAM FOR CHILDREN'S ADVERTISING

A. Scope

The principles and guidelines of the program apply to:

1. National advertising primarily directed to children under 12 years of age in any medium. Such advertising will be determined by an analysis of factors, no single one of which will necessarily be controlling, including: (a) whether the content of the media in which the advertisement appears is intended for children under 12, (considering the content's subject matter, format, projected audience demographics, and extent to which other advertising in that content is intended for children under 12); (b) whether the advertisement appears during, or just before or after, a television program aired during what is generally understood to be children's programming, considering the time of day during which the advertisement appears and the media outlet; (c) whether the advertisement appears during, or just before or after, a television program which is counted towards the broadcaster's or cablecaster's Children's Television Act obligations; and (d) whether, based on available information (including the subject matter and format of the advertisement), the advertiser intended to direct the advertisement primarily to children under 12.
2. Online data collection and other privacy-related practices by Website operators that target children under 13 years of age or that know or should know that a visitor is a child under 13 years of age.

B. Definitions

1. "National advertising" shall include any paid commercial message, in any medium (including labeling), if: (a) it has the purpose of inducing a sale or other commercial transaction or persuading the audience of the value or usefulness of a company, product or service; (b) it is disseminated nationally or to a substantial portion of the United States, or is test market advertising prepared for national campaigns; and (c) the content is controlled by the advertiser.

2. “Advertiser” shall mean any person or other legal entity that engages in “national advertising,” and includes, under Part II of the Guidelines, those who operate a commercial Website or an online service.

C. Core Principles

The following Core Principles apply to all practices covered by the self-regulatory program.

1. Advertisers have special responsibilities when advertising to children or collecting data from children online. They should take into account the limited knowledge, experience, sophistication and maturity of the audience to which the message is directed. They should recognize that younger children have a limited capacity to evaluate the credibility of information, may not understand the persuasive intent of advertising, and may not even understand that they are being subject to advertising.
2. Advertising should be neither deceptive nor unfair, as these terms are applied under the Federal Trade Commission Act, to the children to whom it is directed.
3. Advertisers should have adequate substantiation for objective advertising claims, as those claims are reasonably interpreted by the children to whom they are directed.
4. Advertising should not stimulate children’s unreasonable expectations about product quality or performance.
5. Products and content inappropriate for children should not be advertised directly to them.
6. Advertisers should avoid social stereotyping and appeals to prejudice, and are encouraged to incorporate minority and other groups in advertisements and to present positive role models whenever possible.
7. Advertisers are encouraged to capitalize on the potential of advertising to serve an educational role and influence positive personal qualities and behaviors in children, *e.g.*, being honest, and respectful of others, taking safety precautions, engaging in physical activity.
8. Although there are many influences that affect a child’s personal and social development, it remains the prime responsibility of the parents to provide guidance for children. Advertisers should contribute to this parent-child relationship in a constructive manner.

D. Guidelines

1. An Overview

The Core Principles are broad in scope and reflect the belief that responsible advertising comes in many forms and that diversity should be encouraged. They aim to cover the myriad

advertising practices in today's marketplace, as well as those that may emerge as technologies and advertising practices evolve. The Guidelines below are designed to provide additional guidance to assist advertisers in applying these broad principles to their child-directed advertising and to help them deal sensitively and honestly with children.

The Guidelines are not intended to be exhaustive. With respect to advertising practices that are not specifically addressed, CARU will apply the above Core Principles in evaluating the practices.

Part I of the Guidelines offers general guidance on deception and other marketing practices that are inappropriate when directed to children, and encourages certain practices. Part II addresses online data collection and other privacy-related practices that pose special concerns for children and require more specific guidance.

2. Part I: General Guidelines

(a) Deception

To assure that advertising directed to children is not deceptive:

1. The "net impression" of the entire advertisement, considering, among other things, the express and implied claims, any material omissions, and the overall format, must not be misleading to the children to whom it is directed.
2. Whether an advertisement leaves a misleading impression should be determined by assessing how reasonable children in the intended audience would interpret the message, taking into account their level of experience, sophistication, and maturity; limits on their cognitive abilities; and their ability to evaluate the advertising claims.

