Exploring The Relationships Between Healthy Active Living Marketing And Family Eating And Physical Activity Perceptions And Behaviours

by

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Abstract

Canada's obesogenic environment is host to the advironment, which bombards children with advertisements for soft drinks, fast foods, confectionary, cereals and savory snacks ('the Big 5'). Television is the primary media outlet used by advertisers to promote the Big 5 to the widest range of Canadian children. A recent trend in commercial marketing is to portray the Big 5 products in a physical activity, exercise or sport context, described here as Healthy Active Living Marketing. This study was designed to explore the relationships between Healthy Active Living Marketing and children and caregivers' eating and physical activity perceptions and behaviors. Four caregiver-child dyads from communities of York Region, Ontario consented to collect family food receipts, complete commercial activity worksheets, one-on-one interviews and a caregiver questionnaire. A combination of descriptive statistics, content analyses and thematic analyses revealed caregiver control plays a significant role in the appropriateness of eating perceptions and behaviours.

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CHAPTER 1: INTRODUCTION

THE PROBLEM

Obesity

In 2004, the Canadian Community Health Survey (CCHS) reported eight percent of all Canadian children between the ages of 2 and 17 as obese and an additional 26% as overweight and thereby at risk of becoming obese (Shields, 2004). Obesity has been defined as the unequal balance between energy consumption and energy expenditure resulting in excess amounts of adipose or fatty tissues (Ebbeling, Pawlak & Ludwig, 2002). Obesity can lead to chronic illnesses and disorders such as hypertension, chronic inflammation, sleep apnea, type II diabetes and asthma (Centers for Disease Control and Prevention [CDC], 2009; Ebbeling, Pawlak & Ludwig; World Health Organization [WHO], 2006). There is no single cause of obesity; instead there is a multitude of contributing factors that impact this disparity in energy budgets, including environmental influences, personal health perceptions and behaviours as well as genetics (CDC). The aim of this study was to examine the environmental factors that can influence the eating and physical activity perceptions and behaviours of caregivers and children ages 8 to 10.

The Obesogenic Environment

Western countries, such as the United States and Canada, are host to an *obesogenic environment,* which has been identified as *"a set of circumstances that encourages people to eat and drink more calories than they expend*" (Swinburn, Egger & Raza, 1999, p. 564). Physical factors such as urbanization and transportation to essential amenities, along with psychological factors such as perceived safety and stigmatization of overweight, are all part of this obesogenic environment (Procter, Clarke, Ransley &

Cade, 2008; Ruhl & Heuer, 2009). The broader obesogenic environment can be broken into macro and micro-environments, each with its own list of physical, economic, political and sociocultural influences (Lake & Townstead, 2006). The advironment is a subset of the macro-environment and can have a significant impact on the micro-environment that is the family home.

THE ADVIRONMENT

A small subset of the obesogenic environment has been coined the *advironment* and is described as the bombardment of advertising witnessed by adults and children on a daily basis (Strasburger, 2001). The majority of academic research completed on the advironment has recorded a correlation between increased time spent watching television and a decreased amount of time partaking in physical activities (Caroli, Argentieri, Cardene & Masi, 2004; Crespo, Troriano, Barlett, Macera & Andersen, 2001; Dietz & Gortmaker, 1985; Gortmaker et al., 1996; Robinson, 1999; Robinson et al., 1993). Furthermore, this research has documented a positive correlation between an increased amount of time spent watching television with an increased amount of exposure to food and beverage advertisements directed at children (Selling to and Selling out – Children, 2002; Strasburger).

In this research, the term *marketing* was defined as:

> *"An organizational function and a set of processes for creating, communicating and delivering a value to customers and for managing customer relationships in ways that benefit an organization and its stakeholders. Marketing encompasses a wide range of activities including marketing research; analyzing the competition; positioning a new product; pricing products and services; and promoting them*

> *through advertising, consumer promotion, trade, public relations and sales"* (Institute of Medicine [IOM], 2006, p. 2).

The process of marketing is then displayed to the general public through advertising, which was defined in this study as:

> *"A paid public presentation and promotion of ideas, goods or services by a sponsor that is intended to bring a product to the attention of consumers, through a variety of media channels such as broadcast and cable television, radio, print, billboards, the Internet, or personal contact"* (IOM, p. 1).

The five primary televised food and beverage advertisements directed to children include cereals, confectioneries, savoury-snacks, soft drinks and fast foods (Hastings et al., 2008). The marketing strategies used to advertise these "*Big five"* products have been reported to influence children's food preferences and selections as well as children's requests to caregivers to purchase advertised foods (Gorn & Goldberg, 1982; Lobsetin & Dibb, 2005; The media and the message, 2008; Weber, Story & Harnack, 2006). Childhood psychology research has examined the years at which children develop cognitive awareness of the true intent of marketing, which has led to critiques of the predominant marketing strategies that may exploit children's cognitive immaturity (Brucks, Armstrong & Goldberg, 1988). These strategies include tie-ins, competition, sweepstakes, in-store marketing, celebrity endorsements and the use of promotional cartoon characters (Hoek, 2005; Kelly, Hattersley, King & Flood, 2008).

In 2006, the Institute of Medicine (IOM) conducted a systematic review of the effects of food and beverage marketing on children's diets in the United States (McGinnis, Footman & Kraak, 2006). This review concluded that the marketing of food

and beverages to children has an influence on the diets and health of children and youth (McGinnis et al.). This review also concluded that food and beverage marketing does not promote a healthy diet, but rather contributes to an environment that puts the health of children and youth at risk (McGinnis et al.).

In March of 2008, the Chronic Disease Prevention Alliance of Canada (CDPAC) held an interdisciplinary conference to discuss *Obesity and the Impact of Marketing on Children* (CDPAC, 2008). An overall consensus among experts at the conference stated that Canadian regulations on advertising to children are insufficient (CDPAC). The current research study has added to the CDPAC's arguments through the examination of the effects of the advironment on the family home. Therefore, this research has taken the major findings of the CDPAC's research one step further by observing children's perceptions of marketing in comparison with the eating habits of families. This research also focused on a relatively new trend in advertising, which was termed *healthy active living marketing.*

Healthy Active Living Marketing

The term *Healthy Active Living Marketing* describes a relatively new marketing strategy used in advertisements targeted at children, which portrays food and beverage products within a physical activity, sport or exercise context. Definitions of each of these components, alongside other key terms, are available in Appendix A. Over the past few years, major food and beverage companies have created self-regulated marketing restrictions to children and have begun to reduce sugars, salts and trans-fats in foods (Holahan, 2007; Samson, 2005).

In 2007, the Canadian Children's Food and Beverage Advertising Initiative was launched in cooperation with fifteen major food and beverage companies (Nobrega & Vandepeer, 2007). This initiative is a self-regulated strategy that devotes 50% of a company's commercials to promote making healthier choices and encouraging consumers to partake in a healthy active lifestyle (Nobrega & Vandepeer). Although this is a step in the direction of promoting a healthier lifestyle, a lack of a universally accepted definition for the term *healthy active living* has provided the opportunity for companies to manipulate consumer perceptions of what constitutes healthy eating and physical activity habits. This is a relatively new trend and little research has been completed on how caregivers and children perceive this new type of media messaging. In addition, no research has documented a link between exposure to healthy active living marketing and alterations to family eating and activity habits.

Within the context of this research, any marketing tactic used to link foods and beverages with physical activity, sport or exercise will be referred to as healthy active living marketing. This research was one of the first of its kind to observe the influence of healthy active living marketing on families' abilities to implement proper eating and physical activity habits needed to maintain healthy weights.

PURPOSE OF THE RESEARCH

The first objective of this research was to explore the relationships between televised healthy active living marketing commercials targeted at children and the eating and physical activity habits of caregivers and children (ages 8 to 10). The second objective was to gain an understanding of caregivers and children's perceptions of healthy active living marketing targeted at children. These two objectives drove the following main and four subsidiary research questions.

Main Research Question:

What are the relationships between televised commercial advertisements, which link foods and beverages with physical activity, exercise and sport, and family's eating and activity perceptions and behaviours?

Subsidiary Questions:

(1) What are children's and caregiver's perceptions of healthy active living commercial advertisements targeted at children?

(2) What are the eating habits of families with children, ages 8-10?

(3) Are children's and caregiver's perceptions of healthy and unhealthy foods reflected in the types of foods and beverages caregivers purchase?

(4) Are children's perceptions of healthy and unhealthy foods reflected in the eating and physical activity habits of the child?

OVERVIEW OF RESEARCH PLAN

The above questions and purpose statements were researched using multiple methods of data collection. Caregiver and child dyads were recruited to participate in a five-week study that incorporated: the collection of family food receipts, content analysis

of children's perceptions of commercials involving foods and beverages, analysis of children's and caregivers' favourite and least favourite commercials, completion of the Family Eating and Activity Habits Questionnaire (Golan & Weizman, 1998) and follow-up one-on-one interviews with both child and caregiver.

SIGNIFICANCE OF THE STUDY

Much of the research surrounding children's marketing has been completed outside of Canada, mostly in the United States, the European Union and Australia, suggesting that there is a need to increase the knowledge of the extent to which television marketing of foods and beverages influences the eating and physical activity habits of Canadian families. Furthermore, research has yet to examine how Canadian children, at the age of cognitive maturation (ages 8 to 10), are affected by healthy active living marketing.

Significance to Health Promotion

The Jakarta Declaration (1997), a summit that discussed changes and expectations of health promotion in the 21st century, outlined five main priorities for health promoters. The areas of priority advocated for the promotion of social responsibility, an increase of community capacity and the empowerment of individuals (The Jakarta Declaration on Health Promotion in the 21st Century). It is hoped that the results of this study can add to an ongoing pursuit to change the regulations controlling advertising to children and youth. By providing insight into the relationship between advertisements and family's dietary habits, future socially responsible policies can be developed. Furthermore, the results of this study may help inform the development of family-centered community

programs, where caregivers can learn how to effectively educate their children about the effects of marketing, healthy eating and proper physical activity habits.

CHAPTER 2: LITERATURE REVIEW

The purpose of this chapter is to review evidence of the extent of childhood obesity and factors within the obesogenic environment that influence healthy eating and physical activity habits. The definition and epidemic of childhood obesity will be reviewed and the obesogenic environment will be introduced and examined through the use of the ANGELO framework (Swinburn et al., 1999). Several robust studies will introduce the advironment, a macro-environment, along with the roles and tactics of marketing, the advertised diet and healthy active living marketing. The effects of the macro-environment on the micro-environment of the family home will then be reviewed through a discussion of how television can impact the eating and physical activity perceptions and behaviours of children due to their immature concrete thinking. The review will conclude with an exploration of objective and subjective methodologies used to measure the effects of the advironment on the family home.

OBESITY AND THE HEALTH OF CANADIANS

During the early 1920s, the leading causes of death of Canadians included pneumonia, influenza, whopping cough, scarlet fever and early infant diseases (Crompton, 2000). The introduction of new vaccines, improvements in living conditions and modifications to individual lifestyle behaviours resulted in a decrease in the prevalence of these diseases (Crompton). With such improvements over the past century, it is shocking to discover that researchers have predicted children living in North America during the twenty-first century will have a shorter life expectancy than that of their parents (Fontaine, Redden, Wang, Westfall & Allison, 2003). This immense

variation is in part, due to the increase in the prevalence of childhood obesity and associated illnesses and disorders (Starky, 2005).

As noted in the Introduction, the 2004 Canadian Community Health Survey reported eight percent of Canadian children were obese and an additional 26% were reported as overweight and thereby at risk of becoming obese (Shields, 2004). Obesity has been defined as an excess amount of adipose tissue as a result of an unequal balance between energy input and energy output resulting in excess adipose tissue (Centers for Disease Control and Prevention [CDC], 2008; Ebbeling et al., 2002, Valkenburg, 2000). In addition to the risks of chronic physical and mental health conditions identified in the Introduction (e.g., diabetes, depression) overweight and obese children are likely to grow into overweight and obese adults, which places strain on both personal well-being and the costs of Canadian health care services (Public Health Agency of Canada [PHAC], 2007; Singh, Mlder, Twisk, Van Mechelen & Chinapaw, 2008).

In 2001 in Ontario, approximately $1 billion was spent on the direct costs of obesity, including hospital care, prescription drugs and physician care (Katzmaryzk & Janssen, 2004; Starky, 2005). Additionally, the indirect costs of obesity were estimated to be $1.35 billion; this included years of life lost due to premature death or days lost due to disability (Katzmarzky & Janssen; Starky). This translated into approximately 5.3% or $4.3 billion of Ontario's health care budget spent on treatments for obesity (Katzmarzyk & Janssen). Currently, there are no statistics for indirect and direct costs associated specifically with childhood obesity; however, it is estimated that the future health care expenditures by the Ontario government will continue to increase as overweight and obese children age (Colman, 2001). Due to the difficulties associated with the direct

measurement of obesity treatments, the above statistics are to be read as conservative estimates.

Health researchers have proposed there is no single direct cause of obesity. Instead there is a multitude of contributing factors, which include physical, psychological, political and socio-cultural factors supported within an obesogenic environment (Faulkner, Gorcynski & Cohn, 2009; Procter, Clarke, Ransley & Cade, 2008).

THE OBESOGENIC ENVIRONMENT

As noted in the introduction, the *obesogenic environment* refers to *"the sum of influences that surroundings, opportunities or conditions of life have on promoting obesity in individuals or populations*" (Swinburn et al., 1999, p. 564); the obesogenic environment is most prominent in the western countries such as Canada and the United States. Physical factors such as urbanization, personal psychological factors such as perceived safety, political factors such as provincially supported physical education programs and socio-cultural factors such as community views are all part of the obesogenic environment (Faulkner et al., 2009; Procter et al., 2008). For example, schools, places of work and commercial shopping malls located in high-density urban areas are often inaccessible by foot or bicycle, which ultimately guides citizens to select a less active mode of transportation (Ross, 2006). However, the obesogenic environment is broader than just the physical built environment, and includes costs, laws, policies, social and cultural perceptions and behaviours (Swinburn & Egger, 2002).

THE ANGELO FRAMEWORK

The Analysis Grid for Environments Linked to Obesity (ANGELO) framework was designed by Swinburn, Egger and Raza (1999) to identify environmental components of obesity. The primary step in the Framework is to identify the environment size as either a macro or a micro-environment (Swinburn et al.). Macro-environments have been documented to influence the quantity and quality of foods consumed as well as the intensity of physical activity performed within a micro-environment setting (Swinburn et al.). Figure 1 highlights examples of macro-environment sectors found within an obesogenic environment (Swinburn et al.).

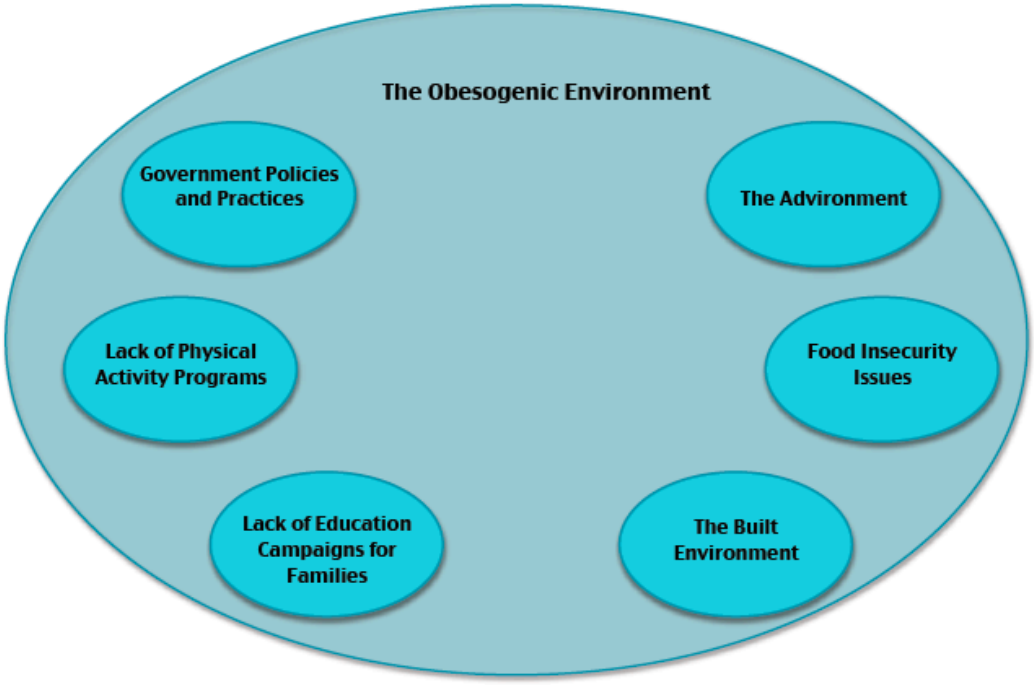

Figure 1: The Macro-Environment of the Obesogenic Environment

On the contrary, a micro-environment is an institution such as a school, workplace or family home that is influenced by a macro-environment (Lake & Townstead, 2006). A micro-environment is a location for individuals to meet with intentions of consuming

food, participating in physical activity or both (Swinburn et al., 1999). Figure 2 illustrates examples of micro-environments that are part of the obesogenic environment.

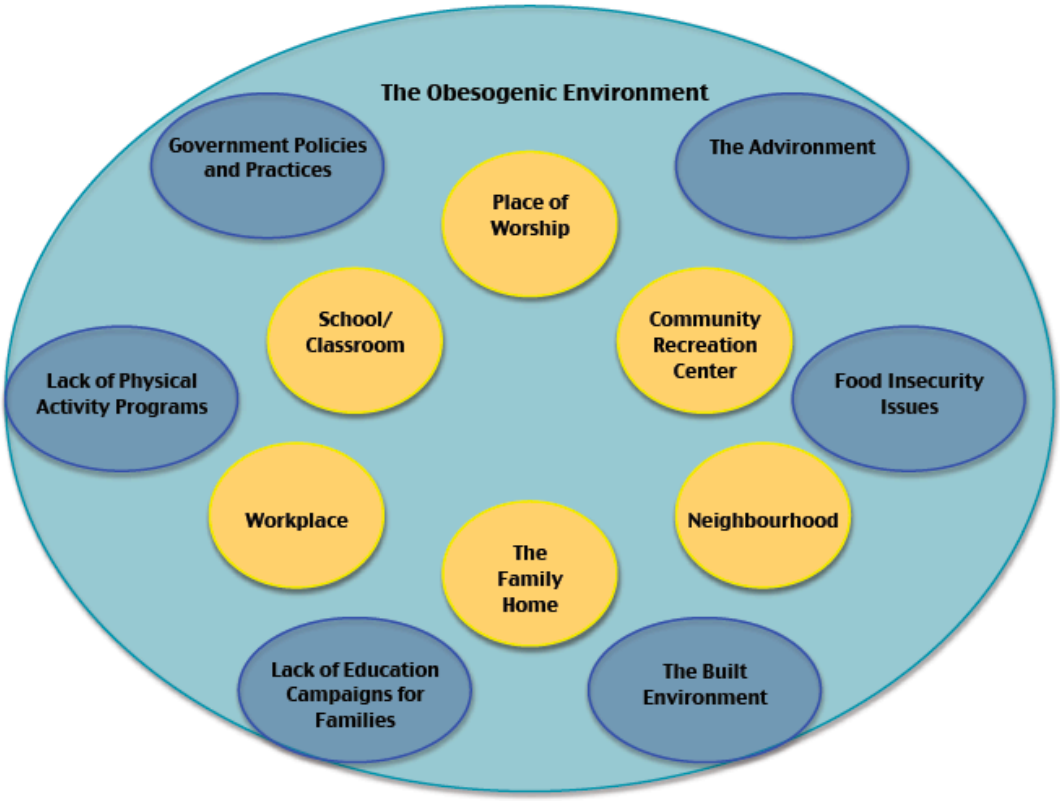

Figure 2: Micro-Environments Within the Obesogenic Environment

The proceeding step in the ANGELO Framework is to identify the environment type (physical, economic, political or sociocultural) of both the macro and micro-environments (Swinburn et al., 1999). The physical environment refers to the availability of food and food suppliers within a community as well as identifies physical characteristics of the environment that promotes or restricts physical activity (Swinburn et al.). The economic environment refers to the financial costs of food production, manufacturing, distribution and retail as well as the associated costs of organized physical activity programs (Swinburn et al.). The political environment assesses the rules

and regulations implemented to restrict or grant access to healthy living options within the consumer marketplace and the family home (Swinburn et al.). Lastly, the sociocultural environment refers to commonly shared values or cultural norms within communities (Swinburn et al.).

THE ADVIRONMENT

A subset of the obesogenic environment has been identified as the *advironment*, which is described as the bombardment of advertisements witnessed by adults and children on a daily basis (Strasburger, 2001). The advironment as a macro-environment incorporates various methods of advertisements including magazines, newspapers, televised promotional campaigns, internet or web-based adverts, sponsorships and radio announcements (National Institute of Media and the Family, 2002). Television is the primary media outlet used by food and beverage industries; however, there are multiple strategies used by marketers to catch the attention of child consumers (Brown et al., 2005).

Roles and Tactics of Marketing

The first purpose of marketing is to shape the behaviours of consumers so it betters aligns with the objectives of marketers (Hoek, 2005). The second purpose is to reinforce consumer behaviour patterns in order to enforce brand loyalty (Hoek). Authors Acuff and Reiher (2005) explain marketers are able to fulfill these purposes through a dynamic process of communication, outlined in Figure 3.

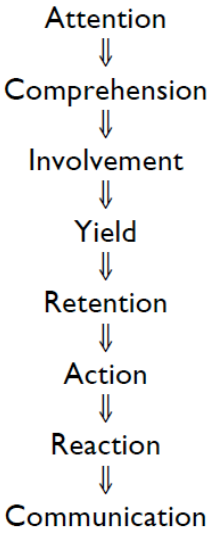

Figure 3: Adapted model portraying the dynamics of communication presented by Acuff and Reiher (2005).

Marketers initial goal is to attract the attention of children, which will lead to their awareness or comprehension of the advertised product and the creation of a positive emotional response to the advertised message (Acuff & Reiher, 2005). Once children develop an emotional involvement with the advertisement, children will begin to yield to the message and form a positive attitude toward it (Acuff & Reiher). As commercials are repeated and the advertised message is regularly portrayed, children develop a retention of brand awareness (Acuff & Reiher). The process then leads to action, where children purchase a product for themselves or request the product be purchased for them (Acuff & Reiher). However, marketer's design for successful communication does not stop with purchase, but continues with the hope that once consumed, children will buy, use or view the product again and more importantly, relay the product information to friends and family members so the cycle is repeated (Acuff & Reiher).

Historically, marketers began advertising to children in the early 1960s as a means of developing the next generation of food and beverage consumers (Brownell & Horgen, 2004). In 2001, food and beverage industries spent approximately $10 billion on televised advertisements, internet promotions and in-store marketing campaigns directed at children (Strasburger, 2001).

There are several strategies used to manipulate the tactics of advertising for the purposes of generating brand loyalty among children. The following are three documented examples of strategies used by food and beverage marketers to promote brand loyalty. Firstly, tie-ins involve being rewarded with a token for purchasing a product, such as finding a prize at the bottom of a cereal box (Hoek, 2005). Secondly, sweepstakes are used to attract children to a product through competition, which requires children to collect products or *try their luck again* (Hoek). These types of competitions are frequently defined by strict time periods thereby placing elevated pressure for increased purchase and consumption within a short timeframe in order to better the chances of winning (Hoek). Lastly, in-store advertising, such as promotional characters on ready-to-eat breakfast cereal boxes create a visual appeal and magnetize the attention of child shoppers (Page, Montgomery, Ponder & Richard, 2008).

The Advertised Diet

The *advertised diet* refers to the main food and beverage products advertised to children on television and include cereals, confectioneries, savoury snacks and soft drinks (Hastings et al., 2008). Additional research has transformed these *big four* industries into the *Big five* by incorporating advertisements for fast food outlets in the list (Thoughts for Food, 2003). The food products associated with the Big five are often nutrient dense

foods with high fat levels with the majority of calories derived from refined carbohydrates (Hastings et al.). In 2008, a comprehensive study led by Hastings and colleagues and used by the United Kingdom's Food Standards Agency concluded that the advertised diet does not meet government guidelines set to ensure optimal pediatric nutrition (Hastings et al.). A study conducted at the University of Texas, School of Public Health confirmed the findings of the Hastings report by comparing dietary recommendations made by the United States Department of Agriculture in 2005 to the percentage of food and beverage advertisements on children's Saturday morning programming in 2007 (Nelson, 2008). The study found 72% of food advertisements were for products high in fats, oils and sugars and 17.3% were for breads, cereals, rice and pastas (Nelson). Story and colleagues (Story, Neumark-Sztainer & French, 2002) reported that if children were to consume the advertised diet, they would be faced with adverse health consequences including risk factors for cardiovascular diseases, diabetes and obesity.

Healthy Active Living Marketing

Healthy active living marketing is the result of global and national initiatives developed to reduce the quantity and adverse effects of the advertised diet. In 2004, the World Health Organization (WHO) proposed a Global Strategy on Diet, Physical Activity and Health, which appealed to governments, consumer groups and private sectors to come together and advocate for a change in marketing strategies used by food and beverage industries (Hawkes, 2007). In response, the marketing of unhealthy products declined by 26% in North American (Chung, 2008).

In Canada, the Advertising Standards of Canada, Concerned Children's Advertisers and the Food and Consumer Products of Canada issued three initiatives to regulate food and beverage marketing targeted at children (Nobrega & Vanderpeer, 2007). The first initiative, launched by the Concerned Children's Advertisers was the installment of a *Long Live Kids* public service announcement informing children about the benefits of healthy eating, daily physical activity and necessity of media literacy (Concerned Children's Advertisers, 2010; Nobrega & Vanderpeer). *Long Live Kids* is also an educational program delivered at home, in the classroom and within communities with the purpose of corroborating with caregivers, schools and communities to provide tools that will *"help children eat smart, move more and be media wise"* (Concerned Children's Advertisers, 2010, ¶ 2).

The second initiative was the launch of new guidelines for the Broadcasting Code for Advertising to Children in partnership with the Canadian Code of Advertising Standards and acquired by the Canadian Radio-television and Telecommunications Commission (CRTC) (The Canadian Association of Broadcasters [CAB] & Advertising Standards Canada [ASC], 2007; Nobrega & Vanderpeer, 2007). The purpose of this code is to respect and protect the credibility of Canadian children when developing advertisements targeted to consumers below the age of 12 (The CAB & ASC, 2007). In regards to healthy active living, the Code outlines in Clause 11 that advertisers should refrain from discouraging children from making healthy lifestyle choices or discouraging fruit and vegetable consumption (The CAB & ASC). Further, the Code states advertisements for food and beverages should promote the consumption of foods

recommended by Canada's Food Guide to Health Eating (Media Awareness Network, 2010).

Lastly, the Canadian Children's Food and Beverage Advertising Initiative, similar to that of the American Children's Food and Beverage Advertising Initiative (2009) was launched as a self-regulated strategy that promised devote 50% of advertisements to children below the age of 12 to the promotion of healthy dietary choices and healthy active living messages (Better Business Bureau [BBB], 2009; Nobrega & Vanderpeer, 2007). Currently, fifteen major food and beverage companies such as McDonald's USA and Canada™, General Mills Inc™, Cadbury Adams USA and Canada™, Kellogg Company™ and Kraft Foods Inc™ are participating in the self-regulated guidelines (BBB; Nobrega & Vanderpeer). To participate in the Initiative, companies are required to undergo and be successful in an annual audit conducted by the ASC to ensure the content of messages are reflective of proper nutrition and physical activity habits (Nobrega & Vanderpeer). Furthermore, advertised products must be low in calories, fats, salts and added sugars, which has led to some food and beverage manufacturers to improve the nutritional content of their foods by reducing sugars, salts and trans fats (Samson, 2005). The fast food companies that elected to participate in the Initiative developed healthier choices on their *"kid"* friendly menus to include milk, fruit juices and fresh fruit options (Samson).

Although the discussed initiatives are a step in the right direction towards promoting a healthier lifestyle among Canadian children, a lack of a universally accepted definition of *healthy active living* provides marketers the opportunity to manipulate consumers' perceptions of what constitutes healthy eating and physical activity habits.

Thereby marketers are able to incorporate their potentially unhealthy products into a scenario that incorporates physical activity, sport or exercise.

This is accomplished through the incorporation of an intent to persuade and promotional intent complexes (Moses & Baldwin, 2005). *Persuasion intention* is a term used to describe the strategy of influencing changes in an individual's mental state, behaviour or both (Moses & Baldwin). In healthy active living marketing, the persuasive intent is nested within a commercial message, which attempts to, indirectly, generate beliefs and attitudes that the advertised product is part of a healthy active lifestyle (Moses & Baldwin). *Promotional intention* is a situation in which the advertiser over-exaggerates the positive attributes of the product and downplays the negative features (Moses & Baldwin). Healthy active living marketing is criticized for over-exaggerating a balanced lifestyle by failing to mention the poor nutritional content of food and beverages that make up the advertised diet. Further, although healthy choices and prompts for physical activity are presented, changes to personal physical activity routines after exposure has yet to be examined. The concerns regarding the influences of healthy active living marketing on the healthy active lifestyle behaviours of children and caregivers have also yet to be examined.

MACRO-INFLUENCE ON MICRO-ENVIRONMENT

In overview, this literature review has discussed the mechanism of the advironment as a macro-environment within the broader obesogenic environment. The remainder of this chapter is dedicated to providing insight into how the advironment influences the micro-environment of the family home and its adverse effects on children's eating and physical activity perceptions and behaviours.

Television and Children's Eating and Physical Activity Perceptions and Behaviors

The advironment filtrates into the family home through several mediums including television, internet and newspapers. Television is the primary media outlet used by food and beverage industries in order to reach the widest audience of child consumers (Brown et al., 2005). In 2006, the Federal Trade Commission of America (FTC), reported that children (ages 8 to 18) watched an average of three hours of television a day (Larson & Story, 2008). In Canada, children between the ages of 2 and 17 spend more time watching television compared to any other activity with the exception of sleep (Liang, Kuhle & Veugelers, 2009). Children are increasingly engaged in sedentary lifestyle behaviours, with 66% of children surveyed by the FTC reporting having access to three or more televisions in their homes and 14% reportedly engaged in eating behaviours while watching television (Larson & Story).

Having a television regularly accessible to children, such as in their bedrooms, has been documented as a significant predictor of child overweight (Adachi-Mejia et al., 2007). Further, eating meals in front of the television may diminish the nutritional and psychosocial benefits of eating while seated at the kitchen table with family members (Gable, Chang & Krull, 2007; Veugelers & Fitzgerald, 2005). In a study performed by Francis and Birch (2006), children who reported high frequencies of eating meals and snacks while watching television demonstrated an increase in caloric intake during these meals.

Over the past four decades, a significant number of researchers have examined a positive correlation between an increased time spent watching television versus time spent engaged in physical activities (Caroli et al., 2004; Crespo et al., 2001; Dietz &

Gortmaker, 1985; Gortmaker, Must, Sobol, Peterson, Colditz & Dietz, 1996; Robinson, 1999, Robinson et al., 1993). A study by Gortmaker and colleagues (1996) documented that children who watched five hours of television or more were 4.6 times more likely to be overweight or obese compared to children who watched up to one hour per day. Similarly, a prospective study found children between the ages of 6 to 11, who watched five hours or more of television per day, were more likely to be obese six years later, compared to children of the same cohort who only watched one hour of television per day (Caroli et al.). These findings are in line with the conclusions from the Third National Health and Nutrition Examination Survey (from 1988 to 1994), a project that interviewed and examined American children (both boys and girls) between the ages of 8 and 16 (Crespo et al.). The findings demonstrated that children who watched more than four hours of television a day were more likely to be obese compared to children who watched only one hour per day (Crespo et al.). A similar study conducted with a sample of Canadian children ages 7 to 11 demonstrated that sedentary activities such as watching television increases the risk of being overweight by 17-44% and obesity by 10-61% (Tremblay & Williams, 2003). In summary, these studies indicate that an hour or more of television per day can contribute to an increased risk of developing obesity.

This prediction is understandable, as watching television does not increase metabolic rates above resting levels and actually deters from time spent engaging in physical activities (Dietz & Gortmaker, 1985). Therefore, in 2003, the Canadian Pediatrics Society released guidelines promoting a maximum of two hours of television screen time per day for children (Mark, Boyce & Janssen, 2006). Regardless of the

maximum amount of television viewing restrictions, if children are watching television they are still exposed to the advironment and its advertised diet.

The Effects of the Advertised Diet on Children

Children in North America are pressured by up to 40,000 commercial advertisements each year with the majority for food and beverages (Selling to and Selling out – Children, 2002; Strasburger, 2001). As noted in the Introduction, the Chronic Disease Prevention Alliance of Canada [CDPAC] (2008) prepared a position statement entitled *"Obesity and the Impact of Marketing on Children"* to present findings from a policy consensus conference held in March of 2008. The international and national experts in attendance concluded that the marketing of food and beverages to children certainly impacts personal food and beverage perceptions and behaviours (CDPAC, 2008). The conference proceedings highlight the three key findings: (1) "*that the marketing of food and beverages to children impacts on their food and beverage choices* (2) *the majority of foods and beverages marketed to children are unhealthy* and (3) *Unhealthy food and beverage choices contribute to childhood obesity"* (CDPAC, 2008, p. 1). Previous research has evidently agreed with these three findings.

Forty years of research has documented a correlation between exposure to televised food and beverage advertisements and children's personal preferences and food selections (Adams et al., 2009; Gorn & Goldberg, 1982; Kotz & Story, 1994; Page & Brewster, 2007; Utter, Scragg & Schaaf, 2005). In 1982, Gorn and Goldberg reported that after two weeks of exposure to either candy commercials, no commercials, fruit commercials or public service announcements (PSAs), children in the candy commercials group were more likely to select candies and juices rather than fruit for consumption.

Other conditions saw no significant variations in snack and beverage preferences pre to post measurements, and concluded that advertisements of unhealthy foods have a significant impact on children's personal preference (Gorn & Goldberg, 1982). Later in 2007, Dixon and colleagues reported that increased television exposure was correlated with positive attitudes towards advertised junk food products (Dixon, Scully, Wakefield, White & Crawford, 2007).

Previous research has also documented influences of food and beverage advertising on children's preferences and food selections from the perspective of caregivers. A survey guided by *Today's Parent Magazine* measured parents' beliefs and perceptions of marketing aimed at children and found the majority of parents surveyed (93%) concluded that advertisements directed at children encourage an increase in requests for purchase of advertised items (The Media and the Message, 2008). A study by Hitchings and Monynihan (1998) documented that 96% of parents interviewed reported that they would fulfill the request for advertised products when children asked. This research, therefore, argues that the advertisement of unhealthy food products has an influence on children's preference and food selection.

Dixon and colleagues (2007) reported that an increased exposure to food and beverage advertisements led to a greater influence and therefore alterations to personal beliefs and perceptions of advertised products. Therefore, it would be suggested to limit the amount of unhealthy foods advertised to children on television, however, as the CDPAC reported, the majority of food advertisements to children are for unhealthy products.

Similarly to the research concerning influences on personal choice, a substantial amount of research has provided evidence to suggest children are exposed to more unhealthy than healthy food advertisements on television (Gamble & Contunga, 1999; Kotz & Story, 1994; Page & Brewster, 2007). Research from 1994 concluded that during children's Saturday morning programming, the predominant food advertisements were for products high in fats and sugars while low in nutrient values (Kotz & Story, 1994). Corresponding results were documented by Gamble and Contunga (1999) who found 56.3% of children's Saturday morning adverts were for breads, cereals and other grain products, 27.4% for fast foods and 15.3% for fats, oils and sugars. More recently, Page and Brewster (2007) documented 25.2% of children's Saturday morning advertisements were for sugary cereals, 16.3% for fast foods, 6.8% for fruit-like snacks (e.g. fruit snacks) and 6.1% for confectioneries. In Canada, research has documented that 51% of all advertisements targeted at children ages 2 to 11 were less healthy and 78% of advertisements targeted at a broad 2 to 17 age range were for less healthy options (Adams et al., 2009). This provides support for the CDPAC's position that children are exposed to more unhealthy products than healthy products on television.

As mentioned previously, obesity is in part the result of an energy imbalance between energy in versus energy out (Valkenburg, 2000). Previous research has documented that the advertisements of food and beverage to children persuades this disparity in energy budgets (Valkenburg). For example, Halford and colleagues (2006) studied the effects of food adverts on children, ages 5 to 7 years, and the quantity of foods they consumed. After exposure to food adverts, regular dietary intake was exaggerated as each child, regardless of weight status (lean, overweight or obese)

consumed more food than they would have normally eaten (Halford et al.). Additionally, Utter, Scragg and Schaaf's (2005) research on the dietary habits of New Zealand children, ages 5 to 14 years, concluded that a longer duration of watching television coincided with the frequency of consumption of soft drinks, confectioneries, savoury snacks and fast foods. This is supported by previous research that has concluded watching television affects in-between meal snacking and that food adverts stimulate an internal instinct for the consumption of foods (Deitz & Gortmaker, 1982).

In summary, the marketing of food and beverage products targeted at children influences personal preference and food selection and reinforces the values of an obesogenic environment by frequenting unhealthy advertisements, which leads to the promotion of over-eating or eating less healthy options, which contributes to childhood obesity.

COGNITIVE ABILITIES OF CHILDREN

Many researchers have argued that advertisements intended for children are persuasive because they deceive children who are cognitively defenseless and do not possess the capabilities to decipher between advertisements and reality (Alder et al., 1980; Dawson, Jeffrey & Walsh, 1988; Rossieter & Robertson, 1974).

In the cognitive development literature, a consensus exists that children become cognitively mature around the age of 8 years, but prior to this milestone, remain cognitive defenseless (Brucks, Armstrong & Goldberg, 1988; Rossieter & Robertson, 1974; Valkenburg, 2000). This is to say that prior to the age of 8 years, children lack the cognitive skills required to properly interpret and evaluate advertisements (Blosser & Roberts, 1985).

Brucks and colleagues (1988) believed that in order for children to be cognitively mature they must be able to extract reality from the fun, fantasy word of marketing. Cognitive maturation is accomplished through the acceptance of four concepts of advertising (Brucks et al.). Firstly, the child must understand that advertisers have various perspectives than that of the child (Brucks et al.). Secondly, it must be understood that advertisers are intending to persuade the choices of the child (Brucks et al.). Thirdly, all advertised messages have necessary bias attached to them and lastly, these biased messages require different interpretation strategies compared to information, education or entertainment-orientated messages, which rarely attempt to manipulate personal beliefs (Brucks et al.). This process relates to Piaget's (1974) theory of cognitive development, in which it is proposed that children begin at an early age to move toward cognitive mastery and the ability to make sense of their environments (Robertson & Rossiter, 1974).

Piaget's Theory of Cognitive Development

Paiget's (1974) theory of cognitive development is a construct that utilizes a sequence of age-related strategies that are assumed to reflect maturational changes in children and adolescents. The cognitive development stages reflect the progression of thinking and gradual understanding of concepts that are often influenced by physical and social surroundings (Modgil, Modgil & Ihelder, 1976). Between the ages of 7 to 11 years, children's thinking becomes more systematic in the ability to mentally represent the world and make sense of things (Moses & Baldwin, 2005). Children in this age category are still cognitively limited but are able to think in concrete contexts (Moses & Baldwin). Once children develop into the pre-operational stage, they are no longer subject to

marketers' biases and are able to understand and even think negatively of commercials (Soldow, 1983). Furthermore, in the pre-operational stage, children are capable of using different evaluation strategies to understand both the differences between commercials and programming as well as understanding the intent of persuasion (Moses & Baldwin).

MEASURING A HEALTHY ACTIVE LIFESTYLE

The above literature has used an array of methodological procedures to measure the effects of the advironment on the behaviours and perceptions of children and families. The current research study examined the influences of marketing on families' eating and physical activity perceptions and behaviours. In order to successfully measure the levels of influence within a micro-environment, Lake and Townstead (2006) recommended that researchers use a combination of objective and subjective data collection tools. This next section will describe techniques used in previous research that have been either adopted or adapted for the purposes of collecting data on eating and physical activity perceptions and behaviours in the current study

In this study, the definition of eating behaviours has been designed to incorporate the process of family meal planning, the grocery shopping process, meal preparation and the logistics of meal/snack settings: location, alone versus with peers, time and rate and quantity of consumption. Further, eating behaviours in the current study have been discussed within the context of the micro-environment of the family home and therefore the family food environment.

There is a significant consensus throughout the nutritional literature that argues grocery shopping habits are reflective of eating behaviours, because food available in the home is primarily the result of food shopping beahviours (Campbell & Desjardin, 1989;

Levin-Martin, Howeel, Duan & Walters, 2006). Levin-Martin and colleagues collected a total of 48 grocery receipts from 48 shoppers at a local grocery store in Kentucky. Participating shoppers were asked to complete a questionnaire regarding personal eating habits, perceived body size of themselves and family members within their household and their current health status (Levin-Martin et al.). Researchers found respondents who perceived themselves as overweight or had at least one overweight family member purchased a greater amount of processed foods that were high in fats, oils and sugars (Levin-Martin et al.). Similarly, Ransley and colleagues (2003) collected grocery receipts from shoppers for the purposes of determining if the fat and energy content of purchased foods were related to household weight status. The researchers found that for every one mega joule of energy and fat purchased, participants were 15% more likely to come from a household where the majority of individuals were overweight (Ransley et al.). Therefore, receipt collection and analysis had the potential to act as a predictor of household member overweight status. In the relation to the current study, however, grocery receipts were collected as a predictor to the types of foods present within the family home. Canadians throw away up to 210 million kilograms of food each year and in Toronto, Ontario, specifically, families discard up to 275 kilograms of food per year (Chung, 2008). Food purchases may influence eating behaviours, however, presence of food does not necessarily translate into food actually consumed. For this reason, an additional subjective measurement of family eating habits was used in this study.

The Family Eating and Activity Habits Questionnaire was designed to incorporate five key factors that affect obesity rates and restrict weight loss in children (Golan & Weizman, 1998). This Questionnaire was selected because it is one of the only self-

reporting measurement tools that analyze the eating behaviours of both child and adult within the obesogenic environment of the family home. Content validity of the Questionnaire was attained through an interdisciplinary expert review, in which experts from epidemiology, pediatrics, nutrition and other health professions inspected the questionnaire for completeness of criteria, clarity and suitability of scoring (Golan & Weizman). The Questionnaire underwent two studies involving caregiver and child participants to acquire clarity, reliability and validity (Golan & Weizman). Researchers documented that the Family Eating and Activity Habits Questionnaire is a useful tool for examining the environmental factors and family behaviours associated with weight gain and weight loss in children (Golan & Weizamn). An additional question was added to the Family Eating and Activity Habits Questionnaire in this research to address the frequency of fast food consumption. In 2001, Goran estimated a sustained 2% increase in energy consumption can lead to the development of obesity in children over time. This 2% in energy imbalance is equivalent to the consumption of approximately 30 extra kilocalories per day, which is exemplified by a quarter of a can of soda or fewer than two French fries (Grier, Mensinger, Huang, Kumanyika & Stettler, 2007). On a daily basis, 30-50% of American children consume fast food products, which exaggerates their recommended daily caloric intake by 100-125 kilocalories (Bownman, Gortmaker, Ebbeling, Pereire & Ludwig, 2004; Paeratakul, Ferdinand, Champagne, Ryan & Bray, 2003). Furthermore, children who reported eating fast food on a regular basis are more likely to consume higher levels of fats, saturated fats, sodium, soft drinks and consume lower more beneficial vitamins A and C, milk, fruits and vegetables (Paeratakul, Ferdinand, Champagne, Ryan & Bray, 2003).

CHAPTER 2 SUMMARY

Over the past four decades Canadians have seen a significant increase in the prevalence of childhood obesity (Shields, 2004). The obesogenic environment has become host to numerous prompts for citizens of western societies to eat and drink more calories than they expend (Swinburn et al., 1999). This obesogenic environment is host to many macro-level influential factors, one of which is the bombardment of food and beverage advertising coined the advironment (Strasburger, 2001). The influential messages of marketing have found their way into the family home via commercial advertisements on television, especially during children's daytime programming. Children are exposed to up to 40,000 commercials a year, which are mostly for the *Big five* products: cereals, confectionery, savoury-snacks, soft drinks and fast foods (Hastings et al., 2008; Selling to and Selling out- Children, 2002; Strasburger). Most recently, the food and beverage companies have been advertising their inherently unhealthy products in a physical activity, sport or exercise context, which is referred to as healthy active living marketing.

Up to this point, researchers have examined the influences of marketing on children's cognitive inability to decipher between reality and marketing, therefore increasing their vulnerability to the advironment (Modgil, Modgil & Ihelder, 1976; Moses & Baldwin, 2005). This has resulted in an alteration to children's food preference and selection as well as increased requests to caregivers for advertised products (CDPAC, 2008; Hastings et al., 2008).

Research has yet to examine the influences of healthy active living marketing on the eating habits of children and families with children. Furthermore, previous literature

has examined that repeated exposure to commercial advertising promotes an alignment between children's beliefs and the broadcasted message of the advertisement (Dixon et al., 2007). However, research has yet to examine if the healthy active living messages translate into children's selection of healthy options and daily physical activity behaviours. Lastly, due to the relatively new trend of healthy active living marketing, no research has explored the caregivers and children's perceptions of its influential messages. Therefore, this research was one of the first to examine the relationships between healthy active living and caregiver and child eating and physical activity behaviours and perceptions.

CHAPTER 3: METHODOLOGY

The primary objective of this research was to gain an understanding of and explore the relationships between televised healthy active living marketing commercials targeted at children and the eating and physical activity habits of caregivers and children (ages 8 to 10). A secondary objective was to gain an understanding of caregivers and children's perceptions of children's healthy active living marketing. These two overall purposes framed the subsequent research questions.

Main Research Question:

What are the relationships between televised commercial advertisements, which link foods and beverages with physical activity, exercise and sport, and family's eating and physical activity perceptions and behaviours?

Subsidiary Questions:

(1) What are children and caregivers' perceptions of healthy active living commercial advertisements targeted at children?

(2) What are the eating habits of families with children, ages 8 to 10?

(3) Are children's and caregiver's perceptions of healthy and unhealthy foods reflected in the types of foods and beverages caregivers purchase?

(4) Are children's perceptions of healthy and unhealthy foods reflected in the eating and physical activity habits of the child?

The research questions were addressed through a methodological design which incorporated: the collection of family food receipts, child commercial recording activities, child and caregiver commercial selection activities; one-on-one interviews

discussing individual perceptions and behaviours, and a self-report eating and physical activity habits questionnaire.

OVERALL APPROACH TO DATA COLLECTION

A qualitative collection case study approach, outlined by Creswell (1993), was adopted for this study because of its practical use of examining a specific interest within a real-life context (Merriam, 1998). A qualitative approach was taken to the data collection process in part because qualitative findings have the potential to add to the current literature and knowledge of childhood obesity management in the area of health promotion (Mays & Pope, 2000). Baumgartner, Strong and Hensely (2002) state that through the use of qualitative research methods, the researcher has the capability of generating detailed descriptive data. Furthermore, the analysis of qualitative data allows the researcher to gain a deeper understanding of personal experiences and lifestyles (Maykut & Morehouse, 1994).

Throughout the literature there are several reported definitions for a collection case study approach. In the context of this study, a collection case study refers to the exploration of multiple cases "*over time through detailed, in-depth data collection involving multiple sources of information rich in context*" (Creswell, 1993, p. 47). The multiple sources of information in the present study comprised the collection of family food receipts, commercial activity worksheets, self-report questionnaires and one-on-one interviews. Each case was situated within a micro-environment of the family home and provided significant information pertaining to the influence of healthy active living marketing on family eating and physical activity perceptions and behaviours.

Due to difficulties inherent in directly observing dietary intake and behaviours, self-report measures were used to examine the eating and physical activity habits of caregiver-child dyads. Multiple data collection tools were also used to strengthen the trustworthiness of the results and to minimize response bias. Figure 4 outlines the significance of each data collection tool for the purpose of collecting information regarding perceptions and behaviours.

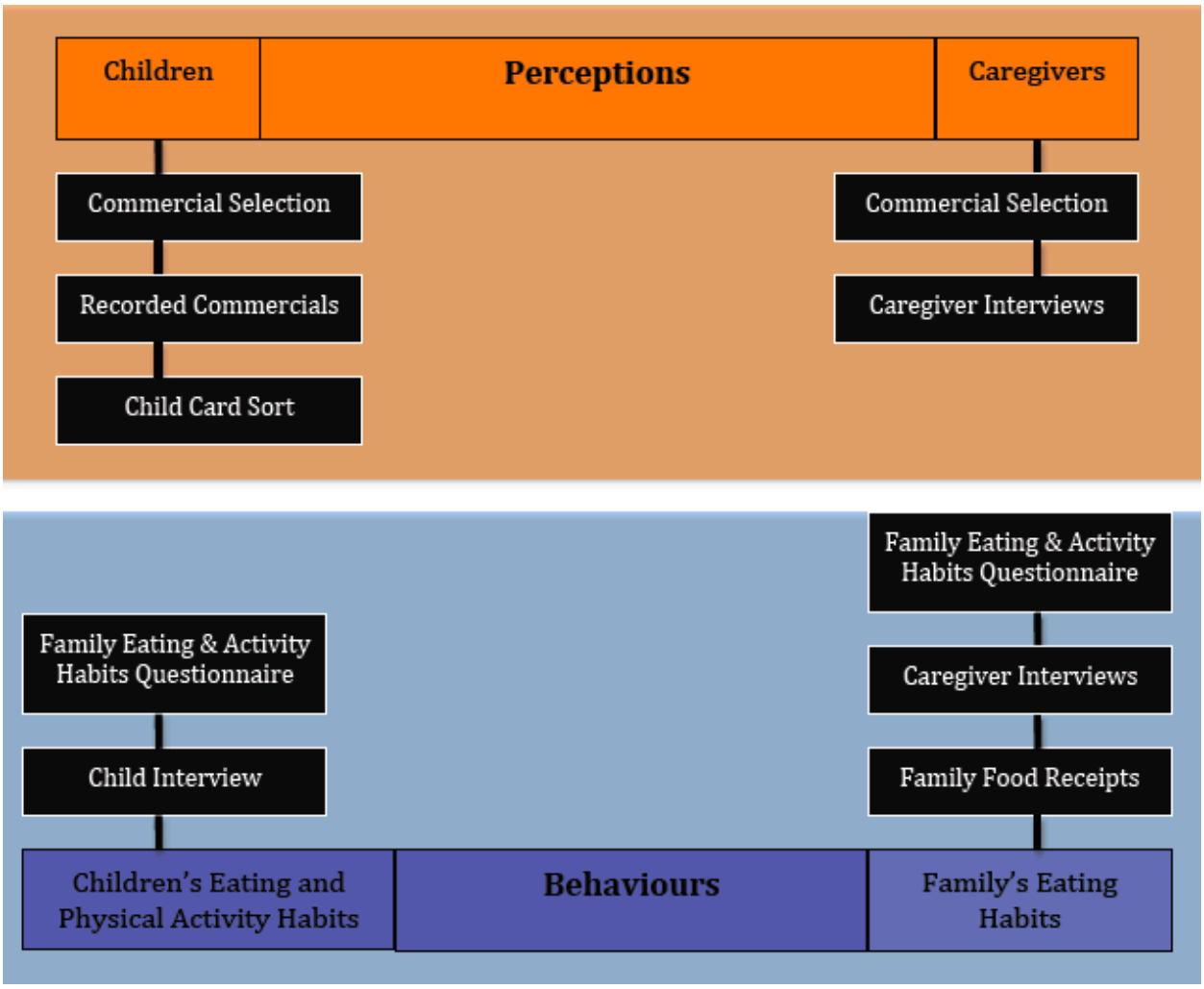

Figure 4: Significance of Data Collection Tools

The top section depicts data collected for the purposes of understanding the perceptions of caregivers and children. Data regarding children's perceptions were

collected through recorded commercials, commercial selection and a card sort activity. Data pertaining to caregivers' perceptions were collected through a discussion of commercial selection worksheets and a one-on-one interview. The bottom section depicts data collected for the purposes of understanding the behaviours of families and children. Children's physical activity behaviours were examined through the child interview and the Family Eating and Activity Habits Questionnaire. Data regarding children's and family's eating habits were gathered from collection of family food receipts caregiver interviews and Family Eating and Activity Habits Questionnaire.

SAMPLING SELECTION STRATEGY

The following criteria were set for selecting caregiver and child participants from York Region, Ontario: (1) children must have been between the ages of 8 to 10 during the time period of data collection, (2) adults must have been the primary caregivers and the legal guardians of their partnered child, (3) children and adults were representatives of their own family and therefore only one caregiver and one child from each household were eligible to participate, (4) children and adults must have been fluent in English, adults must have been able to read and write in English, (5) children and adults must have been permanent residents of a York Region community, (6) children and caregivers must have had cable television in the family home, and (7) caregiver-child dyads must have provided consent to complete all components of the study (collection of food receipts, commercial activity worksheets, one-on-one interviews and questionnaires).

The rationale for selecting children from the age group of 8 to 10 was based upon Piaget's Theory of Cognitive Development, which states that from ages 7 through 12, children are in the concrete operations stage, a development period characterized by the

ability to think in concrete contexts (Modgil, Modgil & Ihelder, 1976; Moses & Baldwin, 2005). Previous research has demonstrated that prior to the age of 8 children do not understand a marketer's intent to sell or intent to persuade the choice of a child consumer (Brucks et al., 1988). Therefore, a cohort of children between the ages of 8 to 10 was selected in order to effectively target children who were in the stages of cognitive maturation and the development of the ability to defend themselves from marketing by extracting reality from televised commercial advertising (Brucks et al.). Child participants were asked to recall, remember and answer questions with as much depth as possible. If children were unable or had difficulty holding attention on a specified task or had difficulty recalling and/or remembering information regarding family life, they were not asked to participate in the study.

The adults recruited for this study were required to be the legal guardians of their children and the primary caregivers of their partnered child. In Canadian Family Law, the primary caregiver is "*the person primarily responsible for the care and upbringing of the child*" (Human Resources and Social Development Canada [HRSDC], 2008, p. 1). A primary caregiver can also be a public entity, such as "*child care departments, agencies, institutions and organizations*" (HRSDC, p. 1). This research examined healthy eating and physical activity habits within family homes and not in childcare or public institutions; therefore primary caregivers were also required to be the legal guardians of the child. A legal guardian is legally responsible "*for the care and management of a person incapable of administering his/her own affairs*" (Council on Accreditation [COA] Canada, 2008, p. 2). Caregivers are automatically assumed to be the legal guardians of children in Ontario; however, grandparents, aunts, uncles or adoptive parents can also fill

this role (Ministry of the Attorney General, 2003). Furthermore, pairs were representatives for their own families and only one caregiver and one child from each household were asked to participate in the study.

Children, as well as caregivers, were required to speak fluent English for the purposes of engaging in ethical and appropriate informed consent policies, including a clear understanding of the interview process as well as for the purposes for ease of transcription of audio-recorded interviews. Caregivers were also required to read and write in English, in order to fully comprehend the informed consent process and self-report questionnaires.

Convenience sampling is commonly used among researchers when restrictions have been placed on time or budget (Patton, 2002). Due to the time restrictions of one year for the completion of a Masters level thesis and due to the financial burden of no external funding, convenience sampling allowed data to be collected as quickly as possible from areas conveniently located in proximity to the researcher. Therefore, children and caregivers were required to be permanent residents of a York Region community, including: Aurora, East Gwillmbury, Georgina, King, Markham, Newmarket, Richmond Hill, Thornhill, Vaughan or Whitchurch-Stouffville (York Region Home Page, 2008). Individuals living outside York Region were not accepted into the study due to high transportation costs.

Sample Size

Creswell (1993) proposed researchers only collect data from four cases; however, previous research completed with parent-child dyads suggest to continued recruitment until full saturation of themes occurs (Ungar, Mirabelli, Cousins & Boydell, 2006). A

limit of six dyads was selected on the premise that enough data was collected to enforce replication in the procedures used with each case (Yin, 2003).

RECRUITMENT

A combination of convenience and snowball recruitment strategies were used to enroll caregiver-child dyads to participate in this study (Patton, 2002). Recruitment took place in the communities of York Region, Ontario during the months of September to December of 2009. A recruitment poster was posted in 14 local grocery stores, six coin laundromats, six community centers and one dance studio. A newsletter was also distributed to friends, family members, colleagues and participants of two local backyard swimming lesson businesses. A copy of the recruitment poster and recruitment newsletter can be found in Appendix B.

SCREENING MEASURES

When potential participants contacted the researcher, via phone or email, the study's two main research objectives were reviewed alongside the process of data collection and time commitment required. If the potential participant was interested in participating, a time was set for a brief screening phone call to determine eligibility. The sample selection criteria described previously were reviewed. A copy of the screening phone call script and screening checklist is available in Appendix C. During this screening phone call, participants were asked to verbally agree to collect their family food receipts for a period of two to three weeks; the date and time of this verbal agreement was recorded on each screening checklist. It was made clear that family food receipts were not to be collected until the informed consent form and child assent form were reviewed and signed.

If participants agreed to partake in the study and collect their family food receipts, a copy of the Caregiver Informed Consent Form was emailed or mailed to them. A copy of the Caregiver Informed Consent From is available in Appendix D. Seven potential participants contacted the researcher, and four were eligible for participation in the study. Reasons for ineligibility included: not having access to cable television within the family home, failure to follow-up for screening phone call and withdrawal from the study due to illness.

DATA COLLECTION PROCESS

In order for the reader to fully understand the sequence of data collection, a flow chart is provided in Figure 5. Details regarding the screening process were provided in the previous section. The current section provides detailed descriptions of each step of the data collection process followed by an explanation of each data collection tool.

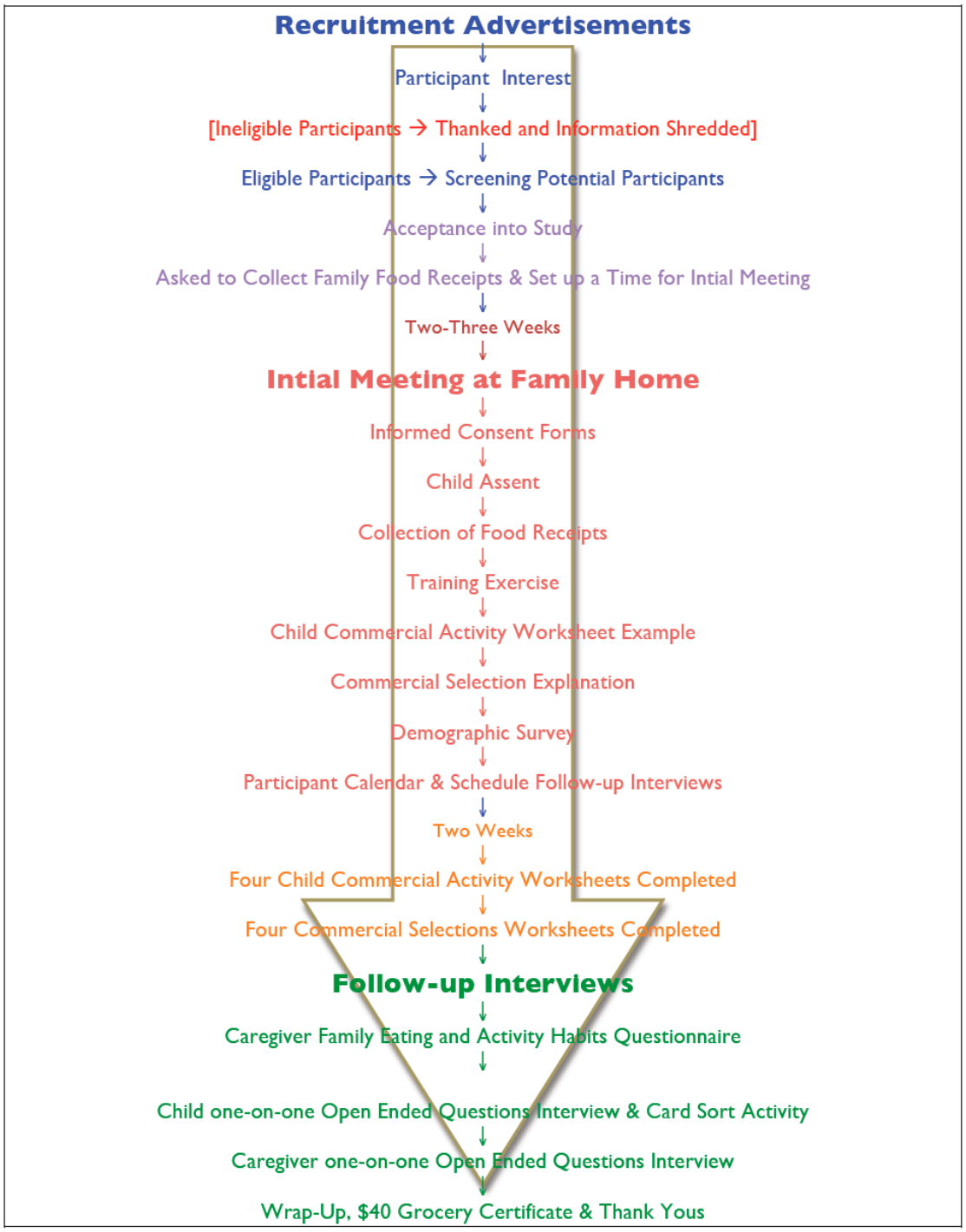

Figure 5: Recruitment and data collection process, which took place between September 2009 and February 2010.

Initial Meeting

During the screening phone call, an initial meeting was set up for two-three weeks later at the family home at a time and date that was both convenient to the researcher and the participant. The purposes of the meeting were to: meet the caregiver and child in person, review and sign informed consent forms, gather verbal assent from the child, collect family food receipts, review commercial activity worksheets, have the caregiver complete a short demographic survey, set up a time for the follow-up meeting, provide participant resources, discuss compensation and answer any questions. This meeting lasted anywhere between 30 minutes and one hour.

Participant Calendar

At the end of the initial meeting, each dyad was provided with a calendar depicting the following two weeks for the purpose of scheduling each data collection activity; times for children to watch thirty minutes of television; for child and caregiver to complete the worksheets; and for follow-up interviews. This process was not rushed thereby encouraging participants to feel comfortable with their decision to participate.

Commercial Activity Worksheets

The next step in the initial meeting required the attention of both the caregiver and the child in a review and explanation of how data related to television commercials would be collected. Initially, a training exercise was designed to provide an example of how to complete the commercial recording and commercial selection worksheets; however, all participating dyads felt it was unnecessary to engage in a practical example. Therefore, all participants opted for a simple review and explanation of worksheets.