(b) Product Presentations and Claims

To avoid deceptive and/or inappropriate advertising to children involving product presentations and claims:

1. Copy, sound and visual presentations should not mislead children about product or performance characteristics. Such characteristics may include, but are not limited to, speed, method of operation, color, sound, durability, nutritional benefits and similar characteristics.
2. The presentation should not mislead children about benefits from use of the product. Such benefits may include, but are not limited to, the acquisition of strength, status, popularity, growth, proficiency and intelligence.
3. Claims should not unduly exploit a child's imagination. While fantasy, using techniques such as animation and computer-generated imagery, is appropriate for both younger and older children, it should not create unattainable performance

expectations nor exploit the younger child's difficulty in distinguishing between the real and the fanciful.

4. Advertisements should demonstrate the performance and use of a product in a way that can be duplicated by a child for whom the product is intended.
5. The advertisement should not mislead children about what is included in the initial purchase.
6. Advertising that compares the advertised product to another product should be based on real product attributes and be understandable to the child audience.
7. The amount of product featured should not be excessive or more than would be reasonable to acquire, use or consume by a person in the situation depicted. For example, if an advertisement depicts food being consumed by a person in the advertisement, or suggests that the food will be consumed, the quantity of food shown should not exceed the labeled serving size on the Nutrition Facts panel; where no such serving size is applicable, the quantity of food shown should not exceed a single serving size that would be appropriate for consumption by a person of the age depicted.
8. Advertising of food products should encourage responsible use of the product with a view toward healthy development of the child. For example, advertising of food products should not discourage or disparage healthy lifestyle choices or the consumption of fruits or vegetables, or other foods recommended for increased consumption by current USDA Dietary Guidelines for Americans and My Pyramid, as applicable to children under 12.
9. Advertisements for food products should clearly depict or describe the appropriate role of the product within the framework of the eating occasion depicted.
 - a. Advertisements representing a mealtime should depict the food product within the framework of a nutritionally balanced meal.
 - b. Snack foods should be clearly depicted as such, and not as substitutes for meals.

(c) Material Disclosures and Disclaimers

1. All disclosures and disclaimers material to children should be understandable to the children in the intended audience, taking into account their limited vocabularies and level of language skills. For young audiences, simple words should be chosen, *e.g.*, "You have to put it together." Since children rely more on information presented in pictures than in words, demonstrative disclosures are encouraged.
2. These disclosures should be conspicuous in the advertising format and media used, *e.g.*, online, advertisers should make disclosures clear and proximate to, and

in the same format (*i.e.*, audio or graphic) as, the claims to which they are related; in television, advertisers should use audio disclosures, unless disclosures in other formats are likely to be seen and understood by the intended audience.

3. Circumstances where material disclosures are needed include, but are not limited to, the following:
 - a. Advertising for unassembled products should clearly indicate they need to be put together to be used properly.
 - b. If any item essential to use of the product is not included, such as batteries, this fact should be disclosed clearly.
 - c. Advertisers should clearly disclose information about products purchased separately, such as accessories or individual items in a collection.
 - d. If television advertising to children involves the use of a toll-free telephone number, it must be clearly stated, in both audio and video disclosures, that the child must get an adult's permission to call. In print or online advertising, this disclosure must be clearly and prominently displayed.
4. Advertisers that create or sponsor an area in cyberspace, either through an online service or a Website, must prominently identify the name of the sponsoring company and/or brand in that area. This could be done by using wording such as "Sponsored by _____."
5. If videotapes, CD-ROMS, DVDs or software marketed to children contain advertising or promotions (e.g., trailers) this fact should be clearly disclosed on the packaging.

(d) Endorsements

1. Advertisers should recognize that the mere appearance of a celebrity or authority figure with a product can significantly alter a child's perception of the product. Advertisers may use such personalities as product endorsers, presenters, or testifiers, but they must take great care to avoid creating any false impression that the use of the product enhanced the celebrity's or authority figure's performance.
2. All personal endorsements should reflect the actual experiences and beliefs of the endorser.
3. An endorser who is represented, either directly or indirectly, as an expert must possess qualifications appropriate to the particular expertise depicted in the endorsement.

(e) Blurring of Advertising and Editorial/Program Content

1. Advertisers should recognize that children may have difficulty distinguishing between program/editorial content and advertising, *e.g.*, when program /editorial characters make advertising presentations or when an advertisement appears to be content to the intended audience.
2. Advertising should not be presented in a manner that blurs the distinction between advertising and program/editorial content in ways that would be misleading to children.¹
3. Prohibited practices in television advertising
 - a. Program personalities, live or animated, should not be used to advertise products, premiums or services in or adjacent to a television program primarily directed to children under 12 years of age in which the same personality or character appears.
 - b.. Products derived from or associated with a television program primarily directed to children under 12 years of age should not be advertised during or adjacent to that program.
4. In media other than television, a character or personality associated with the editorial/content of the media should not be used to sell products, premiums or services in close proximity to the program/editorial content, unless the advertiser makes it clear, in a manner that will be easily understood by the intended audience, that it is an advertisement.²
5. On Websites directed to children, if an advertiser integrates an advertisement into the content of a game or activity, then the advertiser should make clear, in a manner that will be easily understood by the intended audience, that it is an advertisement.
6. If videotapes, CD-ROMS, DVDs or software marketed to children contain advertising or promotions (*e.g.*, trailers), the advertising itself should be separated from the program and clearly designated as advertising.

(f) Premiums, Kids' Clubs, Sweepstakes and Contests

1. Advertisers should recognize that their use of premiums, kids' clubs, contests and sweepstakes has the potential to enhance the appeal of their products to children.
2. Advertisers should take special care in using these kinds of promotions to guard against exploiting children's immaturity.
 - i. Premiums

¹ This provision does not apply to the mere presence of a product or character in program/editorial content.

² This provision does not apply to the mere presence of a character or personality in program/editorial content.

- a. Since children have difficulty distinguishing product from premium, advertising that contains a premium message should focus the child's attention primarily on the product and make the premium message clearly secondary.
- b. Conditions of a premium offer should be stated simply and clearly.

ii. Kids' Clubs

- a. Advertising should not mislead children into thinking they are joining a club when they are merely making a purchase or receiving a premium.
- b. Before an advertiser uses the word "club," certain minimum requirements should be met. These are:
 - 1. Interactivity - The child should perform some act demonstrating an intent to join the club, and receive something in return. Merely watching a television program or eating in a particular restaurant, for example, does not constitute membership in a club.
 - 2. Continuity - There should be an ongoing relationship between the club and the child member, *e.g.*, a regular newsletter or activities scheduled over a period of time.
 - 3. Exclusivity - The activities or benefits derived from membership in the club should be exclusive to its members, and not merely the result of purchasing a particular product.
- c. Additional requirements applying to kids' clubs online are covered in Part II of the Guidelines.

iii. Sweepstakes and Contests

- a. Advertisers should recognize that children may have unrealistic expectations about the chances of winning a sweepstakes or contest or inflated expectations of the prize(s) to be won.
- b. The prize(s) should be clearly depicted.
- c. The free means of entry should be clearly disclosed.
- d. The likelihood of winning should be clearly disclosed in language readily understandable to the child audience. Disclosures such as, "Many will enter, a few will win." should be used, where appropriate.

- e. All prizes should be appropriate to the child audience.
- f. Online contests or sweepstakes should not require the child to provide more information than is reasonably necessary. Any information collection must meet the requirements of the Data Collection section of the Guidelines and the federal Children's Online Privacy Protection Act (COPPA). For examples of compliant information collection practices for this purpose, please visit www.caru.org/news/commentary.asp.

(g) Online Sales

1. Advertisers who sell products and services to children online should clearly indicate to the children when they are being targeted for a sale.
2. If an advertiser offers the opportunity to purchase any product or service, either through the use of a "click here to order" button or other on-screen means, the ordering instructions must clearly and prominently state that a child must have a parent's permission to order.
3. Online advertisers must make reasonable efforts, in light of all available technologies, to provide the person responsible for paying for such products and services the means to exercise control over the transaction.³
4. If no reasonable means is provided to avoid unauthorized purchases by children online, the advertiser should enable the person responsible for payment to cancel the order and receive full credit without incurring any charges.

(h) Sales Pressure

1. Advertising should not urge children to ask parents or others to buy products. It should not suggest that a parent or adult who purchases a product or service for a child is better, more intelligent or more generous than one who does not.
2. Advertisers should avoid using sales pressure in advertising to children, *e.g.*, creating a sense of urgency by using words such as "buy it now."
3. Advertisements should not convey to children that possession of a product will result in greater acceptance by peers or that lack of a product will result in less acceptance by peers.
4. Advertisements should not imply that purchase or use of a product will confer upon the user the prestige, skills or other special qualities of characters appearing in advertising.