During the following two weeks, children were required to perform the commercial activity worksheets during up to four, thirty-minute programs, Monday to Sunday. On Monday through Friday, children were encouraged to select a program between the hours of 2:30 pm and 6:00 pm (peak hours for children's afterschool programming) and between the hours of 6:00 am and noon on Saturdays and Sundays (peak hours for children's weekend programming).

Follow-up Caregiver and Child Interviews

After two weeks passed, the follow-up meeting took place at the family home with participation of both caregiver and child. This meeting involved the collection of the commercial recording and commercial selection worksheets, a child one-on-one interview, a child card sort activity, a caregiver Family Eating and Activity Habits Questionnaire, a caregiver one-on-one interview and conclusive wrap up and acknowledgements. To begin, the child and caregiver were separated into two different rooms. As the child completed their one-on-one interview and card sort activity, caregivers were asked to complete the Family Eating and Activity Habits Questionnaire. This step lasted between 30 minutes to one hour. Afterwards, the caregiver participated in a one-on-one interview for 45 minutes to one and half hours.

Honorarium

An honorarium was offered to participants in the form of a $40.00 food voucher for a local grocery store of their choice. The caregiver decided which grocery store they would prefer at the initial meeting and the voucher was presented at the end of the caregiver interview at the follow-up meeting.

Concluding the Data Collection Process

The follow-up meeting concluded with participants being thanked for participating and a review of provided consent for use of direct quotations in the formal write-up. After leaving the family home, field notes describing possible themes that may have arose during the interviews as well as observations of the family were recorded.

DATA COLLECTION TOOLS

Demographic Survey

Caregivers were asked to complete a demographics survey that served the purposes of observing if participants were from different ethnic and cultural backgrounds, the amount of male and female child participants and the amount of female and male caregivers. A copy of the demographics survey can be referenced in Appendix E.

Collecting Family Food Receipts

The purpose of collecting family food receipts was to examine the purchasing behaviours of caregivers and to gain further insight into the family's eating habits. Prior to handing over the food receipts, the caregiver was to black out all debit card, credit card, prices, totals and location of food purchases using a black permanent marker. If the caregiver required their original receipts back, for personal reasons, photocopies were made and the receipts were returned promptly after the initial meeting. If participants preferred (or in the case of photocopied receipts), the researcher took the responsibility of blacking out identifying information. Participants were informed that only the researcher and thesis supervisors would have access to these receipts for the duration of the study.

Commercial Activity Worksheets

Child Commercial Recording Worksheet

The purpose of this worksheet was to gain an understanding of children's perceptions of which advertised food and beverage products were healthy or unhealthy. Children were instructed to select one thirty-minute television show of their choice, under the supervision of their caregiver, and complete a commercial recording worksheet. It was recommended that children select a television show on one of the following cable television stations available to basic cable customers of York Region: YTV, TLC, TVO, Family Channel, A Channel, CBC, CW, CITS, Sun TV, CBS or Fox.

The child was instructed to record the date, time, name of program and on which network or channel the show was aired. The child was also instructed to watch all the commercials and for every food and drink commercial, record the product name and if they believed the product was healthy, unhealthy or if they were unsure. If a commercial displayed a product that children were unfamiliar with, they were encouraged to write down what kind of product it was (i.e. fruit juice, hot dogs, French fries etc). The caregiver was required to be present during this exercise, as they were instructed to also watch the commercial breaks. A copy of the commercial recording worksheet is available in Appendix F.

Selection of Favourite/Least Favourite Commercials

The purposes of the commercial selection worksheet was to gain further insight into what marketing strategies attracted the attention of children versus caregivers and to witness if any healthy active living marketing tactics were recorded by dyads. Similar to the commercial recording worksheet, the date, time of television program and television

station was recorded. The child would then select their favourite commercial, record the product name and company if known, their decision of whether the product was healthy, unhealthy or if they were unsure, and record if the content portrayed any characteristics of a healthy active lifestyle (a list of characteristics was provided). The child was then prompted to dictate to the caregiver (who would take notes) what they liked about this commercial. The caregiver was then asked to explain if they agreed or disagreed with their child's commercial selection. It was emphasized that caregivers were allowed to disagree with their children. This process was then repeated with the child selecting their least favourite commercial and explaining why, with the chance for caregivers to record if they agreed or disagreed. A copy of the commercial recording worksheet and the commercial selection worksheet are available in Appendix F.

Child interview

Face to face interviews have been shown to be reliable for obtaining information from individual children that may not be openly expressed in a focus group setting (Matthews & Tucker, 2000). Children were asked a series of open-ended questions that reflected their eating and activity habits on a regular weekday during the school year. The purpose of asking these questions was to corroborate their answers with the corresponding answers their caregivers provided on the Questionnaire. A copy of the child interview guide can be found in Appendix G.

Child Card Sort

The child's one-on-one interview ended with a card sort activity that was adapted by Chapman and MacLean (1993) and used in previous Masters level theses as method of data collection for perceptions of healthy and unhealthy foods (Harrison, 2006). The

purpose of the card sort activity was to add to the understanding of which foods and beverages children perceived as healthy and unhealthy.

The child was given 52 cards, which displayed a food item and corresponding name. The foods displayed on the cards were representative of foods recommended by Canada's Food Guide as well as *Big five* foods. Each child was given an opportunity to shuffle and become familiar with the cards. For this activity the child was asked to organize the cards into three piles; healthy foods, unhealthy foods and foods they were unsure of. Afterwards, children were asked to describe their thoughts on why each product was believed to be healthy, unhealthy or why they were unsure and asked if they could remember witnessing any of the foods advertised on television. An outline of the card sorting activity is available in Appendix H.

Family Eating and Activity Habits Questionnaire

The purpose of the Family Eating and Activity Habits Questionnaire (Golan & Weizman, 1998) was to add to an understanding of the eating and activity habits of both the caregiver and child.

Through a series of 32 questions, factors that facilitate obesity and unhealthy lifestyles within the family home are identified (Golan & Weizman, 1998). Each scale analyzed behaviours and perceptions of father, mother and child as reported by one parent (Golan & Weizman). Each completed Questionnaire is scored on five different categories, which examine: Leisure time activities, exposure and availability of problematic foods, hunger cues (related to parenting style), eating in problematic situations and family rites (Golan & Weizman). The sum of all categories is intended to reflect the overall appropriateness of the family's eating and physical activity patterns

(Golan & Weizman). Although no explicit definition of *appropriateness* of eating behaviours is provided by Golan and Weizman, this research provides corresponding *appropriateness* definitions for each of the five scales. This can be referenced in Appendix I.

The time taken to complete the Family Eating and Activity Habits Questionnaire was approximately 30 to 45 minutes. Before commencing the questionnaire, any questions the caregiver had regarding the procedure were clarified. If caregivers encountered a problem during the completion of the questionnaire, they were asked to place an asterisk (*) beside the question and it was addressed after the completion of the child interview. The caregiver was reminded that they did not have to answer every question, to only complete what they felt comfortable. A copy of the Family Eating and Activity Habits Questionnaire is available in Appendix I.

Caregiver Interview

The purpose of conducting a one-on-one interview with the caregiver was to add to the understanding of the eating habits of their family as well as to gain further insight into their perceptions of healthy active living marketing that was targeted towards children and families with children.

The caregiver interview consisted of asking a series of open-ended, semi-structured questions, which are useful in exploring personal understandings (Matthews & Tucker, 2000). This interview lasted anywhere between 45 minutes and one and half hours and was separated into four main topics: review of commercial selection worksheets; discussion of requests for purchases of advertised product; grocery shopping and meal preparation routines; and an in-depth discussion regarding personal thoughts of

marketing aimed at children. The caregiver interview concluded with an open discussion regarding what adult participants would like to see done with this research. The purpose of discussing this question was to put into perspective the type of dissemination available for the findings of this research. A copy of the caregiver interview guide is available in Appendix J.

DATA MANAGEMENT

As data collection unfolded, pseudonyms were selected for the participants such as Caregiver 1 and Child 1. Each piece of data collected was labeled and included in a file according to the corresponding dyad number, i.e. Dyad A, Dyad B, Dyad C or Dyad D. This included: demographic surveys, family food receipts, commercial activity worksheets, Family Eating and Activity Habits Questionnaires, field notes and interview transcripts. All screening checklists, informed consent and assent forms were labeled, however, stored separately from raw data.

All tangible data was kept in a locked filing cabinet during the time of data collection and analysis. All electronic copies of transcripts and data analyses were kept in digital files on a computer and memory stick with a robust password. The researcher and thesis supervisors were the only people with access to all files, both tangible and electronic, throughout the course of this study. In preparation for the final thesis defense, all paper documents and electronic files via memory stick were couriered to the School of Health and Human Performance. After the final thesis defense, data will be stored and kept for a maximum of five years at Dalhousie University's School of Health and Human Performance, specifically in Dr. Susan Hutchinson's office. Thereafter, all copies of data, both tangible and electronic will be destroyed.

DATA ANALYSIS

Due to the complexity of the data analysis process, Figure 6 provides a simplified diagram, which outlines the process.

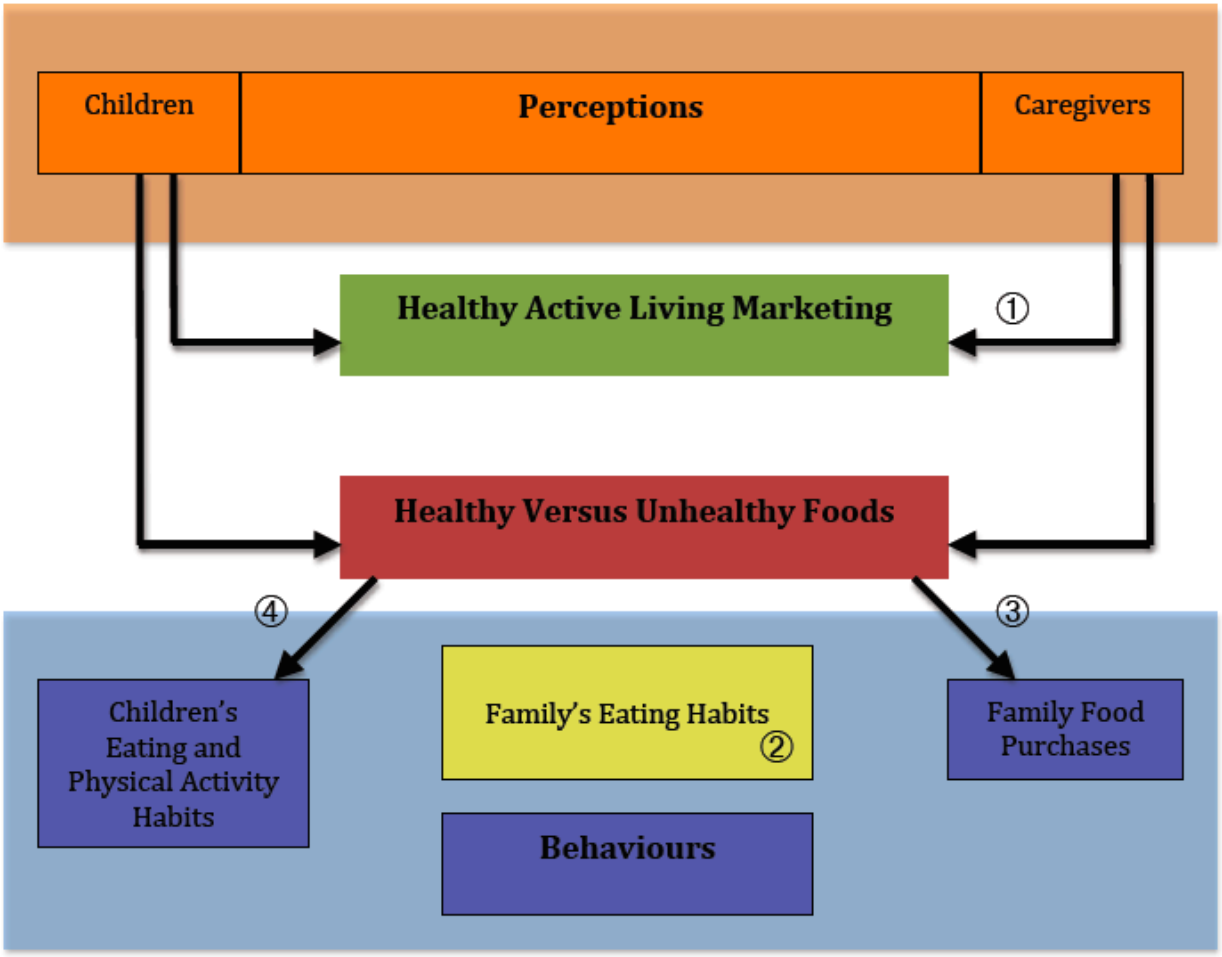

Figure 6: This figure outlines the process that will be explained through the data analysis section and should be used as a reference guide.

Overview of the Data Analysis Process

One purpose of the study was to gain an understanding and explore children and caregivers' perceptions of healthy active living commercial advertisements targeted at children. Children's perceptions of healthy active living marketing were examined

through a content analysis of the selected favourite and least favourite commercials and a thematic analysis of their written responses. Similarly, caregiver perceptions were analyzed through the content analysis of the commercial selection worksheets and a thematic analysis of their one-on-one interviews.

A second purpose of the study was to examine the eating habits of families with children, ages 8-10. The family's eating habits were examined through a nutritional content analysis of family food receipts, a thematic analysis of the caregiver one-on-one interview and the scores of the Family Eating and Activity Habits Questionnaire. Specifically to the eating habits of children ages 8 to 10, a thematic analysis of the child's one-on-one interview took place.

The third purpose of the study was to determine whether children's and caregiver's perceptions of healthy and unhealthy foods were reflected in the types of foods and beverages caregivers purchased. Children's perceptions of healthy and unhealthy foods were obtained through a comparison between the actual nutritional content of advertised foods reported in the commercial recording activity and children's recorded perceptions (healthy, unhealthy or unsure). Furthermore, a comparison took place between actual nutritional content of card sort items and responses to whether children believed the items were healthy, unhealthy or if they were unsure and why. Data regarding caregivers' perceptions of healthy and unhealthy foods was drawn from the thematic analysis of caregiver one-on-one interviews. Thereafter, the results of child and caregiver perceptions were compared to the results of a nutritional content analysis of family's food receipts.

The fourth purpose of the study was to determine if children's perceptions of healthy and unhealthy foods were reflected in the eating and physical activity habits of the child. This was accomplished by using the analyses of children's perceptions, mentioned above, in conjunction with the scores generated from the Family Eating and Activity Habits Questionnaire. The following section will describe how each data set was analyzed.

Descriptive Analysis

Findings from the demographic surveys, nutritional content analysis of family food receipts, the scores from the Family Eating and Activity Habits Questionnaire and the fast food frequency question are all presented in descriptive statistics throughout the individual dyad case studies.

The demographic information that was collected from each caregiver was input into a Microsoft Excel Workbook and summary statistics (means, frequencies and modes) were produced. Results from the nutritional content analyses for food and beverages are presented in descriptive statistics for each dyad: mean, modes and ranges.

Findings form the Family Eating and Activity Habits Questionnaires are also presented as descriptive statistics. The Questionnaire is divided into five scales each with corresponding scoring systems, which can be found in Appendix I. The sum of the five categories reflects the overall appropriateness of the family's eating and physical activity patterns (Golan & Weizman, 1998). Additionally, the data from the fast food frequency question was descriptively presented alongside the overall conclusion drawn from the ordinal data of the Family Eating and Activity Habits Questionnaire.

Nutritional Content Analysis of Food and Beverages

Food and beverage products recorded on family food receipts, products reported on commercial recording worksheets and products displayed on cards during child's card sort activity underwent a nutritional content analysis. The original data analysis of food and beverages involved the use of the United Kingdom's Food Standard Agency's Nutrient Profiling System (Food Standard Agency, 2009). This system identified food and beverages (per 100 grams serving size) as healthy or less healthy based upon a simple scoring system (Food Standard Agency). This system, however, required the specific weight (in grams or percentages) of each vegetable, fruit and nut ingredient, which is not publicly accessible to Canadian consumers or researchers (Food Standard Agency). Therefore, this scoring system was adapted to better align with the Government of Canada's Food Guide and Dietary Reference Intakes based upon individual Estimated Energy Requirements (EER) for children ages 8 to 10 (Dietitians of Canada, 2005; Health Canada, 2007).

In this study, the EER was calculated for males and females ages 8 through 10. The average EER was then used to quantify specific dietary reference intakes (DRIs) for the children in the study with respect to energy, saturated fat, total fat, total carbohydrates, fiber and sodium per food/drink product purchased by the family. The calculations for this can be found in Appendix K. The EER and DRI reference table used in this study can be found in Appendix K.

The product name, company and amount per serving size (in grams) were reported. The energy (in kilocalories), total carbohydrates (in grams), total fiber (in grams), total fat (in grams), total saturated fat (in grams) and sodium (in milligrams) were

recorded as found on the food label. These amounts were then converted to meet the 100g/serving requirement set by the Food Standard's Agency (2007).

The maximum score for this model was 55, the minimum score was 0 and the median score was 27.5. A food product that scores between 0 and 27 points was classified as healthy and a food product that scored between 28 and 55 was classified as unhealthy. If a product was classified as healthy, it was recorded in one of the following four categories based upon Canada's Food Guide (Health Canada, 2007): fruits and vegetables; grain products; milk and alternatives; or meat and alternatives. If a product was found to be unhealthy it was recorded in one of the following five categories based upon '*Big five'* and adapted to meet the needs of the western diet (Hastings et al., 2008): beverages, confectioneries, snacks and spreads, fast and frozen foods and cereals. A copy of the scoring system can be found in Appendix L.

The following is an example of the analysis of mozzarella cheese. Note the serving size is 30 grams and therefore a conversion coefficient was inserted to the formula to allow specific amounts of each measurement per 100 grams.

Table 1: Example of Nutritional Profiling System

Product:	**Measures**	**Reported**	**Conversion**	**Per 100g**	**%**	**Points**
Mozzarella Cheese	Energy	110	3.333333333	1534.133333	>20	4
30 g	Tcarbs	1		3.333333333	<3.5	0
Company:	Fiber	0		0	<3	5
Black Diamond	Tfat	8		26.66666667	>5	10
	Sat Fat	5		16.66666667	>15	10
	Sodium	230		766.6666667	>48	8
Classification: Unhealthy	**Category:** Milk and Alternatives			**Score:**		37

Even though mozzarella cheese was classified as an unhealthy product, because it scored 37 points, it remained under the category of milk and alternatives because it met the

categorical criteria. And example of a product analyzed in each of the nine categories is available for reference in Appendix M.

Content Analysis of Commercials

For each caregiver and child dyad, content analyses were conducted for up to eight of the commercials they selected as favourite (4) and least favourite (4). The information dyads reported regarding each commercial were coded as follows: (1) As children's programming or for a general audience, (2) type of food and/or beverage product, and (3) presence of any element of healthy active living marketing.

PROGRAMMING TYPE

In Canada, television programs are rated using the Canadian Rating Systems designed and implemented by the Canadian Broadcast Standards Council (CBSC, 1997). For the purposes of this study, recorded programs were coded as for a child audience if it had received an *exempt, children, children over 8 years* or *general viewing rating*. A commercial was coded for a general audience if its time slot had received a *parental guidance, over 14 years* or *adult rating* (CBSC). Exempt programs included newscasts, music videos, variety programming, talk shows, sports and documentaries (CBSC).

HEALTHY OR UNHEALTHY FOODS

Based upon the nutritional content analysis scoring system, products were classified as healthy if they scored between 0 and 27 points and unhealthy between 28 and 55. Furthermore, products were then categorized into one of the following nine categories based upon Canada's Food Guide and the Big five products: fruits and vegetables, grain products, milk and alternatives, meats and alternatives, confectioneries, savoury snacks and spreads, soft drinks, fast and frozen foods or cereals. Although the

recorded food products had gone through the nutritional content analysis, foods were also coded for perceived healthy or unhealthy in the content analysis. During the commercial recording activity worksheets, children were given the opportunity to select if they believed a product was healthy, unhealthy or if they were unsure. This selection was later coded as the child's perception of the nutritional value of a product.

HEALTHY ACTIVE LIVING MARKETING

Lastly, the advertised food or beverage products were coded for elements incorporated into healthy active living marketing or other. Due to the gap in the literature surrounding descriptions of healthy active living marketing, content related to recreation, leisure, physical activity and nutritional literature were used to identify elements of healthy active living marketing. The following content areas were selected to represent healthy active living marketing targeted at children: physical activity, sport, exercise, dance, walking, bicycling, athletes or the outdoors. Other content areas that appealed to children for selection of favourite commercials included: fun, comedy, jokes or use of a favourite cartoon character or celebrity.

Thematic Analysis

"Thematic analysis is a method for identifying, analyzing and reporting habits (themes) within the data" (Braun & Clarke, 2006, p. 79). Written responses were cleaned for identifying information before all data was input into *Atlas-Ti,* a qualitative software program used to code results and allow comparison between common themes (Huberman & Miles, 2002). An inductive approach was taken to identify common patterns of meaning throughout interview transcripts and written responses (Braun & Clarke). Open

coding were used to define broad codes and whenever possible, in vivo coding was used, which allowed codes to be labeled with terms used directly by participants (Strauss, 1998). As codes emerged from the datasets, they were entered into a code manual, which was used as a data management tool for organizing segments of similar or related text to assist in interpretation (Crabtree & Miller, 1999). Codes were written with reference to Boyatzis (1998) and were identified by a code label or name, a definition of what the theme concerned and a description of how to know when the theme arose.

Themes were then constructed through the process of clustering common codes and patterns into groups (Crabtree & Miller, 1999). Each free-standing code was placed under a heading, which represented a theme that directly related to a data collection tool. Any repetitive codes were eliminated and any correlated themes were collapsed to allow for fewer, yet more in-depth themes. The process of emerging codes and developing themes are exemplified in Appendix T in which the development of the theme of *caregiver control* is outlined.

Inputting data into *Atlas-TI*, defining and naming themes was an on-going process during the data collection process. After the each follow-up meeting with a dyad, which signified the cessation of data collection for a particular dyad, the previously entered data and codes were revisited. The purpose of continuously reviewing themes was to ensure that outcome themes and codes were representative of the population being researched (Braun & Clarke; Patton, 2002).

Thematic Analysis of Favourite Least Favourite Commercials

Written explanations on the favourite and least favourite commercial selection worksheets as well as transcribed responses from caregiver one-on-one discussion of

favourite and least favourite commercials underwent a thematic analysis. The written explanations and transcripts were cleaned for identifiers and entered into *Atlas-TI.*

Thematic Analysis of Interviews

Child one-on-one interviews, child card sort activities, caregiver's review of favourite and least favourite commercial selection worksheet and caregiver's one-on-one interviews were transcribed verbatim and transcripts were entered into *Atlas-TI*. Similarly to the commercial selection worksheets, all identifying information such as location of family home and child's school, all names of participants, family members, friends and other associates were removed from the transcripts before entered in the *Atlas-TI.*

ETHICAL CONSIDERATIONS

Prior to recruitment, a revised thesis proposal was submitted to Dalhousie University Research Ethics Board for Social Sciences and Humanities. Approval to begin recruitment for this study occurred on September 22, 2009.

Recruitment Advertisements

Participation in this research was voluntary and all recruitment instruments were clear in providing the study title (in plain language), a short description of what the study was about, inclusion/exclusion criteria, total time commitment required and contact information of the researcher (The Office of Research Ethics Administration, 2007). Dalhousie Research Ethics Board approved all recruitment instruments .

Informed Consent

During the course of this research study, informed consent occurred in several formats. During the screening phone call, verbal assent was granted by the caregiver to collect family food receipts for a period of two to three weeks. After reviewing the

written informed consent forms with the caregiver and child and after receiving verbal assent from the child to participate, caregivers were reminded of their verbal agreement to provide their family food receipts. If participants were unable to provide the family food receipts or disagreed with any component of the study, they would be thanked for their interest, but unfortunately could not be invited to participate. If participants agreed with all components of the study, they would sign two copies of the informed consent forms; one for the researcher and one for their own personal records.

The information on the consent forms was presented in a manner that was easily and comprehensively understood by adults. The overall objectives and methodologies of the data collection process, along with any associated risks or benefits of participation, were made clear on the forms. In compliance with Dalhousie Research Ethics Board, consent forms were written at an eighth grade reading comprehension level for caregiver consent (The Office of Research Ethics Administration, 2007).

A simplified assent form was presented in age appropriate language for the child; it was explained, in simple terms, what the child was asked to do and whether or not they were willing to do it (The Office of Research Ethics Administration, 2007). The purpose of the two forms was to make clear the involvement of the two distinct groups. Furthermore, Dalhousie Research Ethics Board for Social Sciences and Humanities, states that if the participant lacks the capacity to provide informed consent, it must be obtained by an individual who bears responsibility for decisions concerning the well being of the participant (The Office of Research Ethics Administration, 2007). Thereby, the caregivers signed the consent forms for their child and themselves; however, permission to participate was granted by the child through oral agreement.

Ongoing Consent

During the recruitment phone call, it was ensured that participants were aware that this was a voluntary study and they were able to withdraw at any time. This statement was reiterated during the initial meeting, to obtain informed consent and at the one-on-one interviews. Each commercial activity worksheet also clearly stated that participants were able skip or refuse to answer any question/section they did not feel comfortable completing.

Power Imbalances

In order to avoid a perceived power imbalance between participants and the researcher, every attempt was made to treat the participants as the experts and to ensure their comfort throughout the data collection process. In order to assure participants were comfortable and respected, informed consent forms and all explanations (written and verbal) were presented in a straightforward and easy to understand manner. All writing, which was only for adults, was written at an eighth-grade reading level, as educational background was a requirement for participation in this study.

Participant Support Resources

Although this study was thought to be of minimal risk, there was still a possibility of mild discomfort and/or embarrassment. Each dyad was presented with a resource package at the initial meeting. The resource package contained brochures with information of local dietitians/nutritionists, family psychologists, family resource centers, local grocery stores and food banks, as well as a copy of the Canadian Food Guide, Government of Canada Body Mass Index Growth Charts and Government of Canada

Food Label information cards. Copies of the researcher compiled resources are available in Appendix N.

Confidentiality and Anonymity

The primary investigator took all necessary steps to protect the confidentiality of the participants. To ensure participants were aware that the information given to the researcher was confidential, it was made clear that all identifying information was removed from transcripts and names were replaced with pseudonyms. Permission to audio-record the interviews and use of direct quotes from participants were included in the consent form. If participants choose for their quotes to be used in the research paper, the appropriate pseudonym and data have been used as the only identifying factors. Audiotapes were labeled according to pseudonym and date.

Through analysis of data from interviews and receipt collection, it was a possibility to discover that children were being undernourished or neglected by their caregivers. The plan for any suspected mental, physical or emotional abuse or neglect, was to directly report it to Ontario Children's Aid Society. This was made clear as an obligation of the researcher in the consent forms.

Although this plan was enforced during the data collection process, no form of abuse was suspected during visits to the family home nor did any topics of neglect arise from discussion with caregivers or children.

CREDIBILITY

The following section will outline how this research established credibility through a clear explanation of triangulation of methods, expert audit review, constant review and reflexivity (Patton, 2002).

Triangulation

Triangulation is based upon the theory that no single method of measurement is adequate to solve an empirical question on its own; therefore, multiple data collection techniques were used in this study to add credibility to the findings (Patton, 2002). This allowed for crosschecking of the consistency of findings between different times and by different methods of qualitative data collection (Patton). The purpose of triangulating the data was to justify what individuals say (interviews, card sorting and questionnaires) compared to what they do (receipt collection).

Reflexivity

The exercise of member checking with participants did not occur; instead the data analyses were reviewed by thesis supervisors, which helped render judgments about the quality of the research process (Patton, 2002). Furthermore, judgments were made about the quality of the research through ensuring intellectual rigor by returning to the data over and over again to see if the themes, explanations and interpretations were making sense and representative of the participating sample (Patton). This implies that the research had a reflexivity-drive attitude and was able to make justifiable changes when needed (Davies & Dodd, 2002).

CHAPTER 3 SUMMARY

In review, this chapter outlined the various methods used to collect data regarding eating and physical activity perceptions and behaviours of caregiver-child dyads recruited from York Region, Ontario. After confirming eligibility through screening procedures, four dyads consented to participate in a five-week data collection process, which involved: the collection of family foods receipts, demographic survey, up to four

commercial recording worksheets, up to four commercial selection worksheets, child one-on-one interview, child card sort activity, caregiver Questionnaire and a caregiver one-on-one interview. This chapter highlighted the strength of using multiple sources of data in developing credibility of findings through triangulation and the ability to adapt conclusive statements when new data was analyzed through reflexivity. The following chapter will present the findings of the aforementioned data collection methods.

CHAPTER 4: RESULTS

This chapter begins with an overview of the case studies followed by a detailed description of each dyad, which will include findings from the Family Eating and Activity Habits Questionnaire, a discussion of the unique themes that arose from the caregiver and child one-on-one interviews and a discussion of the family food receipt analysis. The remainder of this chapter will report findings from the cross-case analysis of the commercial recording worksheets, commercial selection worksheets, child card sort activity, child interviews and caregiver interviews. The purpose of the cross-case analysis is to document any common themes shared by dyads and to report any significant contrasts among family eating and physical activity habits and caregivers' awareness and opinions of marketing.

OVERVIEW OF CASE STUDIES

Recruitment posters and newsletters were distributed across areas of York Region; however, responses came from the more northern communities of Aurora, Newmarket and Georgina. Although any primary caregiver was eligible to participate, only mothers of children ages 8 to 10 were interested in participating in the research. Parents who took interest in the study reported seeing the recruitment advertisements posted at community recreation centers, indoor pools and one participant took interest after receiving the recruitment newsletter from a friend via email. Each parent took part in the screening phone call and when all eligibility criteria were met, they were invited into the study. Upon verbal agreement, a copy of the caregiver consent form was either mailed or emailed to the participants for review before the initial meeting.

All families were recruited in the months of October, November and December of 2009. Two families completed their data collection before the holiday season of 2009, while the remaining two completed receipt collection and the commercial activity worksheets in January and February of 2010. A total of eight participants, four caregiver-child dyads, provided consent for participation in this study. One male child and three female children were paired up with their parent. One child was eight years old, two were nine years old, and one was ten years old at the time of data collection. One family reported an annual household income of $85,000 to $104,999 and another greater than $115,000, while two others preferred not to specify. No parents self-identified themselves or their children as being part of any particular ethnic origin. One parent had completed secondary education, two parents had completed a post-secondary education, and one parent had received a graduate-level degree. All child participants were attending elementary school in the public school system during the study and two children were attending French immersion in particular.

Dyad A: Caregiver 1 and Child 1

After providing verbal consent to participate in the study, Dyad A collected their family's food receipts for a period of three weeks, after which the initial meeting took place at the family home. At the initial meeting the father was rushing out to work a 12-hour shift. As a shift worker he was only present for one family meal a day, either breakfast or dinner. At the same time, the youngest son was not feeling very well and it seemed that the eldest son had some responsibility for watching over his youngest brother during times when their parents were busy. There were five individuals reliant on the household income, three children and two adults. The father was employed full-time and

the mother was completing a post-secondary degree on a part-time basis. This left her with the responsibility of both a part-time student and a full-time stay at home caregiver.