³ Requiring the use of a credit card in connection with a transaction is a reasonable effort to provide the person responsible for payment with control over the transaction. This is consistent with COPPA regulations. See 16 CFR § 312.5.

5. Advertisements should not minimize the price of goods and services with words such as, “only,” “just,” or “bargain price” that children do not understand to be exaggeration or “puffing.”

(i) Unsafe and Inappropriate Advertising to Children

1. Safety
 - a. Advertisers should take into account that children are prone to exploration, imitation, and experimentation and may imitate product demonstrations or other activities depicted in advertisements without regard to risk.
 - b. Advertisers should not advertise products directly to children that pose safety risks to them, *i.e.*, drugs and dietary supplements, alcohol, products labeled, "Keep out of the reach of children;" nor should advertisers targeting children display or knowingly link to pages of Websites that advertise such products.
 - c. Advertisements for children’s products should show them being used by children in the appropriate age range. For instance, young children should not be shown playing with toys safe only for older children.
 - d. Advertisements should not portray adults or children in unsafe situations or in acts harmful to themselves or others. For example, when activities (such as bicycle riding or skateboarding) are shown, proper precautions and safety equipment should be depicted; when an activity would be unsafe without adult supervision, supervision should be depicted.
 - e. Advertisers should be aware that many childhood injuries occur from the misuse of common household products and should avoid demonstrations that may encourage inappropriate use of such products by children.
2. Inappropriate Advertising
 - a. Advertisers should take care to assure that only age appropriate videos, films and interactive software are advertised to children, and if an industry rating system applies to the product, the rating label is prominently displayed.⁴
 - b. Advertising should not portray or encourage behavior inappropriate for children (*e.g.*, violence or sexuality) or include material that could unduly frighten or provoke anxiety in children; nor should advertisers targeting children display or knowingly link to pages of a Website that portray such behaviors or materials.

3. Part II: Guidelines for Online Privacy Protection

⁴ Violations of this guideline may be brought to the attention of the relevant rating entity.

This Part addresses concerns about the collection of personal data from children and other privacy-related practices on the Internet. Its provisions are consistent with the Children's Online Privacy Protection Act of 1998 (COPPA) and the FTC's implementing Rule, which protect children under the age of 13.

Online data collection from children poses special concerns. The medium offers unique opportunities to interact with children and to gather information for marketing purposes. Young children however, may not understand the nature of the information being sought or its intended uses, and the medium makes it easy to collect such data directly from children without the supervision or permission of their parents or guardians. The solicitation of personally identifiable information from children (*e.g.*, full names, addresses, email addresses, phone numbers) therefore triggers special privacy and security concerns.

The guidelines below address those concerns by providing guidance on specific issues involving online data collection and other privacy-related practices by Website operators that target children under 13 years of age or that know or should know that a visitor is a child under 13 years of age.

(a) Data Collection

1. In collecting information from children under 13 years of age, advertisers should adhere to the following guidelines: Advertisers must clearly disclose all information collection and tracking practices, all information uses, and the means for correcting or removing the information. These disclosures should be prominent and readily accessible before any information is collected. For instance, on a Website where there is passive tracking, the notice should be on the page where the child enters the site. A heading such as "Privacy," "Our Privacy Policy," or similar designation is acceptable if it allows an adult to click on the heading to obtain additional information on the site's practices concerning information collection, tracking and uses.
2. Advertisers should disclose, in language easily understood by a child, (a) why the information is being requested (*e.g.*, "We'll use your name and email to enter you in this contest and also add it to our mailing list") and (b) whether the information is intended to be shared, sold or distributed outside of the collecting company.
3. Advertisers should disclose any passive means of collecting information from children (*e.g.*, navigational tracking tools, browser files, etc.) and what information is being collected.
4. Advertisers must obtain prior "verifiable parental consent"⁵ when they collect personal information (such as email addresses, screen names associated with other personal information, phone numbers or addresses) that will be publicly posted, thereby enabling others to communicate directly with the child online or offline, or when the child will be otherwise able to communicate directly with others.