A theme of self-reflection of food choices was evident in the interview with Caregiver 1 as she took pride in her awareness and abilities to monitor her family's eating and physical activity habits. This was reflected in her interests of making food choices for her family that were healthier compared to those made in the past by herself and her parents:

> *"There are some cereals that I just won't buy. And, that's have to do with, you know, when I grew up that's the kind of stuff I ate. But, I realize now, you know, the stuff I ate was very sugary and very processed and so I'm kind of trying to be a little different with the kids."*

This self-reflection evolved into becoming more aware of what her family was eating and Caregiver 1 took the opportunities to educate her children about making healthy choices:

> *"And he knows what he can have. Like, he knows if he eats some cheese strings and he's still hungry, then he might grab a bagel and he might grab an apple. So, I tell him to sort of vary it."*

Furthermore, evidence of providing healthy options to the family was demonstrated in the outcome of the family food receipt analyses. After three weeks and 28 receipts collected, 193 food and beverage products underwent a nutritional content analysis. The majority of purchased products were classified as healthy items (64.25%) while the majority was categorized as fruits and vegetables (32.12%). Examples of healthy food products purchased by this dyad included apples, whole wheat breads, yogurt and lean ground beef. The unhealthy products purchased included muffins, cheese strings and fast food

chicken nuggets and French fries. The full findings of this analysis can be found in Figure 7 and Figure 8 and the full listing of scores for each purchased product can be found in Appendix O.

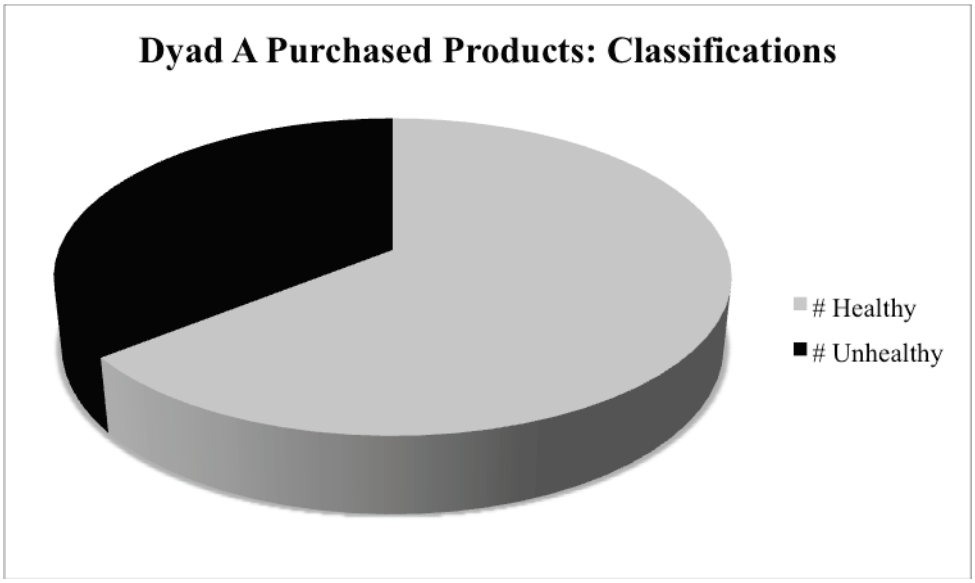

Figure 7:Dyad A Purchased Products: Classifications

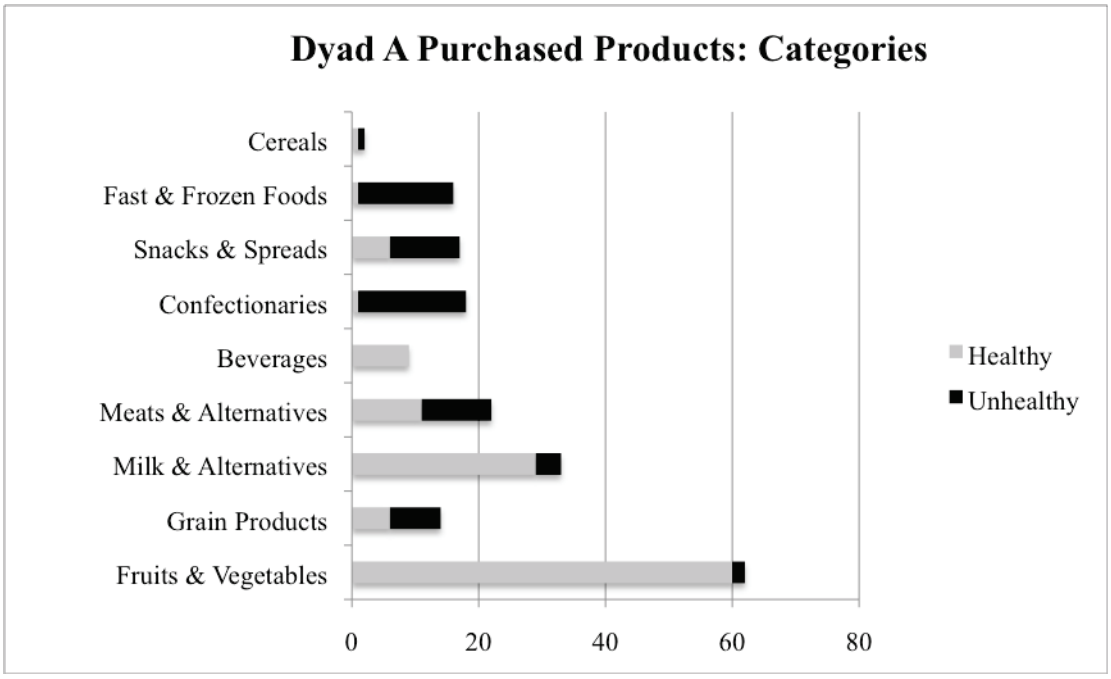

Figure 8:Dyad A Purchased Products: Categories

Aside from the awareness of the types of foods the family was consuming, Caregiver 1 was also mindful of the type of physical activities Child 1 was participating in. Child 1 was unique from other child participants in that she did not participate in organized physical activities during the winter months. "*Where as *my child, I wish she would be a bit more active. I mean we stopped things like swimming because, you know, I find in the wintertime they get sick."*

Although Child 1 reported going outside to play with friends after school and participating in physical education classes and daily physical activity (DPA) at school, she described herself as more of a creative person, in that she enjoyed reading, writing and drawing more than sports. However, a lot of leisurely free time was spent going on family walks, skating at a local park and going on family day trips to a local ski resort.

In addition to the interview and collection of family food receipts Caregiver 1 was also asked to complete the Family Eating and Activity Habits Questionnaire (Golan & Weizman, 1998), the scores of which are presented in Table 2. The scoring system for the Family Eating and Activity Habits Questionnaire can be referenced in Appendix I.

Table 2: Dyad A Results Family Eating and Activity Habits Questionnaire

Category	**Dyad A Scores**
Leisure time activities.	-1
Exposure and availability of problematic foods.	12
Hunger cues (related to parenting style).	4
Eating in problematic situations.	27
Family rites.	7
TOTAL	49

Category	Dyad A Scores
Fast Food Frequency/Week	1

The family scored a -1 on the Leisure Time Activities scale, which meant that both the child and the caregiver had somewhat appropriate activity habits. The family scored 12 on the Exposure and Availability of Problematic Situations scale, which meant that Child 1 had very little exposure and availability to foods such as snacks and confectioneries in her household. Along the same lines, although this family reported on having a junk food cupboard, Caregiver 1 reported she monitored what her children were eating and when. The family scored 4 on the Hunger Cues scale, suggesting that Child 1 and her siblings had little visibility and accessibility to snack foods in their family home. A wide selection of healthy foods, set meal and snack times, restricting places to eat, preventing overeating and encouraging eating at a slower pace likely contributed to a low score of 27 points on the Eating in Problematic Situations scale. A score of 27 demonstrated the family followed appropriate eating styles. Lastly, a score of 7 points was awarded on the scale of Family Rites to suggest that the caregiver, whenever possible, was with the child during meal times. This of course was true for breakfast, afternoon snack, dinner and bedtime snack, and not for lunch because Child 1 was at school during this time. Overall, the family scored 49 points, which indicated that the family had appropriate eating and activity habits (Golan & Weizman, 1998).

The family ate the same select healthy meals every week, however in no distinct order. In her one-on-one interview Caregiver 1 discussed the decision to *"take a night*

off" and just have McDonald's™ or Chinese Food. This, like all families in the study; was once a week at most.

In summary, Caregiver 1 was able to reflect upon her own up-bringing, which brought awareness to the eating and physical activity habits of her own family. Her ability to control the availability and exposure of problematic foods in the household resulted in the family demonstrating appropriate eating and physical activity habits.

Dyad B: Caregiver 2 and Child 2

After providing verbal consent to participate in the study Dyad B collected all family food receipts for a period of five weeks. An initial meeting was scheduled for three weeks following the screening phone call; it was rescheduled, however, on two separate occasions because either the parent forgot or there was a conflict in the family's schedule.

Both caregiver and child were enthusiastic about taking part in this study, however, it was reported that the family's schedule was extremely disorganized as both parents worked full-time jobs, six out of seven workdays, which required the child to attend a babysitter after school every day for several hours. The household was home to three adults: two parents, one adult child attending university and the participating child. The initial and follow-up meeting times, therefore, took place later in the evening on a workday and on the parent's day off. During the initial meeting, the commercial activity worksheets were not provided as other families were having difficulties reporting commercials during the holiday season and the family could not commit to meeting immediately two weeks later for the follow-up interviews. Therefore, a short, 15-minute session was set up for a weekday evening in late February. It is noted that this session

was also rescheduled twice, due to similar reasons as before; schedule conflicts and overbooking family activities. During this session, the commercial activity worksheets were explained and a follow-up meeting was rescheduled for two weeks later. The family was contacted numerous times a week via phone conversations to confirm and remind the participant of the follow-up meeting. The follow-up meeting was rescheduled when the participants asked for more time to complete the commercial recording and selection activities.

The self-reported disorganization of the family schedule was reflected in a theme of distress and guilt regarding the poor food and physical activity habits of Child 2; this was evident in the interview with Caregiver 2:

> *"She eats…fettuccini and I buy the …Jane's™ chicken fingers. And the smiley faces. So its really Sunday dinner… that's really the only nutritious meal we have, where we have a sit down dinner and there's vegetables, meat and potatoes….And I feel really guilty about that, but there's just no time."*

Caregiver 2 expressed that she was concerned about the lack of nutrition her child was receiving as a result of having little time to prepare homemade meals after work, but also because Child 2 was reportedly a very picky eater. Throughout the child one-on-one interview, when Child 2 was asked about her snacking, she always referred to the same foods with emphasis: *"Yogurt and chocolate milk."* When discussing the possibility of Child 2 being referred to as a picky eater, Caregiver 2 emphatically referred to her as *"a junk eater."* Caregiver 2 acknowledged her daughter's sweet tooth and felt guilty about giving in to the requests for junk food; however, she also wanted her daughter to be satisfied and not go hungry.

"Because sometimes I think, well even junk food, even a cupcake, it might have some nutrients in it. And then I think, she won't be hungry. I can't see her not eating anything, so, maybe the junk food would be better than having her tummy growl. Yea, but then I stopped myself and I say, you know, if I was like feeding a stray cat it's going to continue to come back."

The nutritional content analysis of the 24 food receipts for 158 food and beverage items provided evidence of the caregiver purchasing foods specifically for the child rather than all family members as a group. The majority of purchased products were classified as healthy items (70.89%) while the majority was categorized as fruits and vegetables (32.28%). Examples of healthy items included canned vegetable, whole grain pasta, yogurt and canned tuna. Unhealthy items purchased included chocolate bars, salad dressings, dehydrated pastas and pre-sugared breakfast cereals. It should be noted that the majority of fast and frozen foods (62.5%) were purchased solely for the consumption by Child 2 and the majority of meats and alternatives (76.92%) were for purchased for the consumption by Caregiver 1's spouse. The full findings of this analysis can be found in Figure 9 and Figure 10 and a summary listing can be found in Appendix O.

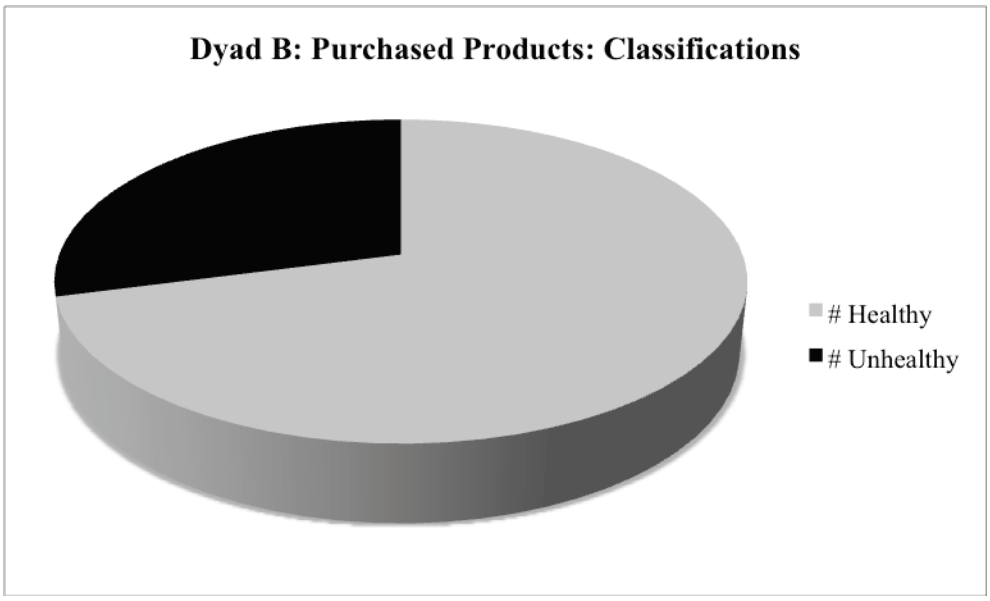

Figure 9:Dyad B Purchased Products: Classifications

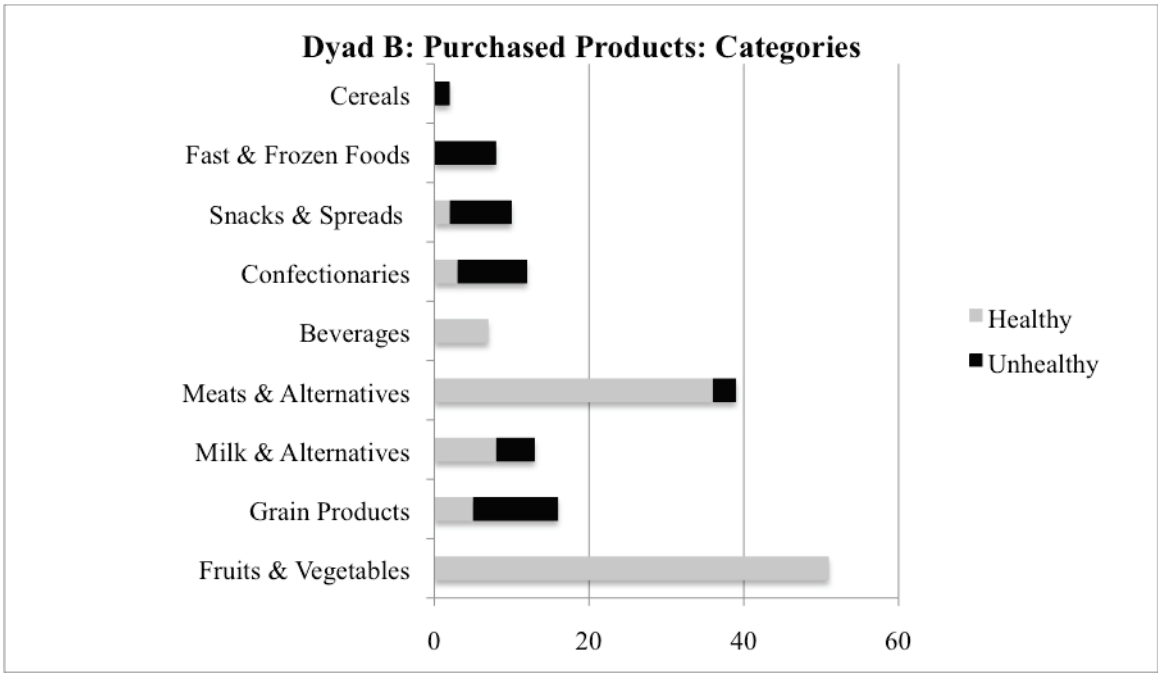

Figure 10:Dyad B: Purchased Products: Categories

Although the family food receipts acted as a good predictor of the foods consumed within the family household, Child 2 took part in a hot lunch program through her school every day and ate her afternoon snacks at her babysitter's. The caregiver

interview, however, highlighted the theme of Child 2 as a picky eater even during lunchtime at school: *"I just ask her, which of these do you want and then it's either the hamburger or the chicken fingers."*

The disorganization of the family schedule reinforced some poor eating and physical activity habits, as demonstrated in the following chart, which exhibits the findings of the Family Eating and Activity Habits Questionnaire (Golan & Weizman, 1998).

Table 3: Dyad B Results Family Eating and Activity Habits Questionnaire

Category	**Dyad B Scores**
Leisure time activities.	25.75
Exposure and availability of problematic foods.	17
Hunger cues (related to parenting style).	4
Eating in problematic situations.	44
Family rites.	11
TOTAL	101.75
Fast Food Frequency/Week	1

In terms of the activities, the family did have a few scheduled extracurricular activities that Child 2 participated in each week; however, the participating caregiver was less likely to be physically active due to the demand of her employment. This is reflected in a score 25.75 on the Leisure Time Activities scale, which indicated the dyad had somewhat appropriate activity habits. The dyad scored 17 on the Exposure and Availability of Problematic Foods, which meant that Child 2 had little to no exposure to

food and beverages such as confectioneries and snacks within her household. The dyad scored 4 points on the Hunger Cues scale, which suggested that Child 2 had little visibility and accessibility to the snack foods in the family home. Although Child 2 was a '*junk eater,'* Caregiver 2 took it upon herself to attempt to restrict the types of processed foods Child 2 would request: *"Yep, so I don't do the powdered donuts…anymore, and I don't do the Hostess cupcakes, she gets Doritos™, not in her lunch bag, but she'll get them in, like, maybe in a bag after swimming. But not every week."* Although attempts were made to limit snacking, the majority of Child 2's meals were reportedly eaten in her bedroom while alone. A score of 44 points on the Eating in Problematic Situations scale demonstrated that the dyad had somewhat appropriate eating styles and a score of 11 points on the Family Rites scale indicated that Child 1 ate her meals with her caregivers only on occasion. An overall score of 101.75 suggested the dyad had somewhat appropriate eating and physical activity habits.

Caregiver 2 reported ordering take-out or going to a fast food location when she was overwhelmed with organizing dinner and other evening activities. *"We order pizza. And *Child 2 does go to McDonald's™ at least once every two weeks. She likes Harvey's™ too. That's if, well, that's on one of those nights where I'm pressured."*

In summary, it seemed Caregiver 2 reported feeling overwhelmed of juggling a full work schedule and raising a picky eater. She did acknowledge that she was aware of the poor eating choices her daughter made but thought that she was getting enough daily physical activity. From the discussion of the child's eating habits, an impression of inconsistency was identified for the regulation of Child 2's junk food access and consumption. It seemed Caregiver 2 would go through stages of being quite strict with

refusing to buy junk and processed foods for her daughter and enforcing rules like eating at the table and eating vegetables but would switch back to old habits when her child would persist with requests. It was at times when she was too tired from the demands of her employment that Caregiver 2 would *"give in"* to junk food requests.

Dyad C: Caregiver 3 and Child 3

During the initial meeting of Dyad C, both caregivers and both children were present for the review of consent forms and review of commercial activity worksheets. The impression of the Dyad C was that they were a very media-savvy family. The father worked in the marketing area for an events management company. Upon meeting the family, it was discovered that the parents would talk about marketing, including televised advertisements for food and beverages, with their children on a regular basis. The participating mother had a full-time job but also described herself as a full-time mother. Having a husband employed in the business of marketing increased Caregiver 3's awareness of marketing of healthy and unhealthy products targeting children which made her unique amongst the other participating parents. When discussing commercials targeted at children, Caregiver 3 responded with:

> *"I think they are cleverly composed. Because they've obviously done research with children to see what their hot buttons are and what turns them on. When I see a lot of the cartoon and animated ones, they are certainly not targeted to me because I'm too old for them."*

Furthermore, unique to Caregiver 3, she was very aware of the types of products being advertised and drew attention to their unhealthy nutritional values.

> *"…I think they have to be cautious and careful with their marketing to kids especially like sports energy drinks, like Red Bull™, and Gatorade™, and that type of thing…I don't think people realize the amount of chemicals that are in these types of products. Whether it's the processed foods or the sports drinks, they are not thinking it through about what's in it. A lot of the things that my son had on the unhealthy list, he didn't list them, but a lot are composed of chemicals."*

This awareness of chemicals and additives in products influenced the process of planning, preparing and serving meals to the family. This was evident through the nutritional content analysis of the 82 products reported on 13 food receipts as the majority of products were for healthy items (63.41%) and the majority categorized as fruits and vegetables (36.59%). The healthy products purchased by this family included crushed tomatoes, whole wheat bread, yogurt and skinless chicken breasts. The unhealthy products purchased by this dyad included cheeses, peanut butter, cookies, potato chips and pizza. The full findings of this analysis can be found in Figure 11 and Figure 12 and a summary listing can be found in Appendix O.

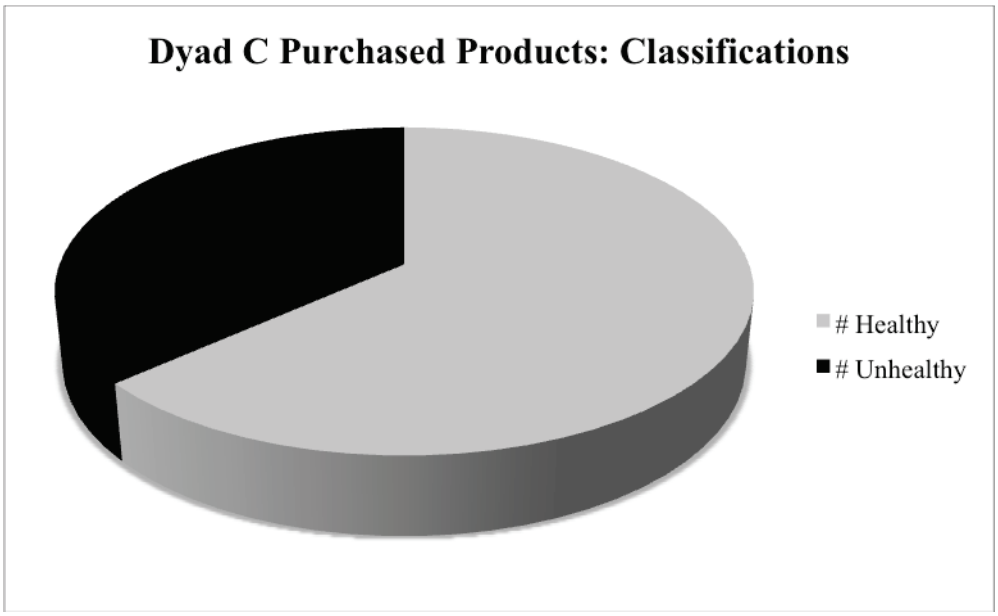

Figure 11: Dyad C: Purchased Products: Classifications

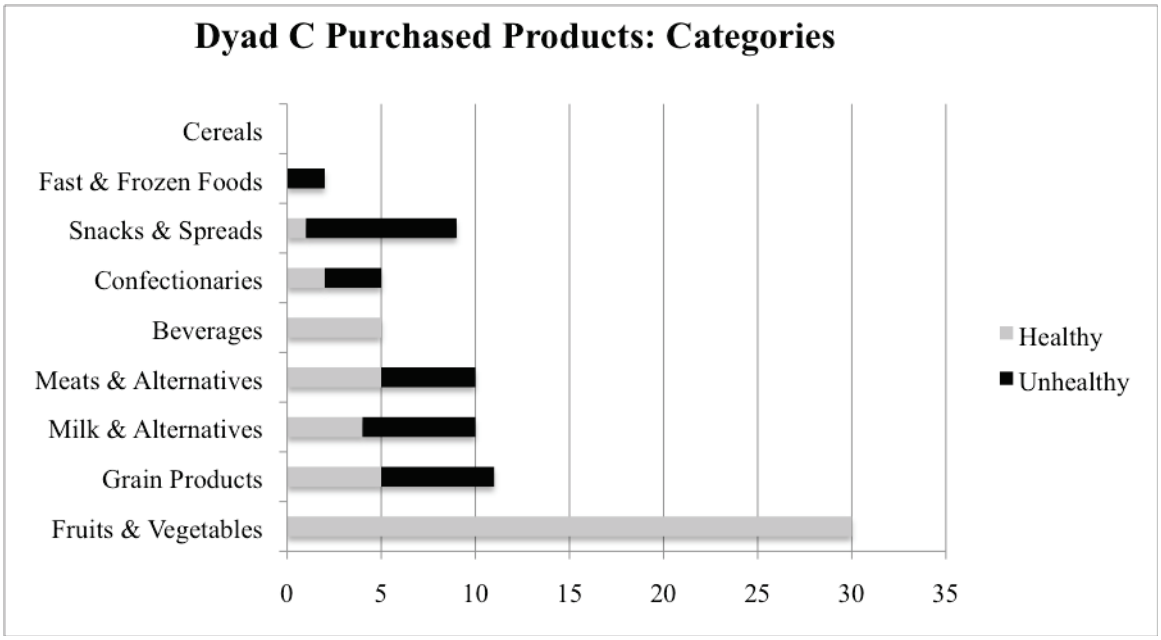

Figure 12:Dyad C: Purchased Products: Categories

Aside from eating healthy, Child 3 participated in many organized physical activities including hockey during the winter months and baseball in the summer. What was unique to this family was the amount of time spent in family physical activities in the

spring and summer. *"We go outside and do an activity as a family. Whether it is swimming or taking the dog for a walk [or] baseball"* (Caregiver 3). However, like most other participating families, Dyad C's physical activity habits declined during the winter months due to winter restrictions:

> *"…By the time we eat dinner, its dark outside and because we live on a busy street, they are allowed to be out until five o'clock, that's the deadline, because at five o'clock the road gets busy and people are racing to get home and they don't stop at that corner. So *Child 3 omitted a lot of activities, but in summer time he's allowed to go ride his bike over to the culdeseac…. He's also to ride his bike here to the next street up over by our friend's house, but it is so limited this time of the year.* (Caregiver 3)

Although the family was restricted during the winter months, the family still scored a -5.5 on the Leisure Time Activities scale on the Family Eating and Activity Habits Questionnaire (Golan & Weizman, 1998), the scores of which are outlined in Table 4. This indicated that the family had somewhat appropriate activity habits.

Table 4: Dyad C Results Family Eating and Activity Habits Questionnaire

Category	**Dyad C Scores**
Leisure time activities.	-5.5
Exposure and availability of problematic foods.	11.5
Hunger cues (related to parenting style).	5
Eating in problematic situations.	17
Family rites.	4

Category	Dyad C Scores
TOTAL	32
Fast Food Frequency/Week	1

The dyad also scored 11.5 points on the Exposure and Availability of Problematic Foods scale implying that Child 3 had little no to exposure to food and drinks. A score of 5 points on the Hunger Cues scale meant that Child 3 also had moderate visibility and accessibility to snack foods in the family home. The family scored 17 points on the Eating in Problematic Situations scale, which demonstrated that the family had appropriate eating styles. Along the same lines, the dyad scored 4 points on the Family Rites scale, which indicated that Child 3 ate with a caregiver on a regular basis. Overall, the family scored a total of 32 points, which suggested they have appropriate eating and physical activity habits.

Alongside the Family Eating and Activity Habits Questionnaire (Golan & Weizman, 1998), the family reported visiting fast food locations, restaurants or getting take-out once a week. *"…And we have take out probably once a week or once every two weeks"* (Caregiver 3).

In summary, Caregiver 3's awareness of marketing and the nutritional content of processed and fast foods contributed to the appropriate eating and physical activity habits of her family. The case of Caregiver 3 demonstrated that by being an informed consumer, as in knowing what is going into the products and where the product was made, the likelihood of her children consuming more nutritious foods and beverages on a daily basis is increased.

Dyad D: Caregiver 4 and Child 4

Two weeks following the screening phone call, an initial meeting was set up at the family home of Dyad D. The impression of the family was that it was a well-organized and structured household where the parents were highly respected. Throughout the initial and follow-up meetings, the children obeyed their mother and not once fussed over something that she may have disagreed or said no to. Two children and two adults lived in this household and the participating parent, Caregiver 4, was a stay-at-home mom during the time of data collection. It was evident that being a stay-at-home caregiver provided the opportunity for Caregiver 4 to make wise decisions and structure regular family meals and physical activities for her children. This resulted in a unique theme of caregiver responsibility in that Caregiver 4 took charge of the proper eating and physical activity habits of her children.

Child 4, in her one-on-one interview, discussed that her and her sibling, participated in an extracurricular activity almost every weekday evening:

> *"Mondays and Tuesdays we go to dance. And on Tuesdays we do dance, we do tutoring and dance. On Wednesdays, I go to tutoring and another tutoring, I have two tutors. And that are both French…and then I do tutoring on Wednesday, I go to my, Kumon™."*

Other activities reported included violin lessons, gymnastics and taking part in school concerts.

When children were participating in more than one extracurricular activity a night or the two children were at programs in different areas, the result would be for their parents to purchase fast food for them. For example, when discussing weekday night

dinners, Child 4 indicated "*And then we come home and have dinner, but sometimes we have dinner at the mall and stuff like that… Yea, Wednesdays we have McDonald's™, but not anymore because dance is over."* This was not an every day occurrence; however, when at home children ate quite well as Caregiver 4 took every opportunity to provide homemade meals. This was self-described as a luxury of being a stay-at-home parent. This involved very thorough planning of grocery shopping including scanning flyers, highlighting sales items, making a grocery list and sticking to it, shopping on a daily basis and preparing the same seven meals in rotation. These seven meals were healthy options as outlined in the caregiver one-on-one interview as well as the nutritional content analysis of the family food receipts.

A total of 105 food and beverage products from 18 food receipts underwent a nutritional content analysis after two weeks of receipt collection. The majority of foods analyzed were for healthy products (60.95%) with the majority categorized as fruits and vegetables (33.33%). Healthy products included raspberries and blackberries, bagels, skim milk and omega-3 large eggs. Unhealthy products purchased by this dyad included popcorn, frozen chicken strips and instant oatmeal. The full findings of this analysis can be found in Figure 13 and Figure 14 and a summary listing can be found in Appendix O.