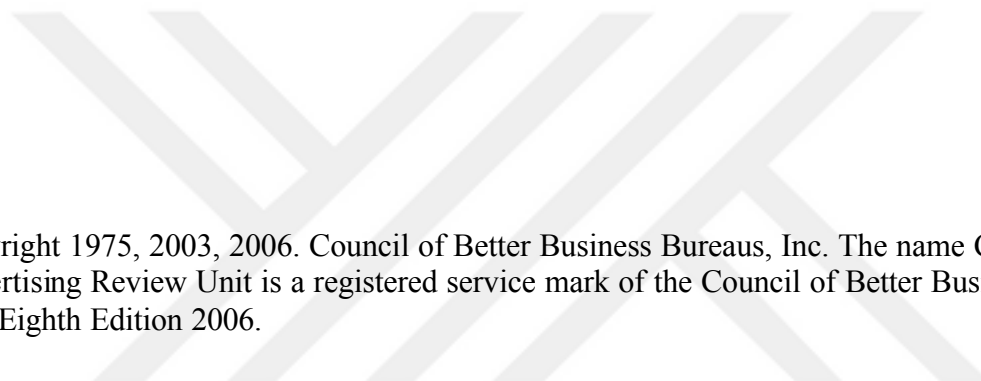
⁵ The definition of "verifiable parental consent" in the Children's Online Privacy Protection Rule applies. See 16 CFR § 312.5.

5. For activities that involve public posting, advertisers should encourage children not to use their full names or screen names that correspond with their email address, but choose an alias (*e.g.*, “Bookworm,” “Skater,” etc.) or use first name, nickname, initials, etc.
6. Advertisers should not require a child to disclose more personal information than is reasonably necessary to participate in the online activity (*e.g.*, play a game, enter a contest, etc.).
7. Advertisers must obtain prior “verifiable parental consent” when they plan to share or distribute personal information to third parties, except parties that are agents or affiliates of the advertiser or provide support for the internal operation of the Website and that have agreed not to disclose or use the information for any other purpose.
8. When an advertiser collects personal information only for its internal use and there is no disclosure of the information, the company must obtain parental consent, and may do so through the use of email, coupled with some additional steps to provide assurance that the person providing the consent is the parent.
9. When an advertiser collects and retains online contact information to be able to respond directly more than once to a child's specific request (such as an email newsletter or contest) but will not use the information for any other purpose, the advertiser must directly notify the parent of the nature and intended uses of the information collected, and permit access to the information sufficient to allow a parent to remove or correct the information.
10. To respect the privacy of parents, advertisers should not maintain in retrievable form information collected and used for the sole purpose of obtaining verifiable parental consent or providing notice to parents, if consent is not obtained after a reasonable time.
11. If an advertiser communicates with a child by email, there should be an opportunity with each mailing for the child or parent to choose by return email or hyperlink to discontinue receiving mailings.

(b) Age-Screening/Hyperlinks

1. On Websites where there is a reasonable expectation that a significant number of children will be visiting, advertisers should employ age-screening mechanisms to determine whether verifiable parental consent or notice and opt-out is necessitated under the Data Collection provisions above.
2. Advertisers should ask screening questions in a neutral manner so as to discourage inaccurate answers from children trying to avoid parental permission requirements.

3. Age-screening mechanisms should be used in conjunction with technology, *e.g.*, a session cookie, to help prevent underage children from going back and changing their age to circumvent age-screening.
4. Since hyperlinks can allow a child to move seamlessly from one site to another, operators of Websites for children or children's portions of general audience sites should not knowingly link to pages of other sites that do not comply with CARU's Guidelines.



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Children's Food and Beverage Advertising Initiative

Introduction

Companies engaged in advertising and marketing food and beverage products have developed this self regulatory initiative for advertising such products to children under 12. The goal of this initiative is to use advertising to help promote healthy dietary choices and healthy lifestyles among American children. While it remains the primary responsibility of parents to guide their children's behavior in these areas, industry members are voluntarily pursuing this initiative as a means of assisting parents in their efforts.

Core Principles

Companies participating in this initiative will publicly commit to advertising that will further the goal of promoting healthy dietary choices and healthy lifestyles to children under 12. These commitments will be set forth in an individual "Pledge" for each participant. Because companies and their product lines vary, company commitments will also vary. However, all commitments will be consistent with the following core principles:

- **Advertising Messaging.** Participants will devote at least 50%¹ of their television, radio, print and internet advertising primarily directed to children under 12² to advertising that will further the goal of promoting healthy dietary choices and healthy lifestyles. This will be achieved in one of two ways (or some combination of both):
 - (1) By advertising products that represent healthy dietary choices in accordance with company developed standards that are consistent with established scientific and/or government standards. Examples of possible standards include:
 - FDA defined "healthy" foods [21 CFR 101.65(d)(2)]
 - Products that qualify for an FDA authorized health claim [21 CFR 101.70-101.83]
 - Products meeting FDA/USDA criteria for claims of "free," "low," or "reduced" calories, total fat, saturated fat, sodium or sugar

¹ This minimum percentage may be increased over time.

² Measured in media impressions at the time the advertising is purchased, as determined by reliable third party data such as Nielsen ratings for TV, radio and Internet, and PIB (Publisher's Information Bureau) and MRI (Mediamark Research Inc.) data for print advertising. The 50% commitment will be calculated separately for each advertising medium. Measurement for advertising on company owned websites will be determined in accordance with standards established as part of the company's Pledge.

- Products that qualify for the USDA Healthier School Challenge Program criteria for Sales/Service of A La Carte and/or Vended Items
- Principles addressing recommended consumption by children under 12 under USDA Dietary Guidelines and My Pyramid
- Products representing a portion control option, such as products advertised and sold in a package size of 100 calories or less

or

(2) By advertising that prominently includes healthy lifestyle messages designed to appeal to the intended audience, such as:

- messaging that encourages physical activity
 - messaging that encourages good dietary habits, consistent with established scientific and/or government standards such as USDA Dietary Guidelines and My Pyramid
- **Use of Licensed Characters.** Participants will commit to reduce their use of third-party licensed characters³ in advertising primarily directed to children under 12, unless such advertising complies with the messaging options set out above. Each participant will state in its commitment the percentage reduction in its use of licensed characters.
 - **Product Placement.** Participants will commit to not paying for or actively seeking to place their food or beverage products in the program/editorial content of any medium primarily directed to children under 12 for the purpose of promoting the sale of those products.
 - **Use of Products in Interactive Games.** Participants will commit that, in any interactive game primarily directed to children under 12 where the company's food or beverage products are incorporated into the game, the interactive game must incorporate or be accompanied by products representing healthy dietary choices under #1 above or healthy lifestyle messaging under #2 above.
 - **Advertising in Schools.** Participants will commit to not advertising food or beverage products in elementary schools.⁴
 - **Implementation.** Participants will formalize and publish their Pledge approximately 6 to 9 months following the establishment of the

³ This commitment does not apply to the use of licensed characters on packaging, provided the packaging does not appear in advertising directed to children under 12. The limitation also does not apply to the use of company-owned characters.

⁴ This limitation will not apply to displays of food and beverage products, charitable fundraising activities, public service messaging, or items provided to school administrators.

Monitoring/Enforcement entity described below. The Pledge will include an implementation schedule for each commitment made by the participant.

Monitoring/Enforcement

Company Pledges, including the specific commitments that will identify the healthy dietary choices criteria, will be established in consultation with a new program administered by the Council of Better Business Bureaus.

The new program will be responsible for monitoring company commitments. Monitoring will include the review of advertising materials, product information, and media impression information (submitted on a confidential basis) to confirm participant compliance. The program will also respond to public inquiries relating to compliance.

The new program will develop procedures that provide for the expulsion of a company that does not comply with its Pledge after being given notice and an opportunity to bring its conduct into compliance, and notice of any expulsion to regulatory authorities such as the Federal Trade Commission under appropriate circumstances.

The new program will publicly issue reports detailing its activities, including any expulsions or notices of such to regulatory authorities.

The new program, in consultation with the participants, will periodically review its procedures and the overall impact of this initiative. The first such review shall be started after the new program has been operational for at least 3 years.