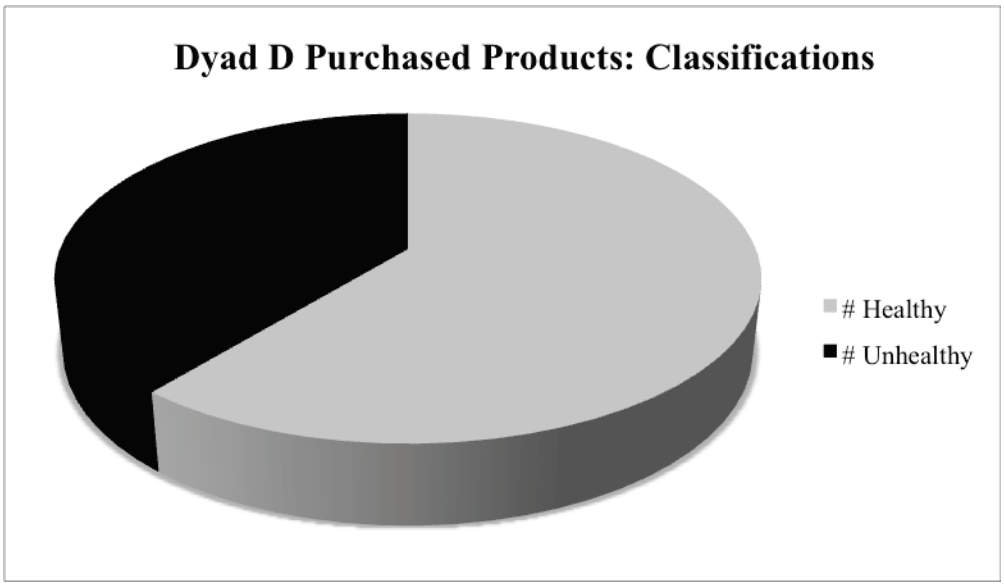

Figure 13: Dyad D: Purchased Products: Classifications

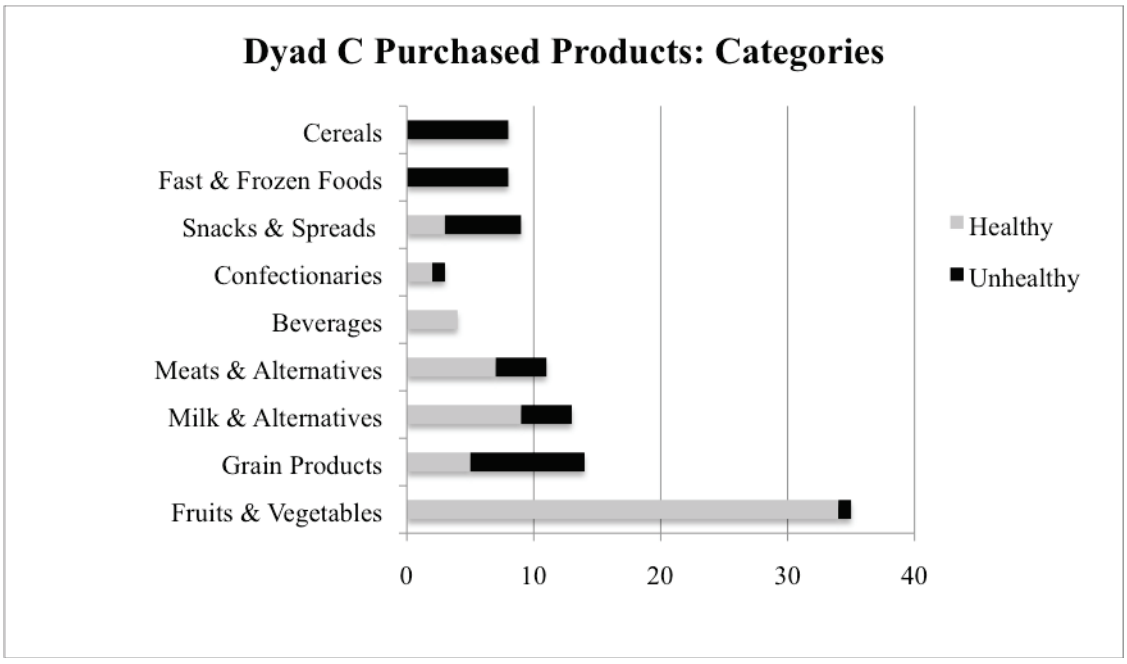

Figure 14: Dyad D: Purchased Products: Categories

Aside from the homemade and take-away dinners, Child 4 participated in a hot lunch program two times a week at her school, with the option of having a pizza lunch every Friday. Child 4 selected an array of meals from this program: "*A grilled cheese, I*

have spaghetti, I have pancakes, and I have Sheppard's pie, and, I have chicken, you know like, the chicken wings, and I have chicken fingers."

Although not all of these products would be considered as a healthy option for children, Dyad D provided many opportunities to partake in a healthy active lifestyle. This statement is enforced by the participation in extracurricular activities, consumption of family homemade meals and furthermore by the findings of the Family Eating and Activity Habits Questionnaire (Golan & Weizman, 1998), the scores of which are presented in Table 5.

Table 5: Dyad D Results Family Eating and Activity Habits Questionnaire

Category	**Dyad D Scores**
Leisure time activities.	2
Exposure and availability of problematic foods.	5
Hunger cues (related to parenting style).	5
Eating in problematic situations.	21
Family rites.	6
TOTAL	39
Fast Food Frequency/Week	1

Dyad D scored 2 points on the Leisure Time Activities scale, which suggested that the dyad had somewhat appropriate activity habits. This could be due in part to the extracurricular activities Child 4 participated in were not all exclusively for physical activity (i.e. tutoring and music lessons). A score of 5 points was awarded on the Exposure and Availability of Problematic Foods scale, which enforced the theme of

caregiver responsibility and suggested that Child 4 had little to no exposure of problematic foods such as confectioneries and snacks within her household. "*So, if I'm buying junk then they'll be eating junk…. So ultimately, I guess I have the control over what come in, so that's what they are going to end up eating"* (Caregiver 4). Furthermore, the dyad scored 5 points on the Hunger Cues scale, which indicated Child 4 had moderate visibility and accessibility to snack foods in her family home. A score of 21 points on the Eating in Problematic Situations scale demonstrated that the family had appropriate eating styles and a score of 6 points on the Family Rites scale indicated the child ate with a caregiver on a regular basis. The theme of caregiver responsibility is evident in an overall score of 39, which argued that family had appropriate eating and physical activity habits.

In summary, Caregiver 4 demonstrated great control over Child 4's physical activity and eating habits. Caregiver 4 provided opportunities for her children to participate in extracurricular activities for organized physical activities such as dance and gymnastics, non-physical activities, such as music lessons and educational activities such as tutoring and Kumon. Caregiver 4 also demonstrated control of appropriate eating habits as she purchased for the family as group and did not purchase products for specific individuals. She prepared homemade meals and restricted her children's access to snack food in the family home.

CROSS-CASE ANALYSIS

The remainder of this chapter will focus on the results of the cross-case analysis of the Family Eating and Physical Activity Habits Questionnaire, the commercial activity worksheets, child card sort activity, child interviews and the caregiver interviews. From

this point forward the data will be presented as overall results and will focus on all participants as a group rather than individual dyads, however, individual quotes from dyads will be used to highlight themes. The section will also draw attention to comparisons and contrasts between dyads.

Cross-Case Analysis of Family Eating and Activity Habits Questionnaire

Table 6: Cross-Case Analysis of Family Eating and Activity Habits Questionnaire Scores

Scale	Dyad A	Dyad B	Dyad C	Dyad D
Leisure Time Activities	Proper activity habits.	Somewhat appropriate activity habits.	Proper activity habits.	Somewhat appropriate activity habits.
Exposure and Availability to Problematic Foods	Little to no exposure.	Little to no exposure.	Little to no exposure.	Little to no exposure.
Hunger Cues	Little visibility and accessibility.	Little visibility and accessibility.	Moderate visibility and accessibility.	Moderate visibility and accessibility
Eating in Problematic Situations	Appropriate eating styles.	Somewhat appropriate eating styles.	Appropriate eating styles.	Appropriate eating styles
Family Rites	Child eats with caregiver on regular basis.	Child eats with caregiver on occasion.	Child eats with caregiver on regular basis	Child eats with caregiver on regular basis
Fast Food Frequency	Once a week.	Once a week.	Once a week.	Once a week.

Each of the scales listed above are defined in Appendix I.

Results from the Commercial Recording Worksheets

Nutritional Content Analysis of Commercials

Overall, 53 commercials were recorded for 41 products. Participants recorded several of the same commercials and a number of commercials were repeated within the same time slot of individual dyad's television viewing. Examples of these commercials

included: General Mills Cinnamon Toast Crunch Cereal, McDonald's Happy Meal and Kraft Tex Mex Shredded Cheese™. Thirty-four commercials were recorded during children's television programming and 19 were reported during caregiver-supervised general audience programming. Eight commercials were recorded in the afternoon (between 12:00 pm and 5:59 pm) and 45 commercials were recorded in the evening (between 6:00 pm and 12:00 am). Participants recruited before the holiday season of 2009 reported that ten programs did not feature any food and beverage commercials:

> *"Well we were surprised in that first two-week time capsule of how little TV ads there were for food. And not only how few there were, but how few there were in their time slot. There were none. In primetime for kids, there were not TV ads for that. It was all Strawberry Shortcake™, Easy Bake Oven™ ...Star Wars™, Flick Tricks™, all the toy things. So if you wanted any type of toy, that was the time to look."* (Caregiver 3)

Out of the 41 products recorded, 23.40% were for healthy items (0 – 27 points) and 76.30% were for unhealthy items (scored 28 – 55 points). The figure 15 outlines the categories of both the healthy and unhealthy advertised products.

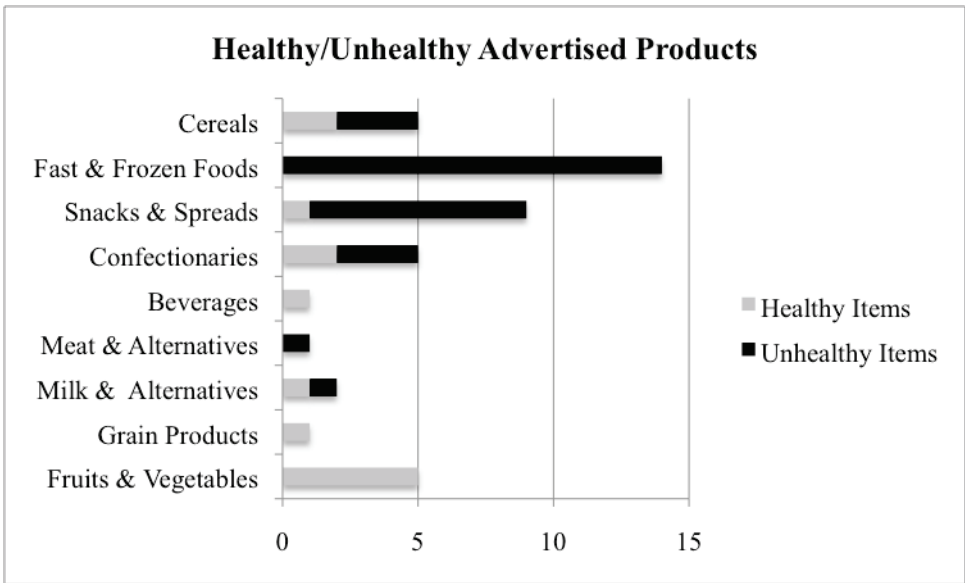

Figure 15: Healthy VS Unhealthy Advertised Products

Children's Perceptions Healthy/Unhealthy Products in Commercials

On the commercial recording worksheet, children were provided with the opportunity to select if they believed if each recorded product was healthy, unhealthy or if they were unsure. Children's perceptions of foods did not always match the actual nutritional content of the product. Table 6 outlines which products child participants reported as unsure, however, product nutrition analysis reported the product as unhealthy. Reasons for children's uncertainty regarding the nutritional value of foods included being familiar with the product, which is interpreted in the explanation of the theme of self-reflection that arose from the thematic analysis of the card sort responses.

Table 6: Perceived Unsure: Analyzed Unhealthy

Child Perceives as "Unsure"	Nutritional Content Score	Classification/ Categorization
McDonald's Happy Meal™ – Chicken Nuggets and Apples with Caramel Dipping Sauce (x 3)	37	Unhealthy/Fast and Frozen Foods
Kraft Dinner Cups™	48	Unhealthy/Fast and Frozen Foods
Pillsbury Pizza Pops™ (x3)	41	Unhealthy/Fast and Frozen Foods
Tim Horton's English Muffin Breakfast Sandwich™ (x2)	38	Unhealthy/Fast and Frozen Foods
Burger King Whopper™	32	Unhealthy/Fast and Frozen Foods
General Mills Gusher's Fruit Flavoured Snacks™	31	Unhealthy/Snacks and Spreads
General Mills Fruit Roll Ups™	42	Unhealthy/Snacks and Spreads
Schneider's Old Fashion Smoked Ham™	28	Unhealthy/Meat and Alternatives
Dairy Queen Cheeseburger™	38	Unhealthy/Fast and Frozen Foods
Wendy's Cheeseburger™	36	Unhealthy/Fast and Frozen Foods
McDonald's Egg McMuffin™	37	Unhealthy/Fast and Frozen Foods
Betty Crocker Hamburger Helper™	31	Unhealthy/Fast and Frozen Foods
Harvey's Angus Burger™	36	Unhealthy/Fast and Frozen Foods

Table 7 outlines which products child participants reported as healthy, however, product nutrition analysis reported the products as unhealthy. Reasons for this disparity in perception may be due to the limitation of the nutritional content analysis, which bases judgments on 100 grams of food. Many of the foods listed in Table 7 would be consumed

in less than 100 grams portions, which could be considered a healthier serving size; therefore, the results may be skewed.

Table 7: Perceived Healthy: Analyzed Unhealthy

Child Perceives as "Healthy"	Nutritional Content Score	Classification/ Categorization
Premium Plus Crackers™	45	Unhealthy/Snacks and Spreads
Kraft Tex Mex Shredded Cheese™ (x3)	37	Unhealthy/Meat and Alternatives
Pepperidge Farms Gold Fish Crackers™	46	Unhealthy/Snacks and Spreads
Kellogg's Froot Loops Cereal™	47	Unhealthy/Cereals
McCain Frozen Pizza™	36	Unhealthy/Fast and Frozen Foods
Becel Margarine™	40	Unhealthy/Snacks and Spreads
Kraft Cheese Singles™	39	Unhealthy/Milk and Alternatives
Philadelphia Cream Cheese™	33	Unhealthy/Snacks and Spreads
Knorr Side Kicks with 25% Less Salt™	42	Unhealthy/Fast and Frozen Foods

Table 8 outlines which products child participants reported as unhealthy, however, product nutrition analysis reported the products as healthy.

Table 8: Perceived Unhealthy: Analyzed Healthy

Child Perceives as "Unhealthy"	Nutritional Content Score	Classification/ Categorization
General Mills Fruit by the Foot™	26	Healthy/Snacks and Spreads
Stride Gum™	21	Healthy/Confecti oneries
Dairy Queen Valentine's Day Ice Cream Cake™	25	Healthy/Confecti oneries

Results from the Commercial Selection Worksheets

Dyads used the commercial recording worksheets to select their favourite and least favourite commercials and provide details regarding each commercial. The purpose of this activity was, firstly, to examine if any relationships existed between favourite/least favourite commercials and healthy active living marketing and secondly, to gain a broader understanding as to what caregivers and children perceived as appealing marketing strategies. The analysis of favourite and least favourite commercials was a two-step process; the first involved a content analysis followed by a thematic analysis of child and caregiver written responses and thematic analysis of the review of the worksheets in the caregiver one-on-one interview.

Children's Favourite Commercial Analysis

Children identified several different marketing tactics in their favourite commercials from either the list provided on the commercial selection worksheet or by stating an additional marketing tactic in a space provided. The identified strategies include cartoon characters, comedy, family, food appearance, fun, music and appealing to personal preference. These codes are defined in a code manual found in Appendix P, which also provides details of each favourite commercial, the results of the nutritional content analysis, the recorded child's nutritional content perception, the quotes derived from the commercial selection worksheets and present the frequency of each marketing strategy mentioned above.

Caregiver Favourite Commercial Analysis

Caregivers were provided the opportunity to agree or disagree with the favourite commercial selected by their child. On several occasions, caregivers chose to disagree with the preference of their child and selected an alternative commercial.

Caregivers were also provided an opportunity to select from or record the marketing tactics that most appealed to them. These strategies included cartoon characters, *caught my attention,* celebrity, cleverly composed, comedy, entertaining, family, food appearance, information-based, perceived as a healthy product and targeted at moms. These codes and their corresponding definitions are available in a code manual in Appendix P, which also provides details of each selected favourite commercial, the explanations caregiver's provided for selecting their favourite commercials and outlines the frequency of each marketing tactic listed above.

COMPARISON CHILD VS CAREGIVER FAVOURITE COMMERCIALS

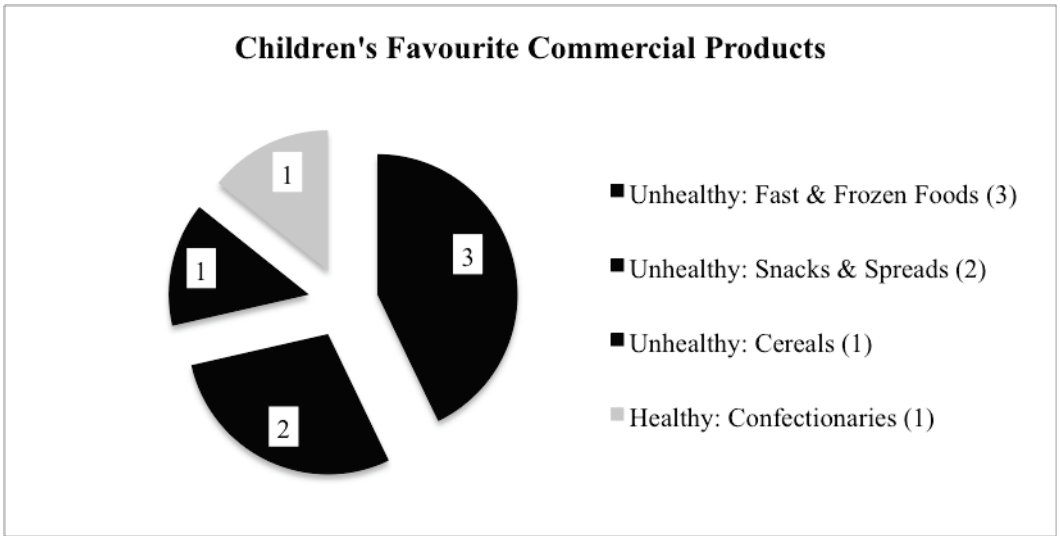

Figure 16:Children's Favourite Commercial Products

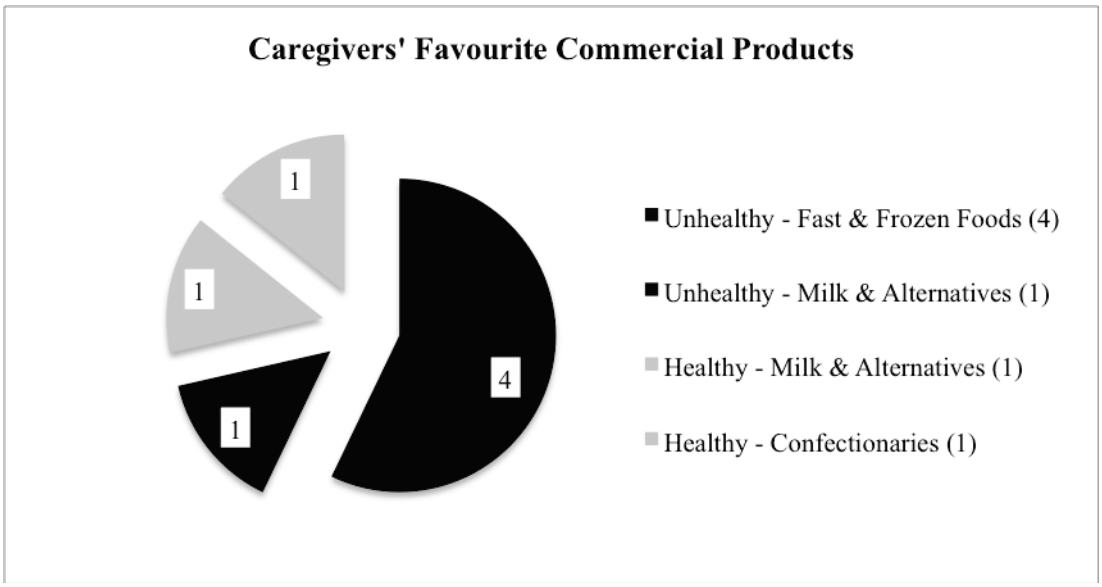

Figure 17:Caregivers' Favourite Commercial Products

Figure 16 and 17 illustrate the variations between participating children, who were more attracted to commercials for the Big five products and caregivers, who preferred more healthier products in comparison to their child. However, it is evident that the majority of favourite commercials for family members were for unhealthy products.

Children's Least Favourite Commercial Analysis

Children highlighted several marketing tactics that represented the commercials that they disliked the most. These marketing tactics include: boring, children's perception of an unhealthy item, food appearance, information-based, no comedy and no fun. A description of each marketing tactic can be found in a code manual in Appendix P, which also provides the details of each least favourite commercial selected, the reasoning behind children's least favourite commercials presented in example quotes and outlines the frequency of the marketing tactics listed above.

Caregivers' Least Favourite Commercial Analysis

On most occasions, caregivers agreed with their partnered child that the selected commercial was their overall least favourite. The marketing strategies caregiver's highlighted as being the least appealing included, *as a toy*, boring, caregiver perceived product as unhealthy, food appearance, not memorable, personal preference and processed foods. Appendix P presents details and the reasons caregivers selected the commercials as their least favourite as well as an outline of the frequency of marketing tactics listed above.

Comparison of child VS caregiver least favourite commercials

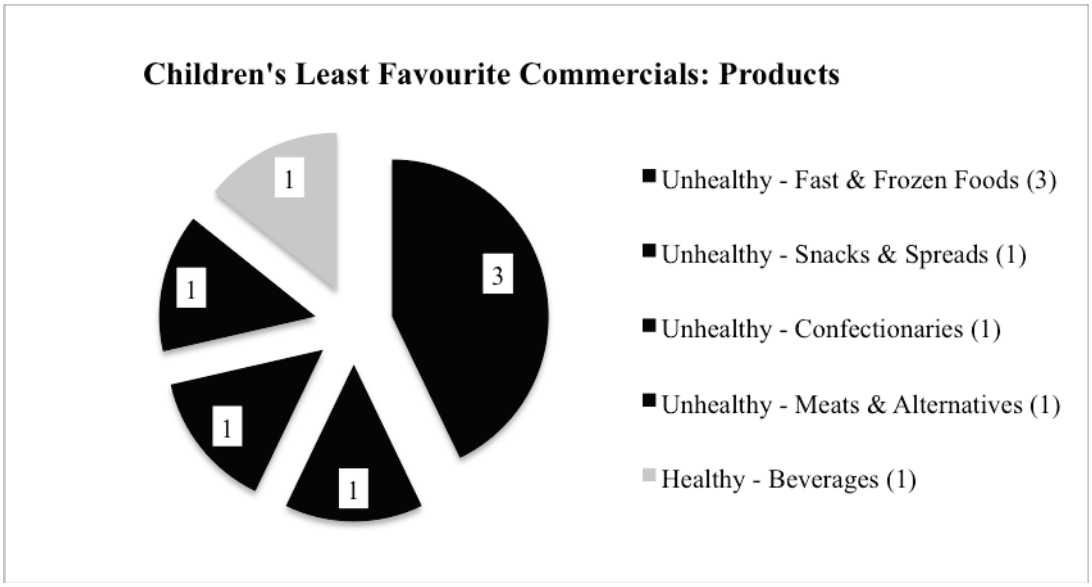

Figure 18:Children's Least Favourite Commercial Products

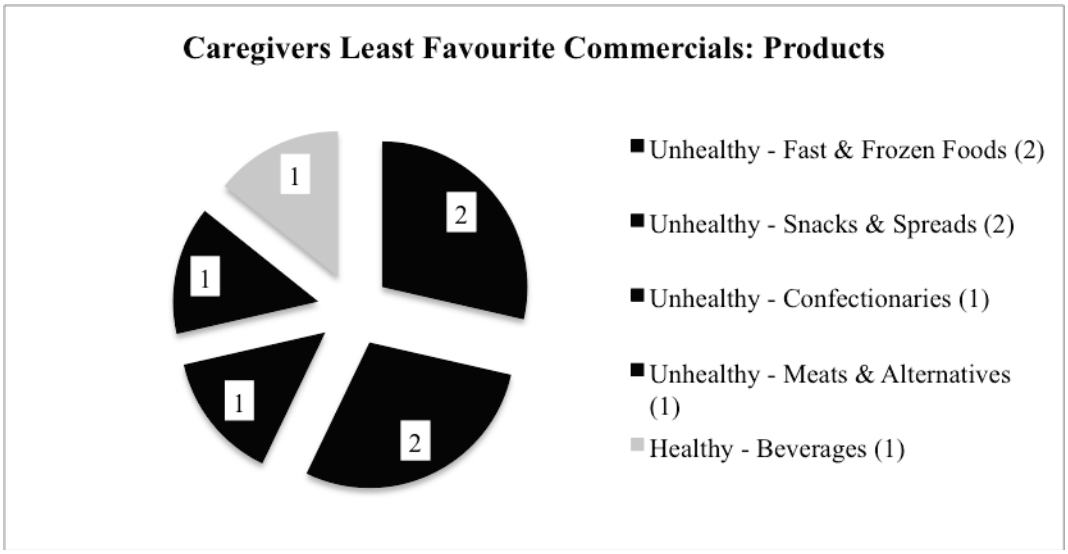

Figure 19:Caregivers' Least Favourite Commercial Products

Figure 18 and 19 illustrate the lesser variation of least favourite commercials between child and caregivers than the variation between favourite commercials of child and caregivers. The majority of least favourite commercials selected by both children and caregivers were for products representative of the Big five.

Results from Child Card Sort Activity

The purpose of the card sort activity was to add to the understanding of which foods and beverages children perceived as healthy and unhealthy. Fifty-two products were represented on the cards. Twenty-eight items were illustrative of the foods recommended by Canada's Food Guide to healthy eating and therefore fell into the categories of fruits and vegetables, grain products, meat and alternatives and milk and alternatives. Twenty-four items were representative of the products, which make up the Big five and therefore fell into the categories of beverages, snacks and spreads, confectioneries, fast and frozen foods and cereals. The definitions and examples of each of the nine categories can be referenced in Appendix A.

Figure 20 displays the frequency of children's responses of healthy, unhealthy and unsure for each of the nine categories listed above. The following section provides reasoning to why healthy, unhealthy and unsure decisions were made.

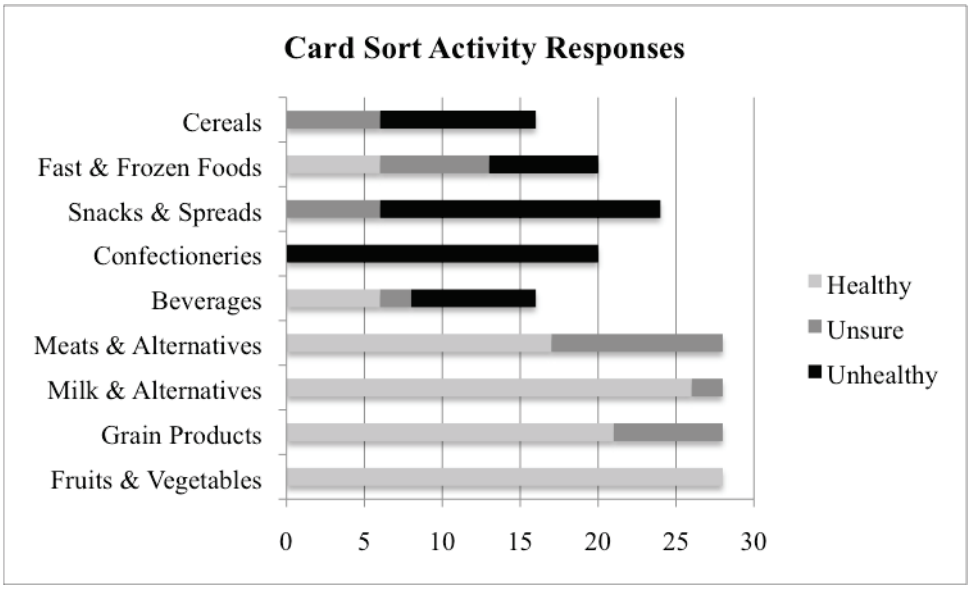

Figure 20:Card Sort Activity Responses

Thematic Analysis of Children's Card Sort Activity Responses

Four main themes arose from the discussion of why children perceived foods and beverages as either healthy, unhealthy or if they were unsure. These four themes included healthy bodies, nutritional value, self-reflection and *not sure why*.

HEALTHY BODIES

The theme of healthy bodies arose in the discussions of both healthy and unhealthy foods, but did not emerge in a discussion of unsure items. Healthy bodies encompassed foods and beverages that can either improve or be detrimental to an individual's health if consumed. Codes that fell under this theme included: bone health, brain development, colon function, dental care, hyperactivity, ill/not well and kidney function. The definitions of each of these codes is available in a code manual in

Appendix Q. Table 9 provides examples of children referring to helathy bodies in the card sort activity.

Table 9: Healthy Bodies Examples

Item	Perceived as…	Qutoation
Salmon – Meats and Alernatives	Healthy	*"Salmon, because some fish is really good for you. Like, for your brain and stuf like that." (Child 3)*
Gumballs – Confectioneries	Unhealthy	*"Okay, gumballs are really bad. But, they taste good, though. They're not good for your teeth."* (Child 1)
Lollipop – Confectioneries	Unhealthy	*"Lollipop…like bad stuff. Because its candy….Because it's not good for you and it makes your stomach upset."* (Child 4)

NUTRITIONAL VALUE

The theme of nutritional value represented the explanations children provided for foods containing specific micro- or macro-nutrients that can be either beneficial or detrimental to an individual's health. This was the most significant theme, in that most children would refer to the nutritional value of a product to determine if it was healthy, unhealthy or if it could be both. These codes included: butter/oil, caffeine, calcium, calories, chemical and additives, fat, grains/wheat, potassium, protein, salt and sugar. This theme also took into account any descriptive words used to decipher the nutritional value of a product such bubbly/fizzy, both healthy and unhealthy, reference to Canada's Food Guide, chewy, dangerous, fast food and natural/fresh. The defintions for these codes are avaialble in the code manual found in Appendix Q. Table 10 outlines four key examples of the theme of nutritoinal value from the child card sorting activity.

Table 10: Nutritional Value Examples

Item	Perceived as…	Qutoation
2% Milk	Healthy	*"Two percent milk is healthy too. Because, its milk!...Well, it gives you…it gives you calcium. And makes your bones strong!"* (Child 1)
Breakfast Sandwich	Unsure	"*Breakfast sandwich, like McDonald's™, they usually put like, bacon in it. And that sometimes can be, could be like fattening for you."* (Child 3)
Frosted Wheat Squares	Unsure	*"And frosted wheat squares….because it's, I think they're both….because it has icing and it has wheat."* (Child 4)
Cinnamon Toast Cereal	Unhealthy	*"Cinnamon Toast Crunch™, I think it's unhealthy because it has too much sugar."* (Child 2)

SELF-REFLECTION

A theme of self-relfection arose from the card sort activity when discussing healthy and unhealthy items as well as when the child was unsure. This theme included a variety of codes that related to personal knowledge and experience with a product. The codes under this theme included: comparison to a more familiar product, reference to products served at home, personal taste preference and unfamiliar products. The definitions for these codes are presented in the code manual in Appendix Q. Table 11 outlines three situations in which the self-reflection theme emerged.