VOLKAN SAHIN

Contact Information

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Education

Indiana University – Bloomington, Indiana

Doctor of Philosophy: May 2006
Department of Curriculum and Instruction
Major: Early Childhood Education
Minor: Telecommunications

Indiana University – Bloomington, Indiana

Master of Science in Education: 2001
Department of Curriculum and Instruction
Major: Elementary Education w/ an emphasis on Early Childhood Education

Gazi University – Ankara, Turkey

Bachelors in Education: 1997
Department of Social Sciences Education
Major: History Education

Related Professional Experience

Preschool Teacher

Aug 2007 - Present – Indiana University, Campus Children's Center, Bloomington. 2613 E. Tenth Street, Bloomington, IN 47408 Phone: 812-855-0789

IU's Campus Children Center is a state licensed, NAEYC accredited facility that serves to a diverse population of IU students and faculty. My co-teacher and I share the full responsibility of a pre-school classroom of 20 children ages between three to five years old. My responsibilities include (but not limited to) creating/implementing curriculum, preparing a positive learning environment that in compliance with the NAEYC standards, and monitoring and evaluation of students' educational progress.

Contact Info: Christin Smith (Center Director). Phone (812) 855-0789, chosmith@indiana.edu.

Adjunct Instructor

March 2006 – Present – Ivy Tech Community College of Indiana
Early Childhood Education Program, 200 Daniels Way, Bloomington, IN 47404

Contact Info: Marjie Risen (Supervisor) Phone: (812) 330-6139, mrisen@ivytech.edu

Courses Taught:

Summer 2007:

ECE 100-71J – Introduction to Early Childhood Education

Spring 2007:

ECE 100-80J – Introduction to Early Childhood Education (Online)

ECE 100-81J – Introduction to Early Childhood Education (Online)

ECE 101-80J – Health Safety and Nutrition for Young Children (Online)

Fall 2006-07:

ECE 100-36J – Introduction to Early Childhood Education

ECE 100-80J – Introduction to Early Childhood Education (Online)

ECE 101-80J – Health Safety and Nutrition for Young Children (Online)

Summer 2006:

ECE 100-11J – Introduction to Early Childhood Education

ECE 100-61J – Introduction to Early Childhood Education

ECE 101-12J – Health Safety and Nutrition for Young Children

Spring 2006:

ECE 101-36J – Health Safety and Nutrition for Young Children

Courses Developed:

ECE 100 – Introduction to Early Childhood Education (Online)

ECE 101 – Health Safety and Nutrition for Young Children (Online)

EDU 201 – Computers in Education

Lab Assistant

March 2006 – Present - Institute for Communication Research

Indiana University, E. 7th St. Bloomington, IN 47405-5501

The ICR lab at the Department of Telecommunications is a research laboratory with an emphasis in psycho-physiological approach to media studies.

Responsibilities are helping experimenters to prepare their test rigs, creating and editing audio-video stimuli for these experiments, conducting media experiments by utilizing physiology equipment.

Contact Info: Dr. Robert Potter (Supervisor) Phone: (812) 856-2546, rfpotter@indiana.edu

Research Assistant

May – September 2006 - Institute for Communication Research

The ICR lab at the Department of Telecommunications

Responsibilities were conducting experiments by utilizing physiology equipment. Creating and editing audio-video stimuli for these experiments, and analyzing experiment data.

Contact Info: Dr. Robert Potter (Supervisor) Phone: (812) 856-2546, rfpotter@indiana.edu

Associate Instructor

Fall – 2003 - Indiana University, Bloomington
Department of Curriculum and Instruction

I teamed with Dr. Mary Benson McMullen for a doctoral seminar, J637: American Contexts of Care & Education—P to 16. I took an active role in planning and implementing curriculum for 11 graduate students including field experiences and debates about educational issues.

Contact Info: Dr. Mary B. McMullen Phone: (812) 856-8505, mmcmulle@indiana.edu

Teacher Aide

Oct. 2000 - May 2001 – Indiana University, Campus Children’s Center, Bloomington
2613 E. Tenth Street, Bloomington, IN 47408 Phone: 812-855-0789

IU’s Campus Children Center is a state licensed, NAEYC accredited facility that serves a diverse population of IU students and faculty. I helped the lead and assistant teachers in classroom management and preparing environment in toddler and younger preschool classes.