Table 11: Self-Reflection Examples

Item	Perceived as…	Qutoation
Oranges	Healthy	*"Orange, is healthy because it has tasty juice."* (Child 2)
Flat Bread	Unsure	*"Flat bread. Because I've never tasted it and I don't know…"* (Child 4)
Popcorn	Unhealthy	*"Popcorn…because, like, they, at the movie theaters, they put like a lot, a lot of butter and all that. Like, butter and you can get like, caramel on your popcorn…"* (Child 3)

NOT SURE WHY

Often times child participants could not give precise explanations to why they thought a product was healthy, unhealthy or why they were unsure. In this case, the theme *not sure why* was developed. This theme encompassed any explanation given using intuition such as, "*it's good for you"* or *"it's bad for you."* The definitions of these codes are available in Appendix Q. Table 12 provides two examples of when this theme arose in the child card sort activity.

Table 12: Not Sure Why Examples

Item	Perceived as…	Qutoation
Chocolate Bar	Unhealthy	*"And this one's chocolate bar….Because chocolate isn't good for you."* (Child 4)
Cous Cous	Healthy	*"Cous cous is healthy just because it's healthy."* (Child 2)

Results of the Thematic Analysis of Child Interviews

The interviews were intended to provide a description of the children's perceptions of their eating and physical activity habits. The major themes constructed from the child interview transcripts reflected the Family Eating and Activity Habits Questionnaire and included: exposure and availability to foods, hunger cues, eating in problematic situations, family rites, fast food frequency, non-physical activities and physical activities (Golan & Weizman, 1998). These themes are highlighted in Figure 21.

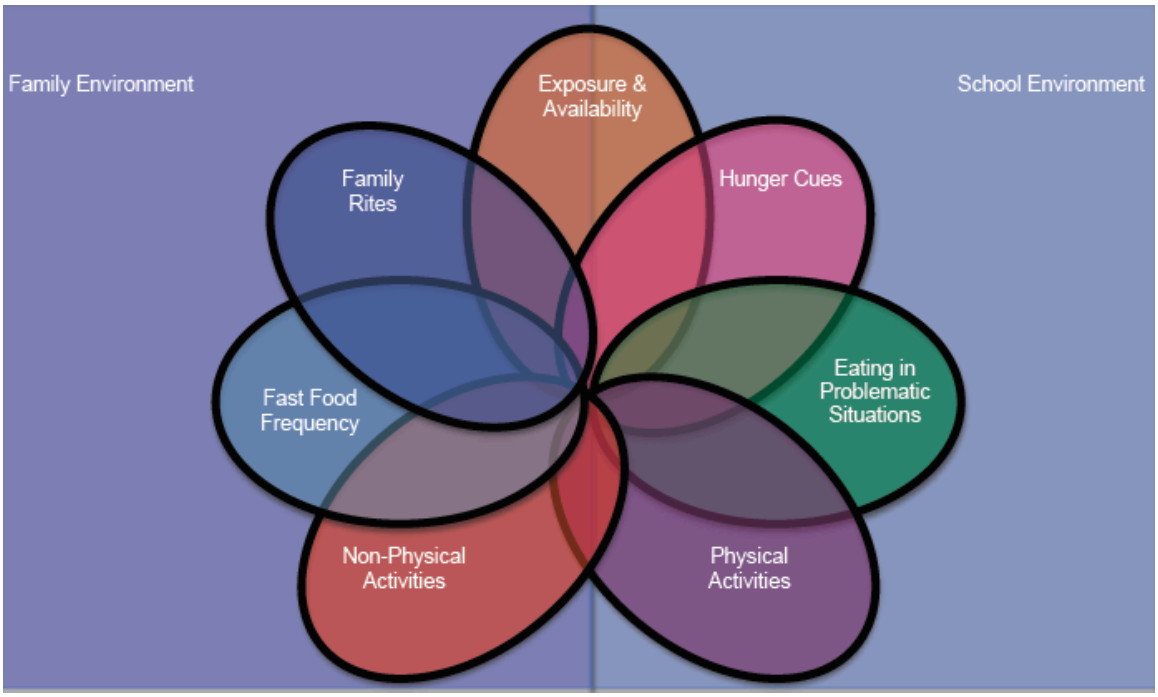

Figure 21:Diagram Outlining Themes of Child One-on-One Interviews

The child interviews provided information on both the family environment and the school environment as children were enrolled in elementary schools at the time of data collection. Figure 21 reflects the highly interrelated nature of eating and physical activity habits within both their school and family environments. For example, the eating habits of the children were influenced by both non-physical and physically activities, and vice versa, which are further influenced by their environments (either family or school). The following section will discuss each of the major themes with reference to the influencing environment and will provide examples in the form of children's direct quotes.

Exposure and Availability of Foods

Questions were asked to better understand children's perceptions of the family food environment in terms of the presence of unhealthy foods and children's access to

these products. The subthemes included location and selection of snacks as well as child consumer and vending machines.

It was evident that all children were aware of the location of snack foods within their family home. For example, Child 1 stated: "*the more unhealthy ones are in there [points to kitchen cupboard], the fruit is up there and some milk and cheese and stuff like that and bread and stuff is in our fridge."* Only one child reported that her parents hid snack foods from her: *"...no, my dad hides the snacks"* (Child 2). All children reported having their own selection of snacks to choose from: "*Cheese Strings™, the Oatmeal-to-go Bars™, sometimes we have, like, these little gummies called Minis™, we have pudding but we don't really have it that much…honey roasted nuts sometimes…"* (Child 3).

All children reported rarely or never purchasing their own snacks for consumption in the home or at school. As Child 1 described, her money spent on treats only occurred on special occasions: "*If it's my birthday or something, we'll go out and get candy for my party or something. But, I don't really buy much candy*." Additionally, this held true for the children's school environment as only one child reported having vending machines in his old school but not at his new school. Therefore, all foods accessible to children within their households were the result of decisions made by the caregivers and their food shopping habits.

Hunger Cues

Within environments, children can experience nonproductive food intake when they are bored, stressed or under social pressure (i.e., other members of the family or peers are eating). The Hunger Cues scale on the Family Eating and Activity Habits

Questionnaire represented the occurrence of eating at any other time besides from when an individual felt hungry (Golan & Weizman, 1998). From the child interview, the two subthemes under hunger cues included the structure of daily dietary intake and asking permission to snack.

The children in this study all followed the same pattern of meals and snacks during a regular weekday throughout the school year: breakfast, morning snack, lunch, after-school snack, dinner and bedtime snack. Breakfast was a priority as it was often the first thing children reported doing in the morning: *"Get up, come downstairs and have breakfast"* (Child 3). Regardless if children reported being hungry in the morning, a breakfast meal was consumed: *"Well, sometimes I wake up and I'm not that hungry, so that's when I have the fruit juice [smoothie]"* (Child 1).

Morning snack was served at school and packed by each child's mother. Unique to the morning snack, children were more likely to consume a healthy product for their nutritional break at school rather than a snack food or confectionery. For example: *"There's all mixed kinds of fruit, and, if there's time I'll eat like my blackberries or something"* (Child 4).

Children were more likely to consume a snack food or confectionery within their family home or at their babysitter's house for their afternoon or after-school snack. For example, when discussing selection of snacks for after-school consumption: *"Rice Krispies™, gummies…granola bars, and…the fishy crackers and all that other stuff"* (Child 2). In contrast, the bedtime snack usually involved consuming a product that is considered to be easily digestible. For example: *"Sometimes I have some fruit or like a bowl of cereal"* (Child 1).

As mentioned previously, children did not purchase their own snacks; therefore, caregivers were responsible for purchasing snacks specifically for the child. Although children had access to these snacks, all reported that they must ask for permission from a parent before helping themselves: *"Well, I have to ask if they're [snack] good. I could take out some fruit snacks and say can I have these and if she [mother] says no, I could try something else"* (Child 1).

Eating in Problematic Situations

In the Family Eating and Activity Habits Questionnaire, authors Golan and Weizman (1998) provided a list of examples for eating in a problematic situation, which included eating: while standing, from the pot/pan/bowl, in front of the television, while reading or working, in the living room, in the bedroom, in the office, at a fast pace and consuming more than a recommended serving size. The term *problematic* describes failing to follow the recommendations of researchers who have suggested to eat only when hungry and when hungry, eat at a table, using a proper plate, remain seated and do not partake in any other activity while dining (Golan & Weizman). The children were asked about places they ate to determine if any of their eating situations were problematic. For the meals served at home, breakfast and dinner, the majority of children consistently reported eating at the kitchen or dining room table. For lunches and snacks consumed at school, all children consistently reported eating in their classroom at their desks. None of the children reported having a cafeteria in their school. Therefore, these situations would not be labeled as problematic due to children's ability to take their time to eat, eat while seated and not focus on any other activities.

There were two problematic locations that emerged in the children's transcripts: eating in the bedroom and eating in the living room.

"And where do you eat breakfast?" (Interviewer)

"Either up in my room or down here…. I'll eat at my desk." (Child 2)

"And when you eat downstairs, where do you eat?" (Interviewer)

"On the couch or on the table." (Child 2)

Furthermore, eating alone in the bedroom or eating on the couch coincided with watching television: *"But if there's a good show on, like American Idol™, sometimes I'll bring it [bedtime snack] over there"* (Child 1).

Family Rites

Golan and Weizman (1998) described the Family Rites scale on the Family Eating and Activity Habits Questionnaire as the ability of the caregiver to monitor their child's consumption of foods and beverages. This monitoring occurred when the caregiver was present during mealtimes, in the case of this study, during breakfast and dinner. Two subthemes were identified under the theme of family rites from the child interviews and included: eating with others and meal preparation.

Children were most likely to report eating breakfast on their own without the supervision of their parent. Children described eating alongside their siblings and eating with either parent on occasion, for example: "*I sit there and *my sister's here, but sometimes if my dad's not, like, he doesn't have to go to work later on, then he'll just sit there"* (Child 3). Mothers were reportedly too busy with morning chores to sit down and have breakfast with her children: *"Well, sometimes she's, like, getting food, and sometimes making our lunches for school"* (Child 1). Other reasons for not eating

breakfast with their children, included parents not eating breakfast at all: *"My mom and my dad don't usually have breakfast"* (Child 2) or parent's had no time: *"Sometimes my mom has to eat breakfast in the car, on the road, when she's driving me to school"* (Child 4). Although parents found it difficult to sit down and have breakfast with their children, the three out of four of children described eating family dinners together at a table:

"And, who do you eat dinner with?" (Interviewer)

"My mom, my two brothers. And sometimes my dad." (Child 1)

"Right. And how come only sometimes dad?" (Interviewer)

"'Cause sometimes he's at work." (Child 1)

In the situations where parents were not able to physically sit down and eat with their children, they still had some aspect of monitoring the food consumption of their children. Mothers, in particular, were responsible for preparing meals. All children reported that their mother was the one to do the cooking on a regular basis and occasionally their father would cook: *"My dad only makes pancakes and, like eggs!"* (Child 3). More information about preparing and serving meals will be discussed in the thematic analysis of the caregiver interviews.

Fast Food Frequency

An additional question was added to the Family Eating and Activity Habits Questionnaire and asked the caregiver to record the number of times the family ate at a fast food restaurant during a regular week (Golan & Weizman, 1998). The purpose of this question was to add to the knowledge of the family eating habits. The caregivers answered honestly for fast foods consumed as a family, however, specialty lunches such as hot dog days, pizza lunches and hot lunch programs were not taken into consideration.

The subthemes that were constructed from the child interview transcripts under the theme of fast food frequency included pizza lunches, hot lunch programs, fast food locations and restaurants.

All children reported that their school offered a pizza lunch on Fridays. Two children reported that their schools had pizza every Friday, while the other two reported a few times per month. The majority of children discussed having one slice with juice, water or milk; *"Nope! They don't do pop"* (Child 3). One child reported not partaking in pizza lunch because "*I didn't have a really good experience…"* (Child 1).

Two children reported taking part in a hot lunch program which offered a variety of foods: *"I have…hamburger… a grilled cheese, I have spaghetti, I have pancakes and I have Sheppard's pie, and, I have chicken, you know like, the chicken wings, and I have chicken fingers"* (Child 4). Children participated in this lunch program two or three times each week throughout the school year.

When asked about frequency of the family visiting fast food locations, getting take-out or going to restaurants, the key term that emerged from the transcripts was *occasionally.* Children reported going to McDonald's™, Harvey's™ and Wendy's™ a few times a month where they would order meals such as *"a cheeseburger…fries and a drink*" (Child 2) or *"…a hamburger with only ketchup on it. And sometimes I have French fries and sometimes I have apples. And I have chocolate milk…"* (Child 4).

The frequency of ordering take out varied from family to family. For example: *"Like once a month, maybe! Maybe like once every two months sometimes"* (Child 3). When children did order take-out, they reported eating fish and chips, Chinese food and pizza. Children reported going to Mandarin™, Boston Pizza™, East Side Mario's™ and

out to a restaurant for special occasions. *"Sometimes if we're coming home from a long trip, we go to a restaurant. Or if we just want to go out and eat somewhere nice. We go to a restaurant. Or for like birthdays"* (Child 1).

Non-physical Activities

Golan and Weizman (1998) describe leisure time activities as the frequency of which caregivers and children engage in physical activities and sedentary behaviours. The following two sections will outline the non-physical activities and the physical activities of the participating children.

The Family Eating and Activity Habits Questionnaire highlighted watching television, playing video games or going on the computer as sedentary behaviours (Golan & Weizman, 1998). These three sedentary behaviours were discussed in the children's one-on-one interviews; however, several additional non-physical activities were also mentioned. These included: homework, reading/writing and extracurricular activities that did not involve being physically active.

NON-PHYSICAL FREE TIME ACTIVITIES

The amount of television children watched differed from household to household. Some children watched television for extended periods of time: *"...two hours"* (Child 2), while some children did not watch television on a regular basis: *"sometimes we will, but not really"* (Child 4).

All children reported having access to a video game console within their household, however, similar to the amount of television, the length of time playing video games differed from household to household. Some children played video games on a more regular basis for an extended period of time: "*sometimes under an hour and*

sometimes like an hour" (Child 3). While others played them sporadically: *"I don't really play them often. 'Cause I usually have a lot of homework"* (Child 2).

The same trend was found for time spent on the computer; participation differed from household to household. Out of all three screen time activities (television, video games and computer), time on the computer was discussed as being the least favourable of activities: *"Not really, sometimes I do"* (Child 4). Furthermore, spending time on the computer was referred to as a last resort to other activities: *"Well, it depends whether, if I'm like, bored"* (Child 1).

All children in this study reported having homework on a regular basis:

And then what happens when you get home from school? (Interviewer)

Well, I do my homework if I have any. (Child 1)

Some children reported having homework everyday: *"Well, if we're done our homework page, we usually go to the next page, the rule is it's always homework. But, if we're having a test the next day, then it's no homework. Our only homework is studying"* (Child 2).

When children were done their homework, they had an opportunity to take part in other non-physical activities: *"Sometimes…read a storybook or something, 'cause my sister gets library books"* (Child 4) or *"read book, write stores"* (Child 1).

NON-PHYSICAL EXTRACURRICULAR ACTIVITIES

All children were enrolled in extracurricular activities during the course of data collection, however, not all activities involved being physically active: meaning the activity did not involve body movements produced by the skeletal muscles resulting in an increase in energy expenditure. (Healthy Living Unit, 2003). These events include music

lessons, tutoring and church group activities. These activities were reported as being once or twice on a weekly basis: *"On Wednesdays, I go to tutoring and another tutoring, I have two tutors"* (Child 4). Or *"I do piano every Sunday morning"* (Child 1).

Physical Activities

The Family Eating and Activity Habits Questionnaire provided hockey, gymnastics, dance, active transportation and extracurricular activities that involve physical movements as leisure physical activities. A number of physical activities and opportunities for physical activity were discussed in the child one-on-one interview and have been separated into three categories: active transportation, physically active extracurricular activities, school-based physical activities..

Active transportation

The theme of active transportation described the situation of a caregiver, child or the family as a group selecting to participate in a more active form of transportation such as walking, cycling or rollerblading (Procter, Clarke, Ransley & Cade, 2008). Unfortunately, during the months of data collection it was winter and so active transportation was not a regularly viable option. "*I walk, like, I usually walk, like all the time but I ride my bike sometimes in the summer and then, [in] the winter we usually drive or walk"* (Child 3). Other times, active transportation was restricted because of location:

"Do you sometimes walk or ride you bike [to school]?" (Interviewer)

"Uh-nuh…too far". (Child 4)

Furthermore, children were restricted from active transportation because of their parents: *"My mom drives me….Because my mom and dad have a bad back"* (Child 2). Therefore, especially in the winter months, children's active transportation was limited.

PHYSICALLY ACTIVE EXTRACURRICULAR ACTIVITIES

The term organized physical activities was defined as any leisure activity hosted by an organization that provides a service to the general public, usually involving an enrollment or registration fee. Participants were involved in attending regular practices or classes during a season or session. The organized physical activities mentioned in the child interviews included swimming lessons, dance, hockey and baseball. These activities varied in frequency, duration and intensity. For example, Child 3 was involved in hockey on a regular basis at a fairly intense level: *"Sometimes only [practice] like two or three times a week…."* On the other hand, Child 2 outlines that sometimes physical activities are purely recreational and not so intense:

> *"And Sundays, there's church and swimming and that's it."* (Child 2)
>
> *"What kinds of things are you working on in swimming?"* (Interviewer)
>
> *"I don't really know the names."* (Child 2)
>
> *"…Do you like swimming though?"* (Interviewer)
>
> *"Yeah."* (Child 2)

SCHOOL-BASED PHYSICAL ACTIVITIES

During child one-on-one interviews, the children were provided the opportunity to explain what their schoolyards looked like and asked to describe their recess activities. Some features of their school's outdoor environments included playgrounds, soccer fields, baseball fields, tether balls, basketball hoops, hopscotch patterns, sandboxes and a

wall to throw a ball against. All children reported having two recesses a day, one in the morning and one after lunch. Children often described using this time as an opportunity for *play*. "*We play soccer or… throwing the ball against the wall"* (Child 3). Child 4 highlighted the use of imagination in play: "*In the winter, I build forts and play with my friends and in, like, summer and spring we, like crawl, like, we play horses or something like that."* Child 2 exemplified both the availability of outdoor space and the use of imagination in play: *"we play on the playground. Or we just play dogs and cats."* Furthermore, Child 1 provided insight to the variety of activities children could have chosen from at recess: *"sometimes we play manhunt, which is team tag pretty much…. And sometimes, I'm a little bored too, so I just walk around the school yard, sometimes, with my friends because I'm a little bored."*

Regardless of the activities available in during recess, children in the study were provided with 45 to 50 minutes each weekday to be physically active.

Play was also associated with free time outside of school. For instance: *"In the summer, I used to play outside a lot with my friends, or go to the park"* (Child 4).

In school children were also able to partake in physical education and daily physical activity (DPA), which is explained here by Child 1*: "But the days that we don't have gym, we have DPA. Which is daily physical activity. Which is, for ten minutes, twenty minutes, your teacher will take you into the gym and do some type of activity."* Only two children reported taking part in daily physical activity in school, however, the Ontario Ministry of Education has implemented this program into every school in Ontario.

Results of the Thematic Analysis of Caregiver Interviews

The purpose of conducting one-on-one interviews with caregivers was two-fold; first, to gain further information regarding the eating habits of families with children ages 8 to 10 years and second, to gain further insight into caregivers' perceptions of healthy active living marketing, targeted towards children and families with children. Interviews lasted anywhere from 30 minutes to one and half hours and were structured around four main topics: review of commercial selection worksheets, discussion on children's requests for food products, description of meal structure and control of family foods and personal opinions regarding marketing targeted at children. As the commercial selection worksheets were previously discussed, this section will focus on the main themes that arose from the transcripts of the caregiver interviews and will further explore the similarities and differences between dyads.

The two overarching themes that emerged from the semi-structured, open-ended questions were caregiver control and marketing. Figure 22 provides an outline of the themes subthemes and categories that will be discussed under the overarching theme of caregiver control.

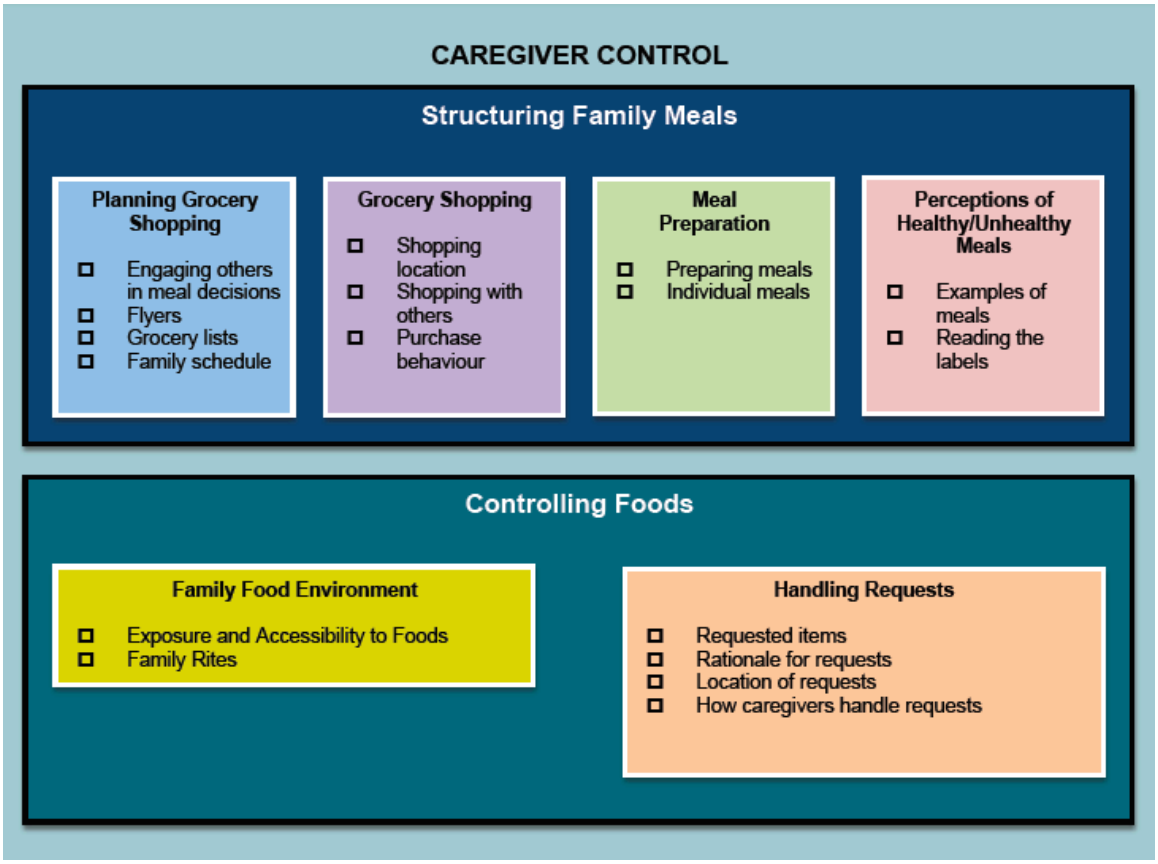

Figure 22:Diagram Outlining Themes of Caregiver Control From Caregiver One-on-One Interviews

Caregiver Control

STRUCTURING FAMILY MEALS

PLANNING GROCERY SHOPPING. Planning grocery shopping included any aspect of meal preparation before leaving the family home and prior to purchasing any ingredients or products for consumption. The category of planning grocery shopping was host to four subcategories, which included: engaging others in meal decisions, using flyers, creating grocery shopping lists and planning around the family's schedule.

ENGAGING OTHERS IN MEAL DECISIONS. All caregivers reported being solely in charge of selecting the types of foods to purchase and deciding on which meals to prepare for their families every week. Caregivers also reported having little to no input

provided by other members of the family when making these decisions: *"…I do ask, you know, the kids, what would you like for dinner, but then they really don't come up with…different ideas or anything…. Other than they'll just say not roast beef*" (Caregiver 4).

The only time caregivers reported involving their children in making meal decisions was for Child 2 and Child 4 who took part in a hot lunch program at their schools. For Example:

> *"They have about, you know, maybe thirty different items to choose from. Twenty to thirty different items and then you just pick and choose. And of course, you know, I'll bring *my child down to the computer and then we'll go through, Monday, what do you want this Monday, Wednesday."* (Caregiver 4)

USING WEEKLY FLYERS. Caregivers reported either following a structured routine of checking grocery flyers every week or not using flyers at all. Those who did use flyers on a weekly basis, such as Caregiver 3, tended to follow a systematic process:

> *"…So Thursday when the paper comes, I review the flyers in the next day or two and just write down things that are on special that our family usually eats. It's not a time, I don't use the flyers to try new things and stuff, I just sort of look at, you know, we're almost out of cheese and Superstore™ has cheese on sale, so I'll buy it there this week instead of buying it at Sobey's™ where I possibly would have bought it."*

This process would be used to schedule when grocery shopping occurred during the week and to help organize family meals around a busy schedule.

Alternatively, some caregivers opted not to use grocery flyers due to personal preference. For example: *"I'm never one of those people who, you know, they used to stand outside and give you flyers. I don't even look at them. I tend to be more focused on what I need to get"* (Caregiver 1).

PREPARING A GROCERY LIST. All caregivers opted for creating a weekly grocery-shopping list, however, all for different reasons. In most cases the lists were generated from sale items advertised on the weekly flyers:

> *"Like when I put the things on the shopping list, it's mostly generated from my flyers. So it's mostly sale items. So the other items that I need, unless, like, I think I'll forget them, I don't put them on"* (Caregiver 4).

Caregivers who reported writing a grocery shopping list described the process as being beneficial: *"...so I can stay on track"* (Caregiver 3). Caregiver 1 reported making a list only as a tangible reminder for products to be stocked up on: *"Occasionally, I make lists because I might forget. Like, I might suddenly go to make pasta and think, oh I've run out of pasta sauce! So I do make some lists like that."* Caregiver 2 reported making a grocery list for each store she may visit during the following week: *"Superstore™, Rexall™, Food Basics™ and…No Frills™"* and would only record on the list *"...my regular stuff that I buy."*

PLANNING AROUND FAMILY SCHEDULES. All caregivers discussed making meal decisions based around the weekly activities of each family member. For instance, Caregiver 2 reported deciding to order take-out on the busy nights for her family:

> "*Sometimes I get off at five o'clock from work in *the next town over, and then it's really late to start dinner. And then *my child has dance, or she has swim or*

whatever it is, or tutoring night at the library. So sometimes I have to order pizza."

Caregiver 2 reported planning meals one day at a time, however, this was not the case for all caregivers such as Caregiver 3 who planned these nights in advance:

"Based on what is on our family calendar and I look at what we call 'fright nights', which are the nights when we have to turn things around really quickly and we have take out probably once a week or once every two weeks. So, I sort of plan what night that's going to be."

By contrast, Caregiver 1 and 4 described preparing the same seven meals each week for their families with little option of switching it up. Therefore, their family schedule did not play a major role in deciding which meals to prepare each week. "*So typically, maybe not exactly the same day, but I guess my repertoire of meals is, you know, pretty much seven days, right? ... But, again, I normally plan it the day of. I don't preplan"* (Caregiver 4).

GROCERY SHOPPING

The category of grocery shopping added to the knowledge of how caregivers made decisions on which food and beverage products to purchase for their family and why. The subcategories that fell under grocery shopping include: grocery shopping location, shopping with others and a discussion about caregivers' purchasing behaviours.

GROCERY SHOPPING LOCATIONS. All caregivers reported purchasing foods at a local grocery store that was most often close and convenient: *"Superstore™ ....I find it's close, it's convenient. Generally I like it because I know where everything is. So when they move something round that frustrates me"* (Caregiver 1). None of the caregivers

reported shopping at a local farmer's market or mentioned growing their own vegetables at home or in a community garden.

Shopping with others. Three out of four caregivers reported grocery shopping on their own on a regular basis. When asked to describe the difference between shopping alone versus shopping with others, all caregivers generally provided the same answer: *"Well, one's a lot less stressful than the other"* (Caregiver 1). Caregiver 2 provided further insight into why shopping with others was difficult:

> "*When I go shopping alone, I'm not pressured, I don't having whining and, and please get this, oh, please, please, please, please, please! And it just drives me crazy…. When she's [my daughter] not with me, I have a clear head and I know what. I don't have anyone pressuring me, buy this, buy this."*

This pressure was not just found to take place when children attended the grocery store with their parents, however, the frustration was also felt when partners attended shopping:

> *"Like, if my husband shops with me, it's an extra $100. Because, we end up with junk food that I would never buy or treats that I would never think of getting. When he shops with me, we come home with Joe Louis™ and roasted peanuts and snack foods. Egos™. White bread. You get it."* (Caregiver 3).

For this reason, caregivers reported to prefer going shopping alone when their children were in school.

Purchase behaviour. During the one-on-one interview, each caregiver provided different insights into how they went about purchasing the products they intended to purchase and how on occasion they wandered off their lists. Purchase

behaviours include casually shopping as an enjoyable experience, being influenced by in-store marketing campaigns, being an informed consumer, browsing and stocking up on nonperishable items.

MEAL PREPARATION

Apart from ordering take-out, dining at a restaurant or getting fast food on occasion, all caregivers reported making homemade meals on a regular basis. The category of meal preparation discussed homemade meals, preparing meals and making meals for individual family members.

PREPARING MEALS. All caregivers interviewed in this study reported to be responsible for preparing, cooking and serving the family meals:

> *"The prep, cook, chef, the everything. My husband will disagree and say that he does the barbequing but basically that's taking the food that's been planned, purchased and prepped and prepared and throwing it on a barbeque and then pulling it in. That's it. He calls that cooking."* (Caregiver 3).

Furthermore, the general consensus was that children were not at an age appropriate to help out with the preparation of meals. *"She helps set the table. And, I said she has started doing her lunches for school. But, no, not much else. I'm kind of concerned with the hot water and them doing stuff [around] knives"* (Caregiver 1).

PREPARING INDIVIDUAL MEALS. Although children were not allowed to help prepare meals, specific children in this study would request for their own meal be prepared for them:

> *"And she's hungry, usually, when she gets home from *the babysitter's, when he [husband] picks her up. So that's like between, probably five and five-thirty, and*

> *I'm not home yet, so she'll say I'm hungry and I want Kraft Dinner™. Or I want chicken fingers. And *my husband will say, well your mom's making breaded chicken and vegetables. And she, I can't wait 'til mommy gets home, I can't wait until that's cooked, I'm hungry now."* (Caregiver 2)

Other caregivers were not as lenient with their children and would only make meals for the family as a group. *"So sometimes I'll kind of just change it round and I might be a little flexible there. But I'm not going to make five different meals. The only time when that will happen will be like…probably if they want snacks"* (Caregiver 1).

Perceptions of healthy/unhealthy meals

The subcategory that fell under the theme of perceptions of healthy/unhealthy meals adds to the knowledge of caregiver's perceptions of the nutritional value their children are receiving from both the foods they purchase and those they consume. Appendix R provides a table that highlights examples from caregivers' discussion surrounding healthy family meals. All caregivers in this study also reported reading food labels on a regular basis. Appendix S provides a table highlighting the examples of the various macronutrients, vitamins and information regarding a product caregivers reportedly looked at when reading labels.