Contact Info: Jasmine Zachariah (Lead Teacher, Supervisor): jzachari@indiana.edu

Professional Experience

Stacks Assistant

May 2001- September 2005 - Indiana University, Herman B. Wells (A.K.A. the Main)
Library
1320 East Tenth Street, Bloomington, IN

Responsible from training new hourly employees, assist with writing and updating training and other procedural documents, management of the Shelf Reading and Shelver Accuracy Program, maintaining awareness of the condition of the library stacks and implement special projects as needed.

Contact Info: Francesca Sturgis (Stacks & Searching Unit Manager) Phone: (812)855-3706, fasturgi@indiana.edu
Kieran Blackwood (Searching, Shelf Reading, and Reserve Supervisor) Phone (812)855-8303, krblackw@indiana.edu

Assistant Manager

January 1999 - August 1999. Bulak Information Processing Corp.
Bayındır Sokağı, Aksoy Çarşısı, 27/5 Kızılay-ANKARA, TURKEY

Bulak Information Processing Corp. is a private organization which provides academic information and assistance for university faculty and students by establishing databases, supplying academic textbooks, and publishing a journal (www.bulak.com.tr)
Responsibilities were building a database, managing the website, acquiring textbooks, organizing meetings with several publishers, supervising two employees.

Contact Info: Dr. Ayhan Pala (General Manager) Phone +90 (312) 434 0455,
apala@bulak.com.tr

Publication

Fox, J., Koloen, G., Sahin, V. (2007). No joke: A comparison of substance in *the Daily Show with Jon Stewart* and broadcast network television coverage of the 2004 presidential election campaign. *Journal of Broadcast and Electronic Media* 51(2), pp.213-228.

Presentations

Fox, J., Sahin, V., Sanders-Jackson, A., Wilson, B., Koloen, G., & Gao, Y. (2007, May) *No joke: A motivated cognition study of viewing The Daily Show and network TV news*. Interactive poster session for the Information Systems Division of the International Communications Association for presentation at the 2007 annual conference in San Francisco, CA.

Sahin, V., Yilmaz, A. (2006, April). *From the other side of the bridge: Early childhood teacher education*. Interactive poster session presented at Association for Childhood Education International Annual Conference, San Antonio, TX

Sahin, V. , Yilmaz, A. (2005, December). *Communicating with men: Professional motivation of male early childhood teachers*. Presentation for the National Association for the Education of Young Children's Annual Conference, Washington D.C., Washington.

McMullen, M. B., Lee, S. M., Buldu, M., Alat, K., Sahin, V., Kuo, C. Y., Johnson-Stevens, J. (2000, November). *From Australia to Zimbabwe: Exploring our global early childhood community*. Presentation for the National Association for the Education of Young Children's Annual Conference, Atlanta, Georgia.

McMullen, M. B., Alat, K., Bilgi, S., Connally, J., Erdiller, Z., Ermogenidou, P., Korkmaz, K., Lash, M., Lee, S., Lin, C., Sahin, V., Sun, P., Tzuo, P., Tu, W., Yilmaz, A., & Zachariah, J. (2000, April). *Exploring our global early childhood community*. Interactive poster session for the Early Childhood Education State Conference, Indianapolis, Indiana.

Invited Talks

Johnson, S., Sahin, V. (2007) *Men in Education*. A workshop exploring the issue of males in education. Bloomington, IN. June

Szecs, T., Potter, G., Field, H., Sahin, V. (2007). *Voices of Educators from the Global Community*. An interactive forum for professionals from different countries to share the triumphs, challenges and changes of education in their countries. Panel presented at the Annual Conference of the Association for Childhood Education International. Tampa, FL, April.

Awards & Scholarships

2007 – Indiana University, School of Education - Beechler Pre-Proposal Dissertation Award (\$1000)

2006 – Association for Early Childhood International (ACEI) - Elizabeth Breathwaite Student Leadership Award (\$300)

2005 - Indiana University Travel Award for Research Presentation, Indiana University Foundation (\$500)

1997 - Recipient of full scholarship for master's and doctoral degree at Indiana University given by Ministry of National Education of Turkish Republic (\$146,323.24)

Certifications

2006 – Online Faculty Certification – Ivy Tech Community College

2004 – Digital Video Editing Certification – Indiana University Continuing Studies, Division of Extended programs

Professional Affiliations

ACEI – Association for Childhood Education International

AMLA – Association for Media Literate America

ICA - International Communication Association