Family food environment

The category of the family food environment that arose from the caregiver one-on-one interviews encompassed the themes of the Family Eating and Activity Habits Questionnaire and included exposure and availability of foods and family rites (Golan & Weizman, 1998).

EXPOSURE AND AVAILABILITY OF FOODS. All caregivers reported having control over the types of foods available in their households and to a degree felt that they had control over children's access to these foods. For the most part, caregivers felt control over the availability of the foods entering the home because they were responsible for grocery shopping: *"It all depends on what comes into the house basically, right? So, if I'm buying junk then they'll be eating junk"* (Caregiver 4). Additionally, caregivers described having specific foods available to their children, however, controlling the selection of foods by placing certain products in inaccessible locations:

> *"Well, I'm the purchaser, I put them away, so if there is specialty snack food, I put it in a location that isn't easily accessible. Or viewable…. I mean, they have access to fruits and cookies and snacks that are on the counter but things that are put up high or away they are not."* (Caregiver 3)

Although caregivers felt a sense of control with availability and access to food in their own household, all caregivers felt as if they had little or no control over the exposure and access to foods at school.

> *"I think, that just because, if I don't pack it in her lunch, junk, her friends share it with her, their lunch, and she doesn't have the need to eat the blueberries, the strawberries or the fruit….But I have no control over it."* (Caregiver 2)

FAMILY RITES. Caregivers discussed how they acted as a role model for their children and provided healthy options and unhealthy foods in moderation. Caregivers also discussed how their perceptions that children should learn how to make healthy and unhealthy food selections for themselves: *"Yea, I mean, you know, you can't deny,*

everything in moderation, so you can't deny something outright. It's just, you know, you need to let them make their own decisions too" (Caregiver 4).

HANDLING REQUESTS

The term request is defined as the appeal by the child to their caregiver for the purchase of a specific food or beverage product. The category of handling requests encompassed the subcategories of: requested items, rationale for requests, common locations requests are made and the caregiver's responses to children's requests.

REQUESTED ITEMS. Examples of requested items made by children included sugary breakfast cereals, pastries, fruit-flavoured snacks, ice creams and chocolate bars. Caregivers reported that the majority of requests for purchase of food and beverages occurred when children were in the grocery store. *"You know, if, it it's after school or something and they want something that they can just snack on, so they might ask for a bu. Like from, you know, the bakery section"* (Caregiver 4).

RATIONALE FOR REQUESTS. There were two main reasons children were influenced to make a request: exposure to television commercials, influenced by environment and social facilitation.

Only Caregiver 2 reported her daughter to be influenced by television commercials for foods and beverages: *"I think it does. 'Cause they make it look, there's kids and, they're using the food, like, my example of the toy, they just make it look fun and make it sound like it taste really good."* All caregivers were in agreement that children were more likely to be influenced by what their peers were eating at school than what was advertised on television:

> *"I would say, probably not from a commercial point of view. If anything it's more peer pressure. What she sees at school, so, you know, at lunch time, so she see someone else has something that's when I'll get more of the pressure. Typically, not from any of the commercials, not that much. From a food point of view."* (Caregiver 4)

RESPONDING TO REQUESTS. There were several different reasons to why caregivers gave into or refused a request. Caregivers 1, 3 and 4 described they would give into requests when children were demonstrating good behaviours:

> *"You know what, it just, it really depends on people's behaviour. Before the shopping and during the shopping. If they have good behaviour they are more than likely to get me to allow them to try something. But if they're ramming into each other with the cart and pushing each other around and squealing in the store, there is no opportunity to try any goods."* (Caregiver 3)

Furthermore, Caregivers 3 and 4 discussed refusing requests when children exemplified poor behaviour such as persistence of requests:

> *"Like I guess, with the cereal, you know. I'll say it's not on sale, and we're not buying this one right now. Or I'll tell them it's not healthy and if they keep harassing that it's just a NO. You know, if they keep asking for the same thing, then, yea, you don't go with the explanation anymore it's just a no."* (Caregiver 4)

Caregiver 2 was the only caregiver to report to give into requests on a regular basis: "*I'm, I'm so busy and I give in."*

Marketing of Food and Beverages

Figure 23 outlines the categories that arose from caregiver one-on-one interviews.

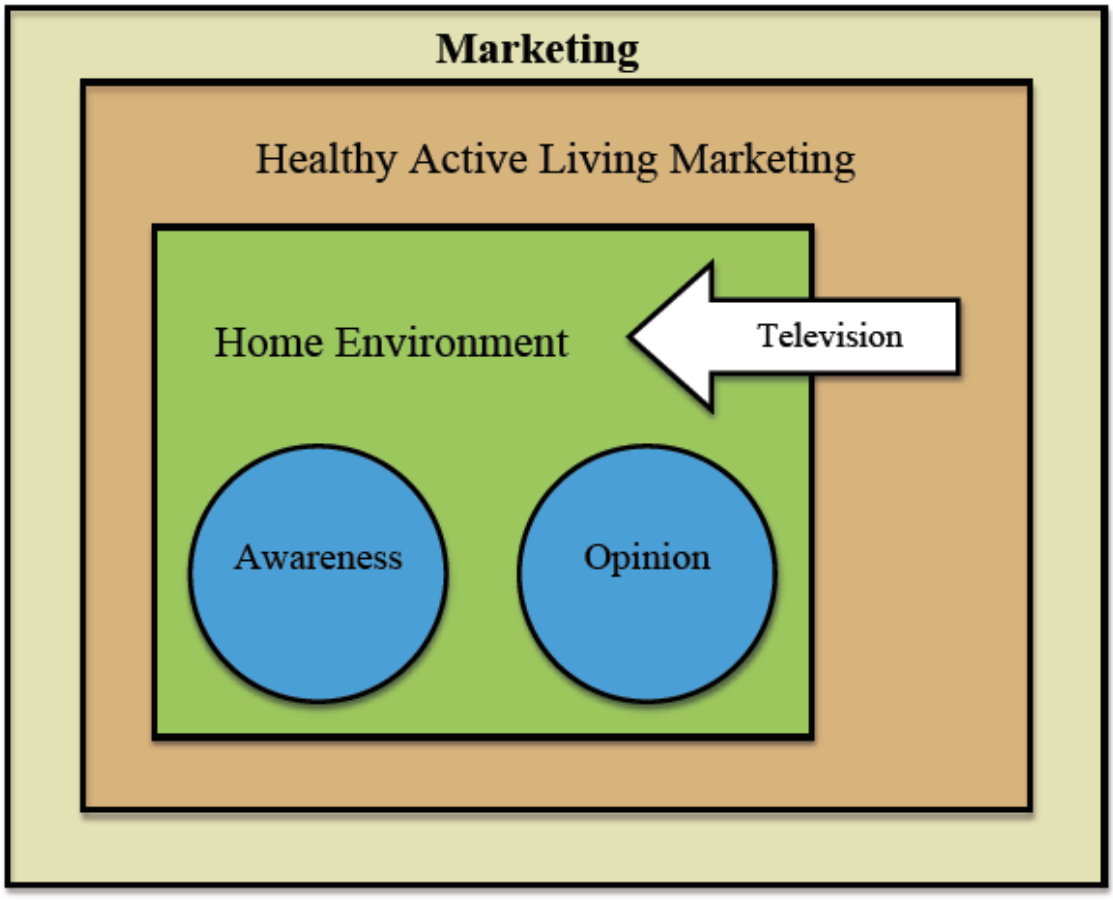

Figure 23: Diagram Outlining Themes of Marketing from Caregiver One-on-One Interviews

Figure 23 does not provide information regarding caregivers' awareness and opinions of marketing targeted at children within the school environment. Although all caregivers provided opinions on marketing in schools, this information has been omitted as it is beyond the scope of this study and its research questions.

AWARENESS OF MARKETING

AWARENESS OF MARKETING ON TELEVISION. Through the discussion of marketing, caregivers provided insights into their awareness of personal consciousness of

the marketing tactics recorded from television and how marketing specifically targeted at their children:

> *"Like obviously, you know, if they do the cartoony types of commercials then I can see that the kids are more attuned to those. Especially if they have never tried the product. If they make the commercial funny, they make the kids go, will definitely go towards it."* (Caregiver 4)

Opinions on marketing

Perceptions of marketing to children on television. Three out of four caregivers described their opinion of marketing of food and beverages to children as a reality and understood why it was being done:

> "*Well, I don't necessarily agree with it [marketing to children] but I understand why they do it. Because that's what they are supposed to do, like, they have a target audience and if it's nine o'clock in the evening and it's Grey's Anatomy™, they're going to target to forty-something women, and the more times you see a commercial the more times it's going to stick in your head too."* (Caregiver 4)

Although caregivers understood the business of marketing, they also discussed their frustration with the concept: *"Because it's like they're fibbing to the kids. Because the kids are, you know, they don't know! They're not nutritionists. They're little and easily influenced*" (Caregiver 2). Furthermore, Caregiver 1 disagreed completely with the marketing of unhealthy products to children:

> *"Well, if they're marketing something that's unhealthy then it's sort of teaching your kids to go out there and possibly buy it. And it's unhealthy, so it's like advertising cigarettes, so I don't think they should be allowed to do that."*

Further into the interviews, caregivers were asked what they would like to see change with marketing of foods and beverages targeted at children. In summary, caregivers described the restriction of exposure to unhealthy food products as the combined responsibility of marketers and parents.

For the most part, caregivers agreed with having marketing governed by an overarching body, such as the Canadian government: *"I think it just needs to be maybe, like, governed or modified so that it is in the best interest and you are not pushing the very high caloric, sodium drenched snacks to kids day after day"* (Caregiver 3). Furthermore, *"maybe it [the government] should provide guidelines but it can't be totally responsible, because, I mean, we need freedom, then we go back to all that freedom of speech thing too, right?"* (Caregiver 1). Along the same lines, caregivers believed it was the responsibility of themselves as parents to control their children's exposure to marketing: *"I mean if you're in your house and you're watching TV, like, you know, that's your choice to watch TV and get bombarded with the commercials, and that's capitalism and that's business, right?"* (Caregiver 4). And when children were exposed to commercials, caregivers felt it was their responsibility to control the actual intake of unhealthy foods: *"And you can't live in a world where you have no unhealthy foods, but we try to modify and augment what is unhealthy in a balancing type of way to serve what is healthy"* (Caregiver 3).

Perceptions of healthy active living marketing. Each caregiver reported having a different perception of healthy active living marketing. Caregiver 1 discussed several scenarios of healthy active living marketing without any prompts around the subject matter: *"But the commercials for Sunny D™, what are they? They're*

active teenagers, enjoying life in the sun on their rollerblades. That is very appealing to kids." Another example provided by Caregiver 1 was that of Coca Cola™: *"And the same with the Coca Cola™ drinks. You know, in the summer, when you see them on the surf boards, it's all teenagers, all having fun. And they've all got their cokes with them."*

Caregiver 2 interpreted healthy active living marketing as including nutritional claims: *"The Becel™ margarine, they say, you know, it's the Heart and Stroke recommends it. So, I would think that would be a better choice than butter*." Another example of nutritional claims used in food marketing would be *"the Gold Fish Crackers™, they're baked and …I can't remember if it's one hundred percent cheddar, but they say they use cheddar in making them."*

Caregivers 3 and 4 reported witnessing no healthy active living marketing campaigns during their commercial recording activities. Caregiver 3, however, mentioned that this new strategy of marketing could be effective: *"I think it sends a good positive message both to the person who's planning the food and the person who's cooking the food and the people who are eating the food. You know, if they show super unhealthy food, in a healthy atmosphere, I think it may sway people to think that it's not as bas as I is."* Caregiver 2 agreed with his statement as she reported that the nutritional claims in commercials *"sways me to try it or at least go into the grocery store and look at the ingredients."*

CHAPTER 4 SUMMARY

This chapter presented the findings of the family food receipts, commercial activity worksheets, one-on-one interviews and Family Eating and Activity Habits Questionnaire. Data underwent a combination of descriptive statistics, content analyses

and thematic analyses, which provided in-depth information regarding the eating and physical activity perceptions and behaviors of families with children ages 8 to 10 years. The following discussion chapter will synthesize all evidence in Chapter 4 to present the key findings of this study and how they contrast to or comply with previous healthy active living research.

CHAPTER 5: CONCLUSION

Over the past four decades Canadians have seen a significant increase in the prevalence of childhood obesity (Shields, 2004). The obesogenic environment has become host to numerous prompts for children and adults of western societies to eat and drink more calories than they expend (Swinburn, Egger & Raza, 1999). This obesogenic environment is, in turn, host to various influential factors, one of which is the bombardment of food and beverage advertising know as the advironment (Strasburger, 2001). The persuasive messages of marketing have found their way into the family home via commercial advertisements on television, especially during children's programming. Children are exposed to up to 40,000 commercials a year, which are mostly for the *Big five* products: cereals, confectionery, snacks and spreads, beverages and fast and frozen foods (Hastings et al., 2008; Selling to and Selling out- Children, 2002; Strasburger, 2001). Most recently, food and beverage companies have advertised their inherently unhealthy products in a physical activity, sport or exercise context, in this study this was referred to as healthy active living marketing.

One purpose of this research was to gain an understanding of and explore the relationships between televised healthy active living marketing commercials targeted at children and the eating and physical activity habits of caregivers and children (ages 8 to 10). A second purpose was to gain an understanding of caregivers and children's perceptions of healthy active living marketing. These two purposes were addressed through the main research question and four subsidiary questions, which will be answered in this chapter, followed by a discussion of the study limitations and

implications for health promotion and future research and will conclude with a summary of key findings.

MAIN RESEARCH QUESTION

The main research question read: what are the relationships between televised commercial advertisements, which link foods and beverages with physical activity, exercise and sport and family's eating and activity perceptions and behaviours?

Unfortunately, no evidence of healthy active living marketing was recorded during the commercial activity worksheets by the four participating dyads. Therefore, children's perceptions of healthy active living tactics could not be directly assessed. However, observations were documented regarding: caregivers' perceptions of marketing and the concept of healthy active living marketing; the eating habits of families with children ages 8 to 10; caregivers' nutrition knowledge as an influence on their own and their children's perceptions of healthy and unhealthy foods; the influence of caregiver control over the family food environment; and influential factors on family food purchases. These key findings will now be discussed through answering the four subsidiary research questions.

SUBSIDIARY QUESTION ONE

The first subsidiary question read: what are children's and caregiver's perceptions of healthy active living marketing targeted at children?

This question is answered in two parts, the first of which discusses children's perceptions of marketing followed by the second, which considers perceptions of marketing from caregivers' points of view.

Children's Perceptions

Children recorded their perceptions of the nutritional quality for 41 food and beverage products advertised on television. From these commercials, children selected their favourite and least favourite, which underwent a content analysis for healthy active living marketing. The results of this content analysis found no healthy active living marketing tactics in either favourite or least favourite commercials (i.e. no commercials portrayed foods or beverages in a physical activity, exercise or fitness context). Therefore, this research cannot appropriately discuss children's perceptions of healthy active living marketing as no evidence was found in the commercials witnessed by children. This research can, however, add to the understanding of which televised marketing tactics used by food and beverage companies appeal to children and which do not. Furthermore, this research can add to the theory that children are more likely to be attracted to foods that caregivers limit.

Influential marketing tactics on children

Children were more likely to select their favourite commercials for advertisements, which involved marketing strategies that employed fun, comedy, promotional cartoon characters and the portrayal of family members. This indicates that children in this study were more likely to be attracted to a commercial that enforced a *peripheral route* to advertising (Livingstone & Helsper, 2004; Office of Communications, 2004; Petty & Cacioppo, 1986). Petty and Cacioppo describe the peripheral route as one of two routes in the Elaboration Likelihood Model of Persuasion. Likelihood elaboration is described as the prospect of an individual to generate thoughts in response to an external stimulus, such as a marketing tactic (Coulter, 2005; Petty,

Cacioppo & Schumann, 1983). Individuals who follow the peripheral route to persuasion are likely to be influenced by the source of the message rather than taking notice of the message content (Petty & Cacioppo; Livingstone & Helsper; Office of Communications). A substantial amount of past research has documented children's preference to peripheral route features in advertising including celebrity sources, jingles, colours and entertaining images (Bridges, Briesch & Yim, 2004; Carruth, Skinner, Moran & Coletta, 2000; Dalmney, Hanna & Lobstein, 2003; John, 1999; Kunkel, Wilcox, Cantor, Palmer, Linn & Dowrick, 2004; Livingstone & Helsper, 2006; Valkenburg & Cantor, 2001). Lutz (1985) described when elaboration likelihood is low, an individual's opinion of the advertised product is shaped by peripheral cue processes. Furthermore, low elaboration likelihood is a result of low information processing (Lutz).

In comparison to Piaget's Theory of Cognitive Development (Modgil, Modgil & Ihelder,1976), the model of information processing also explains children's development of cognitive maturation through a hierarchy of complexities (Costley, 1986). Piaget's theory presents cognitive development stages, which reflect a child's progression of thinking and gradual understanding of concepts needed to mentally represent the world and make sense of things (Modgil et al.). Previous research has stated that prior to full cognitive maturation, children lack the cognitive skills required to properly interpret and evaluate advertisements (Blosser & Roberts, 1985; Brucks, Armstrong & Goldberg, 1988; Rossieter & Robertson, 1974; Valkenburg, 2000).

If examined in further detail, children may have been attracted to peripheral route features because they experience low information processing, which Piaget would suggest is because they do not have the cognitive capacity to understand the true

persuasive intent of marketers (Modgil, Modgil & Ihelder). This would explain why children are drawn to the superficiality of marketing strategies and not the content of the advertised message. This research can then add to the argument that the marketing of unhealthy foods and beverages is appealing to children by exploiting their inability to full contemplate the underlying persuasion of the intent to sell.

Children's preference of restricted products

Children in this study selected their favourite commercials for products that were classified by the nutritional content analysis as unhealthy and categorized as one of the Big five products (i.e. fast and frozen foods, confectioneries or snacks and spreads). Based upon previous research, children may develop a preference for products that their caregivers restrict. In a study performed by Casey and Rozin (1989), 40% of parents reported believing that the restriction or prohibition of a particular food would decrease their children's preference for that food. Fisher and Birch (1991), however, stated that the restriction of access to foods might actually promote the overconsumption and preference to these foods.

In children's explanations to why they selected their favourite commercials in this study, children often made reference to the food's appearance and their perception that it may taste good. In conjunction with the studies described above, all of the selected favourite commercials were for products the caregivers reported as limited or prohibited to their children. Therefore, this finding supports the theory that children may already be drawn to advertising of unhealthy products because marketers use peripheral route of persuasion techniques and caregivers restrict the intake of unhealthy foods, which increases the child's desire to consume it.

Caregivers' Perceptions of Marketing

In line with the findings of the children's activity worksheets, no healthy active living marketing strategies were identified by caregivers in their selection of favourite and least favourite advertisements. However, unlike children, caregivers were more likely to report being attracted to the marketing of products perceived to be healthy or advertisements that provided nutritional information. This indicated that caregivers were likely to select commercials, which used a central route to persuasion, suggesting that caregivers were more attuned to the content of the message and found relevance to their own personal lives in the arguments the televised commercial advertisements presented (Livingstone & Helsper, 2004; Petty & Cacioppo, 1986).

Prior research has indicated that when the central route to persuasion is used, a person will engage in more effortful information processing in order to find meaning within the context of the portrayed message (Coulter, 2005; Lutz, 1985). In comparison to Piaget's Theory of Cognitive Development (Modgil et al., 1976), caregivers in this study may have been more attracted to commercials that took a central route to persuasion because they are cognitively mature, which means they understand the true intent of marketing and therefore are able to create a stable opinion in favour or against the product advertised through marketing (Kunkel et al., 2004; Livingstone & Helsper, 2004).

Caregivers' Awareness and Opinions

With the capability of cognitive maturation, caregivers are able to be more aware of marketing within their environments compared to children. During the one-on-one interviews, caregivers reported being aware of the differences between the attractiveness

of various televised marketing tactics used to lure children versus parents. Through the development of awareness of televised marketing aimed at children, caregivers also developed a personal opinion regarding marketing strategies.

Kelly and colleagues (2009) documented that parents were most aware of the marketing of unhealthy foods at the check-out lines in grocery store and on television. Furthermore, 91% of parents surveyed reported being concerned with the marketing of unhealthy food products to children on television (Kelly et al.). This is both consistent with and contrary to the findings of the current study as only one caregiver reported being concerned and three caregivers reported being neutral (neither agreeing or disagreeing). Young, Bruin and Eagle (2003), found that the majority of parents in their study neither agreed nor disagreed, but had a neutral opinion on the connection between food advertisements and unhealthy eating habits. Instead, the primary concern of parents in the study was regarding the fat, sugar and additive levels of foods portrayed in advertisements targeted at children (Young, Burin & Eagle, 2003). Similarly, caregivers in the current study referred to marketing as *a reality*, but reported being concerned with the nutritional value of products being advertised to children. This finding shows similarities between concerns of parents in different countries and also that the level of awareness of marketing does not coincide with an opposing or approving opinion of marketing tactics.

Caregivers' Perceptions of Healthy Active Living Marketing

Caregivers did not record any healthy active living marketing tactics from the commercials they witnessed; however, the concept was discussed during one-on-one interviews. Caregivers perceived that pairing healthy messages with less healthy food

items could be detrimental to individuals (both children and adults) who are easily influenced. Through the examination of the results of the commercial selection worksheets, caregivers highlighted a significant marketing tactic: the use of nutritional claims in television advertising. The current definition of healthy active living marketing does not encompass the use of nutritional claims nor does current literature examine the use of nutritional claims in television commercials and its effects on eating habits.

In summary, the key findings from subsidiary question one was that children are attracted to the peripheral route to persuasion and caregivers are attracted to the central route to persuasion. This variation is explained by the cognitive immaturity of children and their appeal to superficial marketing tactics used predominantly by marketers of unhealthy products and caregivers' cognitive maturation and ability to take notice of the true intent of marketing and relate to persuasive arguments portrayed in food and beverage commercials. Caregivers are aware of this deviation in appeals to marketing tactics between adults and children and perceive themselves as gatekeepers to their children's exposure to marketing and as a mediator between what children see and what they actually consume.

SUBSIDIARY QUESTION TWO

Subsidiary question two asked: what are the eating habits of families with children ages 8 to 10?

In this research study, the eating habits of families were discussed under the themes represented in the Family Eating and Activity Habits Questionnaire: exposure and availability to problematic foods, hunger cues (related to parenting style), eating in problematic situations, family rites and also a separate fast food consumption frequency

theme (Golan & Weizman, 1998). This study uncovered a connection between the intensity of a caregiver's control over the family food environment and the appropriateness of children's eating habits.

Previous research has documented the ability of caregivers to employ a variety of strategies to adjust the appropriateness of their children's eating habits (Morton, Campbell, Santich & Worsley, 1999). Ogden, Reynolds and Smith (2006) have categorized these strategies into two types of control: overt and covert. Overt control is the process of limiting the child's intake of unhealthy foods in a manner that is perceived by the child (Ogden et al.). Ogden and colleagues describe this type of control as being implemented by caregivers who worry about the dietary intake of their children and therefore make it a primary responsibility to manage what and when children eat. Examples of overt control in the current study included caregivers moderating food intake by having children ask before snacking, limiting exposure and access to foods by placing certain products in inaccessible locations and implementing proper eating habits, such as sitting at a table and not in front of the television during meal times.

Covert control is a way of limiting the child's intake of unhealthy foods without the child being aware (Ogden et al., 2006). In this scenario, a caregiver controls the quantities of foods available in the family home as a way of managing their own and the weight of their children (Ogden et al.). Examples of covert control from this study include purchasing healthy options and preparing meals for the family as a group and not for individuals. The two forms of control are not necessarily exclusive and therefore caregivers can enforce a combination of overt and covert controls to reshape their children's eating habits (Ogden et al.). The remainder of this section will discuss what the

eating habits of families with children ages 8 to 10 were and how various intensities of controls influenced the eating habits of the families in this study.

Exposure and Availability to Problematic Foods

The exposure and availability to problematic foods scale on the Family Eating and Activity Habits Questionnaire was designed to examine the family food environment, in the context of the presence of unhealthy foods, the child's accessibility to these products and the caregiver's ability to control the eating behaviours of their child (Golan & Weizman, 1998). All dyads in this study reported having little to no exposure to problematic foods, such as confectioneries, snacks and frozen foods within their family homes (Goaln & Weizman). Children reported being aware of the locations of snack foods within their homes and having their own snacks from which to choose. However, caregivers reported allowing snack foods in moderation and provided healthier options on a more regular basis. A positive correlation has been documented between having healthy options, such as fruits and vegetables, readily available for consumption in the family household and or increased in children's consumption of such healthy foods (Hang, Ling, Yang & Pan, 2007; Hearn, Baranowski & Baranowski, 1998).

All caregivers in this study reported having control over the exposure and availability of all types of foods within their family homes because they were solely responsible for the planning, shopping, meal preparation, serving and placing restrictions on family eating patterns. This finding supports historical research, which has stated that women are perceived as the gatekeepers for controlling the eating habits of their families (Lewin, 1943). Furthermore, these findings support previous research, which document that out of 100 adults surveyed, 75% reported that only one adult in the family household

was responsible for deciding which foods would be served (Blaylock & Smallwood, 1987).

In the current study, the decision-making adult was the mother in all cases, which coincides with the findings of Blaylock and Smallwood (1987), which documented that wives do more food planning compared to husbands. In addition, Basset, Beagan and Champan (2008) found the majority of women in their study were responsible for the grocery shopping for their households. Caregivers in the current study reported being responsible for meal preparation on a daily basis, with the exception of having their husbands help out on occasion. This finding supports previous literature, which indicated that husbands are more likely to prepare meals on the barbecue, Sunday breakfasts and specialties (Williams, 1997). This is also in line with findings from Lake and colleagues (2006) who interviewed married couples and found 72% of women compared to 37% of men were responsible for family meal preparation. In summary, Murcott (2000) describes that there have been modifications to gender roles within Western households over the past several decades; however, women are still most likely to be responsible for food related tasks.

Hunger Cues

Within the home family members can experience nonproductive food intake when they are bored, stressed or under social pressure, i.e. other members of the family are eating (Golan & Weizman, 1998). The hunger cues scale represented the occurrence of eating at any other time besides from when an individual felt hungry (Golan & Weizman). All children in this study followed the same pattern of eating on weekdays during the school year; breakfast, morning snack, lunch, afternoon snack, dinner and a

bedtime snack. This traditional meal pattern has been previously documented in research examining the dietary habits of children ages 5 to 17 years during the school year and holiday seasons (Macdiarmid, Loe, Craig, Masson, Holmes & McNeil, 2009). Caregivers controlled snacking in between these set meal times by enforcing rules regarding having children ask for permission before helping themselves to available foods. It is important for caregivers to control children's *grazing* in between meals, as eating in the absence of hunger can significantly increase a child's risk of overweight and obesity (Anderson, Macintyre & West, 1993; Orlet-Fisher & Birch, 2002).

Eating in Problematic Situations

Three out of four caregivers reported their children rarely or never eating in a problematic situation, while one child was reported to consistently eating alone, in front of the television, on the couch or in her bedroom. The three caregivers who described enforcing family meals to be eaten at the kitchen table with the rest of the family reported having appropriate eating styles on the Questionnaire (Golan & Weizman, 1998). It is important for caregivers to enforce eating meals as a family group as it has been associated with improved dietary quality in children and show to decrease the risk of childhood overweight and obesity (Dietz & Gortmaker, 2001; Fulkerson et al., 2006; Gillman et al., 2000; Spear, 2006; Videon & Manning, 2003). The child who was reported to eat in front of the television had somewhat appropriate eating styles (Golan & Weizman). Caregivers should restrict or prohibit the consumption of meals and snacks in front of the television as previous research has concluded eating meals in front of the television is associated with an increase in children's energy intakes, therefore increasing

the risk of developing child overweight and obesity (Crespo et al., 2001; Francis & Birch, 2006).

Family Rites

The family rites scale represented the ability of caregivers to monitor their child's consumption of foods and beverages by being present at meal times and preparing healthy homemade meals. When caregivers were not busy preparing meals, running errands, completing chores or at work, they were able to closely monitor children's consumption. Three out of four caregivers reported eating with their children on a regular basis and therefore have the potential of increasing dietary quality while decreasing the risk of childhood overweight and obesity (Dietz & Gortmaker, 2001; Fulkerson et al., 2006; Gillman et al., 2000; Spear, 2006; Videon & Manning, 2003).

Fast Food Frequency

Previous research has stated that children who report eating fast food on a regular basis are more likely to consume higher levels of fats, saturated fats, sodium, soft drinks and consume lower vitamins and miners from fresh produce compared to children who eat fast food in moderation (Bownman et al., 2004; Paeratakul, Ferdinand et al., 2003). Dyads in the current research stressed the use of moderating the number of times a family would order take-out meals, dine at restaurants or attend fast food locations. According to participating caregivers, in moderation was no more than once every one to two weeks. However, caregivers did not consider specialty food days at school, such as rotisserie chicken lunches, hot dog days and pizza lunches to be fast foods. If this was taken into consideration, all dyads would have reported eating fast food at least once a week and up to four days per week. In relation to caregiver control, caregivers reported having the

option to select which days worked best for the family to consume fast foods. This choice was often made on the basis of convenience due to tight family schedules or as a treat. In contrast, caregivers reported feeling less control over the school food environment, which is evident as caregivers had little control over limiting the availability to fast foods to their children.

In summary, the eating habits of families with children ages 8 to 10 were the result of caregiver control over the exposure and access to problematic foods, restricting grazing in between meals, enforcing family rules of when and where to eat and lastly, caregivers selected what children ate while in the micro-environment of the family home. The more control caregivers reported, the more appropriate the eating habits of the child. The better the scores on the Family Eating and Activity Habits Questionnaire, the more healthful the diet and therefore the lesser the risk of developing overweight and obesity.

SUBSIDIARY QUESTIONS THREE AND FOUR

The third subsidiary question read: are children's and caregiver's perceptions of healthy and unhealthy foods reflected in the types of foods and beverages caregivers purchase? In addition, the fourth subsidiary question read: are children's perceptions of healthy and unhealthy foods reflected in the eating and physical activity habits of the child?

The next section of this discussion chapter will combine subsidiary questions three and four, because shared findings were documented for both questions. The results of this study found that children's perceptions of healthy and unhealthy foods are ultimately controlled by the intent to control the eating habits of their families and the caregiver's nutrition knowledge. The foods and beverages caregivers purchased were not

a result of children's perception of healthy and unhealthy foods, but rather were a result of children's request for *as seen on TV* or *as seen at school* products. This process is outlined in Figure 24.

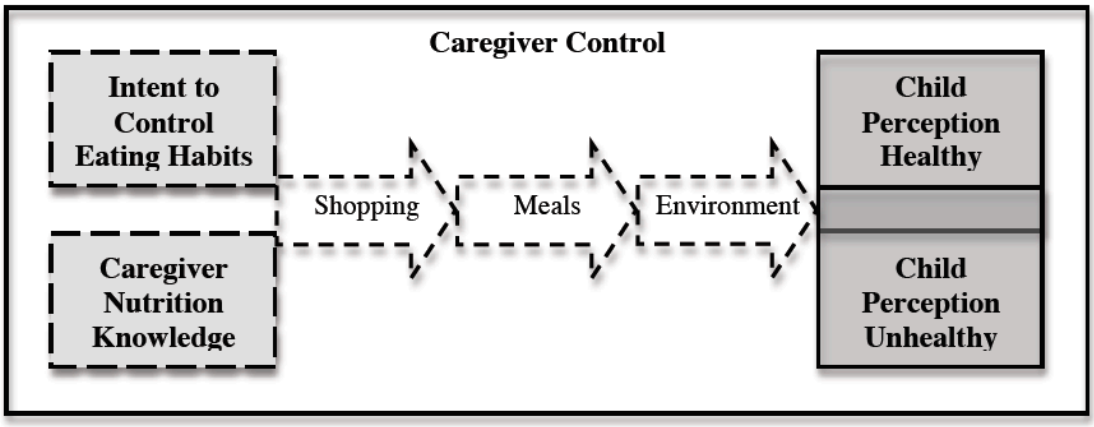

Figure 24: Influence of Caregiver Knowledge on Children's Perceptions

Intent to Control Eating Behaviours and Caregivers' Nutrition Knowledge

As previously mentioned, caregivers used a combination of overt and covert strategies to control the eating behaviours of their children. This research found that alongside caregiver control, caregivers' nutrition knowledge shaped children's perceptions of healthy and unhealthy foods. Variyan and colleagues (1999) found that mother's knowledge of nutrition had a positive effect on the quality of their children's diets. Hart, Herrot, Bishop and Turby (2003) described *nutrition knowledge* as the ability to define healthy eating and to be aware of nutritional guidelines and described *nutrition education* as having awareness and opinions of what constitutes a balance of good health and feeling responsible for the quality of children's diets. In terms of being aware of nutritional guidelines, caregivers in the current study did not reference Canada's Food Guide in the discussions regarding family meal structure. Caregivers did, however,

highlight their awareness and knowledge of reading labels to shop for healthy products and control their families' consumption of fats, sugars, sodium, chemicals and additives.

Caregivers in the current study exemplified their nutrition knowledge by providing a description of homemade family meals consumed on a regular basis, all of which were classified by the caregiver as being healthy. In addition, some caregivers discussed a balance within their children's diet as they reported selecting less healthy options for their children, such as fast food meals, treats and unhealthy snack items, on the basis of moderation. The definition of *in moderation* varied from household to household and was evident in discussion the quality of each child's diet.

Mothersbaugh, Herrmann and Warland (1993) define quality of diet to include the consumption of fruits, vegetables and fiber and the avoidance of the consumption of potentially harmful food that include fats, cholesterol and sodium. The definition of moderation was also reflective of caregiver control. Caregivers who reported having the most control over their family food environment allowed children to consume healthy options on occasion, while caregivers who reported having less control over the family food environment also reported having little control over the ability to moderating healthy options with less healthy foods.

It was through the practical application of intent to control the family food environment and caregivers' nutrition knowledge that specific products were purchased, prepared and served within the family home. This research has found that the end result of this process influences child's individual perceptions of what constitutes healthy and unhealthy foods.

Children's Perceptions of Healthy/Unhealthy Foods

Purchases influencing child's perceptions

Subsidiary research question three was formatted to gain further insight into the relationship between children's perceptions of healthy and unhealthy foods This research found that children's perceptions of healthy and unhealthy foods were reflective of what types of foods their caregivers had purchased as outlined in Figure 24. During the card sort activity, children had little difficulty reporting all fruit and vegetable card sort items as healthy, which could be the result of caregivers' decisions to make these products readily available within the family home. Children were likely to report card sort items as healthy for products their caregiver purchased for them in the past. For example, children perceived hamburgers as healthy because their caregivers allowed its consumption on a regular basis as part of the hot lunch program at school. Children were likely to report card sort items that caregivers restricted or prohibited as unhealthy. For example, confectioneries such as gummy worms, gummy bears and gum balls were also perceived as items to be consumed in moderation due to their unhealthy nature. Along the same lines, children referred to these card sort items as *treats* that caregivers would allow from time to time. Lastly, children had the greatest difficulty with card sort items that were unfamiliar and therefore not purchased or served at home by the caregiver. For example, all children were confused as to what cous cous and tofu were and had difficulty placing them within an explicit healthy or unhealthy category.

In summary, caregivers individual knowledge of nutrition and the intent to control the family food environment and the eating habits of children guided children's perceptions of healthy and unhealthy foods that were purchased for the family. Through

the caregiver's control of purchased foods, accessibility to healthful meals and the control over the family food environment, children developed perceptions of what constituted healthy and unhealthy foods. This key finding is also valuable to addressing subsidiary question four as it was documented that children's perceptions of healthy and unhealthy products were reflected in the eating habits of the child. Caregivers' nutrition knowledge influenced family food purchases, which in turn, determined the meals served at home for the child to consume. It was through this consumption of family meals that children's perceptions of healthy and unhealthy products developed. It was also discovered that this was not a cyclical process and children's perceptions of healthy and unhealthy foods did not influence family food purchases. In actuality, children only made request for items that were seen on television or in the classroom.

Children's Influence on Caregivers' Purchases

When discussing events in which their child would make a request for products, caregivers did not comment on their children's perceptions of healthy and unhealthy foods, but rather accentuated the influence of marketing and peers. Previous research has documented a link between television advertisements for food and beverages and the number of requests for junk and fast foods (Strasburger, 1995). Donkin, Neale and Tillston (1993) reported 39% of requested products were for those advertised on television and Arnas (2006) discovered 40.3% of children requested products witnessed on television. This evidence is supportive to a key finding of the current study, which reported only one out of four children made requests for products seen on television. All caregivers agreed that children were more likely to be influenced by what their peers were eating at school rather than what was advertised on television.

Previous research has documented a link between the presence of peers (siblings, fellow students and friends) as an influence on children to consume more food compared to eating alone (Birch, 1980; Hendy, 2002; Romero, 2009; Salvry, Vartanian, Coeho, Jarrin & Pliner, 2008). Similar to the findings of the current study, Hesketh, Waters, Green, Salmon and Williams (2005) found that parents identified peer pressure as a major barrier to the enforcement of healthy eating and limiting sedentary activities when children were keen on conforming to what their fellow peers are eating and doing. The current study adds to the knowledge of peer pressure by contributing evidence of the need for peer conformity increases children's requests for food and beverage products to their caregivers.

Healthy/Unhealthy Perceptions and Physical Activity Habits

No relationships were found between perceptions of healthy and unhealthy foods and the physical activity habits of children. During the card sort activity, children did not reference any food to a physically active context or situation.

STUDY LIMITATIONS

Before discussing the limitations of the findings, it should be indicated that not all findings of the data collection process were reported in this thesis. Some of the collected data was not found to be relevant or significant in answering the research questions and therefore were removed from the discussion. Furthermore, the findings only present a level of in-depth reflection as each research question could become a full research study in itself.

Only children between the ages 8 through 10 were eligible to participate in this study on the basis of Piaget's theory of cognitive development. However, there is no

certainty that children in this study neither were in the concrete operations phase nor was there proof of children at younger or older ages were not in the concrete operations phase (Modgil et al., 1976; Moses & Baldwin, 2005). Therefore, differences may have been recorded in the eating and physical activity habits among children of younger and older ages.

Only one child and one caregiver per family were invited to participate in this study and therefore the perceptions and behaviours from other siblings and caregivers were not addressed in this study. Furthermore, only the mothers of children participated in this study, which may be delimiting to father's perceptions of healthy active living marketing, their children's eating and physical activity habits and their own caregiver control practices.

There were two major limitations to recruitment, the first of which included the prohibition of distributing recruitment posters in libraries, town/city halls, recreation centers and community centers in the communities of Markham, Vaughan, Richmond Hill and Thornhill. In conjunction with this issue, there was no interest from members of these communities to participate in this study. These are also the communities with the widest variation of ethnicities and are more metropolitan compared to the communities recruited participants lived in. This study also did not consider socio-economic status variation, which may have resulted in different eating and physical activity habits as well as differences in intensities of caregiver control. If participants were recruited from these communities, there may have been a better representation of children's eating and activity habits in York Region.

Another limitation to this study is the concern of self-selection bias, which assumes that participating caregivers had some interest in the discussion of marketing, eating and physical activity habits or in the honorarium. This may imply that individuals who were more insecure or nervous about the eating and physical activity habits of their children did not have the opportunity to have their perceptions and opinions captured.

A major limitation to this study was the restricted access the researcher had to commercial advertisements, which portrayed food and beverage in a physical activity, exercise or sport context and was targeted to children. A number of major food and beverage companies were contact to ask for permission to use their commercials in this study, however, all companies denied access to commercials as they were proprietary. Therefore, the discussion of healthy active living marketing with participants relied only on self-report measures and not expert review. If this research were to be repeated again, it is suggested the researcher watch commercials with the family or have caregivers report the story line of the commercial in order for the research to examine the commercial for healthy active living marketing tactics. This expert review would then account for any marketing tactics that may have been overlooked by participants when completing the commercial selection worksheets.

Participants may also have engaged in social desirability in which they provided a particular response in an attempt to please or impress the interviewer. This could explain disparities recorded between answers provided during one-on-one interviews with answers scored on the Family Eating and Activity Habits Questionnaire. However, the scoring method used to award points on the Questionnaire may also have skewed the overall results. For example, the Leisure Time Activities scale inquired about

extracurricular activities, both physical and non-physical, thereby caregivers included events such as music lessons and church groups, which did not provide an accurate predictor of weekly physical activity. If this Questionnaire is used in the future, it is suggested that the future researcher revises specific examples and explanations for each question.

Caregivers may also have altered their shopping habits during the time of family food receipt collection or withheld receipts, which reported less healthy purchases. Along the same lines, the difficulty in exclusively identifying a food or beverage item as healthy or unhealthy was a limitation to this study. Products were rated on a 100 grams scale, based upon an average of expected energy requirements of both male and female children ages 8 to 10 years and therefore the system is not adequate to identify nutritional needs of participating caregivers. This model did not take into account vitamin levels or base classifications upon smaller or greater portions than 100 grams, therefore purchased products may not necessarily translate into portions actually consumed.

The caregivers who participated in this study must have had some degree of comfort with opening their house up to a stranger. Therefore, this study did no consider the experience of family's who were weary about their home environment. The use of snowball sampling also meant that participants had friends participate, which might have affected their interest in volunteering for the study.

A limitation to this study was that the sample size was small and limited to a convenience sample of caregivers and children from York Region, Ontario. Therefore, the study population was not necessarily representative of broader populations of caregivers and children ages 8 to 10. While caution should be taken when generalizing

the results, some of the themes such as caregiver control, awareness and opinions of marketing may be shared with caregivers throughout Ontario communities. Results of this study were also directly observing televised marketing of food and beverages, which is only a small subset of the advironment. Therefore, other observations may have been recorded if other mediums of marketing were studied such as marketing of food and beverages on the internet, radio, in grocery stores and in schools. Along the same lines, this research is limited as it was not a quantitative study and so causation and correlations could not be reported.

Lastly, a limitation to this study was the reliance of non-Canadian data when describing current food and beverage marketing within macro and micro-level environments. Currently, there is limited availability and accessibility to Canadian studies, which examine food and beverage marketing trends targeted at children. In turn, this research heavily relied on findings from the United States, the United Kingdom and Australia, which limit the full understanding of the Canadian food marketing environment.

IMPLICATIONS FOR HEALTH PROMOTION

Children's eating and physical activity habits are not fully formed during childhood and therefore require guidance from a multitude of supportive environments including the micro-environment of the family home and schools, as well as macro-environments such as the private sector, the food and beverage industries, Advertising Standards Canada and the Canadian Government (Conklin & Parks, 2005; Dalmeny, Hanna & Lobstein, 2003, Harris et al., 2006). Health promotion has a responsibility to create supportive environments for healthy eating and physical activity, encouragement

of the development of proper dietary habits and media literacy, increase community capacity and empower individuals to make healthier lifestyle choices (Jakarta Declaration, 1997; Nutbeam, 1998; Ottawa Charter for Health Promotion, 1986).

Implications for Children and Families

As documented in previous literature and restated in this research study, family plays an essential role in the formation and changes to children's eating habits (Hertzler, 1983). The Active Healthy Kids Report Card, for 2010, recommends caregivers implement household routines such as limiting television viewing time and eating family meals together as a means of decreasing their children's risk of overweight or obesity (Anderson & Whitaker, 2010). In addition, Cox and colleagues (2010) reported a number of ways for caregivers, particularly parents, to take responsibility for improving their children's physical activity habits. These suggestions include providing direction through acting as a role model, providing opportunities for physical activity such as encouraging active transportation, providing instrumental support in the form of positive reinforcement, providing logistic support by supplying finances and most importantly, allocating time to spend with their child (Cox et al.).

In addition to controlling children's intake of energy-dense foods and taking responsibility for improving physical activity levels, caregivers should also openly discuss with their children the concept of marketing and its underlying intent to persuade. Communication between children and parents is considered the most effective tool in the management of television's influence on children (Buijzen, 2009; Donohue & Meyer, 1984). Previous research has reported that the effects of advertising can be counteracted when caregivers openly discuss marketing with their children (Buijzen, 2009).

Implications for Schools

In 2006, The Institute of Medicine (IOM) reported several recommendations for all levels of communities to improve upon the eating habits, physical activity habits and media awareness of children in the United States (Harris et al.). In relation to schools, the IOM recommended schools educate children about healthy lifestyles by promoting healthful diets and implement nutritional standards for all food-related activities within schools such as school lunches and snacks (Harris et al.). The current study reiterates these recommendations and also echoes the suggestions made by the 2004 *Call to Action* report for *Creating a Healthy School Nutrition Environment* (Valleau et al., 2004). This report encouraged an increase in support for Ontario elementary school teachers to be trained in nutrition education and for teachers and support staff to act as role models for healthy eating behaviours during school hours (Valleau et al.). It is hereby recommended that the Ontario Ministry of Education implement a mandatory healthy schools policies so that all children across the province have equal access to proper role models within a supportive healthy active lifestyle learning environment.

Currently, the Ontario Ministry of Education has implemented a media literacy component into the language arts curriculum for all grades in elementary school (Media Awareness Network, 2009). This research emphasized the importance of caregivers' role as the gatekeeper for children's eating and activity habits and therefore has highlighted the need to involve caregivers in media literacy programs (Bolton, 1983; Cullen et al., 2001, Kremers, Brug & de Vries, 2003; Mangleburg, 1990). From this research, it is suggested that the media literacy education received in Ontario elementary schools should be reflective of children's home environments as children watch television,

develop awareness of advertised messages and add to their media literacy all within the micro-environment of the family home (Dorr, 1986; Gunter & Furnham, 1998). Therefore, there is a need to develop a media literacy education program that is completed within the family environment in the company of the child's caregivers.

Implications for the Ontario Ministry of Health Promotion

The Ontario Ministry of Health Promotion should provide either written or electronic materials for caregivers as a reference guide for speaking to their children about the impacts of marketing, the benefits of eating well and being physically active, so that caregivers may develop a sense of empowerment over their responsibility as a gatekeeper. Furthermore, based on previous media literacy health promotion campaigns, it is important to reach both child and caregiver, but also to emphasize the communication between the two parties. Kidnetic.com was created by the International Food Information Council (IFIC) to reach children with healthy eating ideas and fun physical activities, reach parents to help develop healthy habits in their children and reach both children and parents together to talk about healthy eating and physical activity. It should be considered by the Ontario Ministry of Health Promotion and the Ontario Ministry of Education's Healthy Schools Campaign to create a similar program to compliment what elementary school children are learning through the media literacy program with healthy active lifestyles developed within the micro-environment of the family home.

Implications for Advertising Standards Canada

Caregivers in the current study agreed that the marketing of food and beverages targeted at children should be either restricted or follow guidelines set by the government

of Canada. The Advertising Standards of Canada, Concerned Children's Advertisers and Food & Consumer Products of Canada currently host three initiatives with the intent to transform food and beverage marketing targeted at Canadian children (Nobrega, & Vanderpeer, 2007). The extent of the effectiveness of the restrictions these initiatives have placed on food and beverage marketing remain unknown and are criticized for simply being restrictions and not outright bans. Historic research examining the advertisement of cigarettes has documented a comprehensive ban of the marketing of cigarettes can reduce tobacco consumption but a limit to marketing will have little or no effect (Saffer & Chaloupka, 2000).

Veerman, Van Beek, Banadregt and Mackenbach (2000) developed a mathematical simulation to estimate the potential effects on children's weight status by reducing televised food and beverage advertisements to children. The researchers found that if advertisements were decreased from 80.5 minutes/week to 0 minutes/week, consumption of advertised foods would decrease by 12% and weight status of all American children would decrease by 5.6% (Veerman et al., 2000). The major limitation with this study, however, is the uncertainty of a dose-response relationship between exposure to food and beverage marketing and consumption (Veerman et al.). Furthermore, the effects of postponing advertisements of food and beverages from childhood to adolescence are unknown.

The Advertising Standards of Canada may also place strong restrictions on the ability of marketers to manipulate the ideals of a healthy active lifestyle by placing a firm definition or criteria for advertisers to comply with. The definition used in the current study, food and beverages paired with physical activity, exercise and sport, was

insufficient and therefore a new definition should be created. Caregivers in this study highlighted the use of nutritional claims in advertisements and how they could be deceptive. Therefore, a new definition of healthy active living could be created to state any food and beverage portrayed in a televised commercial which uses the marketing tactics of: physical activity, sport, exercise, benefits to any components of health (e.g. heart health or bone development), making healthy choices or displaying proper dining habits. Lastly, Advertising Standards Canada must take a more firm approach to policing individual advertisements targeted to children to ensure self-regulated strategies are appropriately fulfilled and to confirm advertisements adhere to the Advertising Standards guidelines while monitoring the effects of the new guidelines (Hawkes, 2007).

IMPLICATIONS FOR FUTURE RESEARCH

Although this study was based upon findings of previous research regarding collection of family food receipts, caregiver control, children's eating and activity habits and effects, awareness and opinions of marketing, it was one of the first to combine all data collection tools into one study. Therefore, there are several implications of future research.

Future research should focus on a larger sample with wider demographics, which would include both male and female caregivers, across all communities of Ontario, from families of various socio-economic status and weight status (below healthy weight, healthy weight, overweight and obese). Also, if future research repeated this study, recruited children of all ages with varying degrees of cognitive maturation, results could be compared.

Future research should also recruit participants at various times of the year for comparison of recorded commercials, family eating and family physical activity patterns. This comparison could be used to add to the understanding of how family eating and physical activity patterns are subject to change throughout the four seasons.

It is suggested that future healthy active living marketing research use a ground-up approach to creating a definition of this marketing tactic. Participants in the current study discussed the use of nutritional claims within televised commercial advertisements, however, the definition of healthy active living was plastic and could not accommodate for what caregivers reported. Therefore, it is proposed to have participants create their own definition as what they perceive healthy active living marketing to encompass and when and where it is witnessed. Furthermore, future research should compare an expert's content analysis of commercials with those recorded by families to identifying any healthy active living component that is actually present that may have been missed by participants.

Future research should explore the validity and reliability of the nutritional content analysis system that was designed and used in this study. If the system is found to be valid and reliable, it could have use in both future research of family shopping and eating habits as well as practical use in identifying healthy and unhealthy foods available to Ontario grocery shoppers.

Lastly, future research should continue examining how food and beverage marketing affects children and identify solutions needed to protect children against the persuasive intent of the marketing of unhealthy food products. Previous research has indicated that self-restriction strategies based upon Piaget's theory of cognitive

development and the information-processing model are insufficient in creating sustainable resistance (Harris, Brownell & Bargh, 2009). Harris and colleagues present a food marketing defense model, which incorporates four conditions needed to effectively defend oneself from persuasive food marketing: awareness, understanding, ability and motivation. This model highlights the ability of individuals to resist different forms of marketing in various contexts and that several cognitive resources are needed to self-restrict unhealthy food products that are often portrayed in the marketing of food and beverages (Harris et al.). Therefore, future research should develop research tools and strategies to examine how individuals and families use these four strategies to limit the influence of unhealthy foods on their healthy active lifestyles.

CONCLUSION

This collection and analyses of family food receipts, commercial activity worksheets, one-on-one interviews and the Family Eating and Activity Habits Questionnaire produced several key findings regarding the eating and physical activity perceptions and behaviours of families with children ages 8 to 10 years. The primary objective of this study was to gain an understanding of and explore the relationships between televised healthy active living marketing commercials targeted at children and the eating and physical activity habits of caregivers and children ages 8 to 10 years. The research documented that the eating habits of families with children ages 8 to 10 years was the result of caregiver control over the logistics of meal consumption: with who, location, what foods are served and at what time during the day consumption occurred. The greater the intensity of caregiver control over the family food environment, the more appropriate the eating habits of the child and the more healthful the diet and therefore the lesser the risk of developing overweight and obesity.

In conjunction with caregiver control, the practical application of caregivers' nutrition knowledge led to specific family food purchases, preparation of family meals and creating a balance between healthy and unhealthy foods within the family home. This process was documented to shape children's perceptions of what constituted healthy and unhealthy foods. This, however, was not a cyclical process as children's perceptions of healthy versus unhealthy foods did not influence family food purchases. Instead, a key finding reported influences from televised marketing and peer pressure received at school were repeated influences on children's requests for purchase of food products by their caregivers. From this, health promotion programs can be designed to both increase the

nutrition knowledge of caregivers as a means of increasing the quality of diet of their children and also decrease the amount of marketing on television and amounts of peer pressure in school lunchrooms.

The second objective of this study was to gain an understanding of caregivers and children's perceptions of healthy active living marketing. This research study confirmed previous conclusions that children are more attracted to peripheral route to persuasion features compared to caregivers who are more attracted to the central route to persuasion strategies. This variation was explained through the differences in cognitive maturation. As children are only just developing cognitive maturation during years of 8 through 10, caregivers are required to act as a gatekeeper between what their children are exposed to on television and their actual eating and physical activity habits. From this finding, health promotion initiatives should be developed to support the gatekeepers known as caregivers as they have the most power in controlling their family food environment and the eating and physical activity habits of their children.

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APPENDIX A:
DEFINITION OF TERMS

BEHAVIOUR

"*Everything we can do that can be directly observed*" (Stantock & Mitterer, 2004, p. 6).

BEVERAGES

This category was described as any drink with the exception of milk and 100% fruit juices. This category was represented by water, fruit juice, cola and a lemon lime soft drink. The following chart outlines the frequency this group was reported as healthy, unsure or unhealthy.

CEREALS

Cereals referred to breakfast foods that were made from processed grains, scuh as maize, oats, wheat or rice, usually eaten with milk and sometimes sugar. This category was represented by frosted mini wheats, sugar frosted cereal, chocolate puffs cereal and cinnamon toast cereal. The following chart outlines the frequency this group was reported as healthy, unsure or unhealthy.

CONFECTIONERIES

This category includes hard and soft candies, chewing gum, chocolates, cookies, cakes, muffins, pastries, icings, sprinkles, marshmallows, sugar coated nuts and seeds, mints and raw sugars. Confectioneries are defined as products high in sugar content and are informally referred to as as 'sweets.' This cateogry was represented by chewing gum, gummy bears, gummy worms, a lollipop, and a chocolate bar. The following chart outlines the frequency this group was reported as healthy, unsure or unhealthy.

EATING HABIT

The processes of family meal planing, grocery shopping, meal preparation and the logistics of meal/snack consumption: location, alone versus peers, time and rate and quantity of consumption.

EXERCISE

"*A form of leisure-time physical activity that is planned, structured, and repetitive. Its main objective is to improve or maintain physical fitness*" (Healthy Living Unit, 2003, Helpful Definitions p 1 ¶ 2).

FAST AND FROZEN FOODS

Fast food is defined as meals that can be prepared and served quickly, designed for ready and availability, use or consumption with little consideration given to quality or significance. Frozen foods include pre-packaged meals that usually come as individual or family-sized packages. Preparation requires heating in an oven, microwave or on a stove top. This category was represnted by a hamburger, cheeseburger, breakfast sandwich, chicken nuggets and French fies. The following chart outlines the frequency this group was reported as healthy, unsure or unhealthy.

FRUITS AND VEGETABLES

A fruit was defined as the sweet and fleshy product of a tree or other plant that contains seeds and can be eaten as food and a vegetable was defined as a usually herbaceous plant grown for an edible part that is usually eaten as part of a meal. This category included cards for a tomato, green pepper, salad, apple, orange, potato and banana. The following chart outlines the frequency this group was reported as healthy, unsure or unhealthy.

GRAIN PRODUCTS

Grain products included all grains, cereals, pasta, rice and products made from grain flour (including corn flour). This category was represented by wild rice, cous cous, white rice, spaghetti, flat bread, whole wheat bread and a bagel. The following chart outlines the frequency this group was reported as healthy, unsure or unhealthy.

HABIT

"*A behaviour pattern acquired by frequent repetition or physiologic exposure that shows itself in regularity or increased facility of performance*" (Merriam-Webster, 2009).

HEALTHY ACTIVE LIVING

"*Being physically active and eating well every day*" (Canadian Pediatrics Society, 2002, p. 1).

HEALTHY ACTIVE LIVING MARKETING

A relatively new marketing strategy used in advertisements targeted at children, which portrays food and beverage products within a physical activity, sport or exercise context. Advertising

HEALTHY FOODS AND DRINKS

A food or beverage has been classified as healthy if scores between 0 and 27 points on the simple scoring system adapted from United Kingdom's Food Standards Agency's simple scoring system, in which points are allocated on the basis of the nutritional content in 100 grams of a food (Food Standards Agency, 2009).

MARKETING

An organizational function and a set of processes for creating, communicating and delivering value to customers and for managing customer relationships in ways that benefit the organization and its stakeholders (The American Marketing Association; Gundlach, 2007).

MEATS AND ALTERNATIVES

This category included eggs, fish, legumes such as chick peas, kidney beans and lentils, meat, nuts and seeds (except for sugar-coated items), poultry, shelfish and tofu. This category was represented by the following items: red kidney beans, shrimp, tofu, salmon, hard boiled egg, almonds and peanut butter. The following chart outlines the frequency this group was reported as healthy, unsure or unhealthy.

MILK AND ALTERNATIVES

This category included milk, fortified soy beverages, canned (evaporated) milk, powdered milk, cheese and yogurt. Ice cream, sour cream and table/coffee cream were also included in this category; however, the Guide advises consumers to limit their daily intake of these three due to high fat levels. This category was represented by skim milk, soymilk, plain yogurt, 2% milk, strawberry yogurt, goat cheese and cheddar cheese. The following chart outlines the frequency this group was reported as healthy, unsure or unhealthy.

OBESITY

An unequal balance between energy input versus energy expenditure (Valkenburg, 2000).

OBESOGENIC ENVIRONMENT

"*A set of circumstances that encourages people to eat and drink more calories than they expend*" (NHSGGC, 2008, p.1). "*It is broader than just the physical environment and includes costs, laws, policies, social and cultural attitudes, and values*" (Swinburn & Egger, 1999, p. 564).

PERCEPTION

"*The brain's process of organizing and interpreting of sensory information to give it meaning*" (Stantrock & Mitterer, 2004, p. 169).

PHYSICAL ACTIVITY

"All leisure and non-leisure body movement produced by the skeletal muscles and resulting in an increase in energy expenditure" (Healthy Living Unit, 2003, Helpful Definitions Page 1 ¶ 4).

SNACKS AND SPREADS

A snack is defined as a type of food that is not meant to be eaten as a main meal – breakfast, lunch or dinner, rather it is usually a pre-lacaked food with a pre-determined serving size. Spreads include foods comprised mostly of fats and oils. These types of foods can be in either a solid, semi-solid or liquid form and are often added to another product during cooking/meal preparation or to improve the taste. This category was represented by a chocolate pudding cup, fruit flavoured snacks, chocolate chip and peanut granola bar, popocron, potato chips and rice crispy treats. The following chart outlines the frequency this group was reported as healthy, unsure or unhealthy.

SPORT

"Institutionalized competitive activities that involve rigorous physical exertion or the use of relatively complex physical skills by participants motivated by personal enjoyment and external rewards" (Coakley, 2001, p. 20).

UNHEALTHY FOODS AND DRINKS

A food or beverage has been classified as unhealthy if scores between 28 and 55 points on the simple scoring system adapted from United Kingdom's Food Standards Agency, in which points are allocated on the basis of the nutritional content in 100 grams of food (Food Standards Agency, 2009).

APPENDIX B:
RECRUITMENT INSTRUMENTS

Does your child ever bug you to buy their favourite 'As seen on TV' food product?

We want to hear what you think!

I am a Dalhousie University graduate student who is currently recruiting children ages 8 to 10 and their caregivers from York Region to participate in a research study examining perceptions of television food and drink advertisements targeted at children.

Who Can Participate?	What will I be asked to do?
✓ Children ages 8-10 and their legal guardian/primary caregiver. ✓ Permanent residents of a community within York Region. ✓ Participating family must have regular access to cable television. ✓ Caregiver and children must be able to participate in all aspects of the study.	O Caregivers will collect family food receipts for 2-3 weeks. O Children and caregivers will complete 4 food and drink commercial worksheets during their own time. O Caregivers and children will be invited for a 1.5 hour one-on-one follow-up interview.

Interviews will take place within the family home during the months of October, November and December of 2009. Caregivers will receive a $35 food voucher for the grocery store of their choice upon completion of this study.

DALHOUSIE UNIVERSITY
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If you are interested or would like more information, please contact Taryn at 905-751-9290 or email her at

YRStudy@gmail.com

Taryn Orava YRStudy@gmail.com 905-751-9290	Taryn Orava YRStudy@gmail.com 905-751-9290	Taryn Orava YRStudy@gmail.com 905-751-9290	Taryn Orava YRStudy@gmail.com 905-751-9290	Taryn Orava YRStudy@gmail.com 905-751-9290	Taryn Orava YRStudy@gmail.com 905-751-9290	Taryn Orava YRStudy@gmail.com 905-751-9290	Taryn Orava YRStudy@gmail.com 905-751-9290

Dear Caregiver and Recreation Participant/Child,

You and your child are invited to participate in a research study being conducted through Dalhousie University entitled: "*Understanding the Views of Caregivers and Children on Televised Food and Drink Commercials and Family Eating Habits."* The purposes of this study are (1) to gain information about the perspectives of food and drink commercials aimed at children and (2) to learn more about family eating and physical activity behaviors. This study will **NOT** be examining how much money is spent per week on groceries and does not ask for any financial information besides from household income for demographic purposes. It is hoped that the findings of this study will help inform nutrition and healthy eating programs and policies for the families of York Region in the future.

My name is Taryn Orava and I am conducting this study as part of my Masters of Arts in Health Promotion thesis from Dalhousie University in Nova Scotia. I will be the principal investigator and my thesis supervisors, Susan Hutchinson PhD. and Sara Kirk, PhD. will be overseeing all aspects of this study.

To be eligible for participation in this study, one caregiver and one child from a family must be willing to participate in the study together. The caregiver can be parent or other family member who is a legal guardian to the child and the child must be between the ages of 8-10. You both must be permanent residents of York Region and speak, read/write in fluent English. The family must have regular access to cable television and be able to participate in all aspects of the study. There are a number of things you and your child will be asked to do, including:

1. Collect family food receipts for a period of 2 to 3 weeks. This is to observe what type of foods your family purchases and will **NOT** observe how much money is spent on food.
2. Your child will be asked to watch a 30 minute television show of their choice, twice during the week and twice during a weekend over a two-week period. You and your child will then complete a brief written activity.
3. Participate in a at home one-on-one interview with myself.

Participation in this study is completely **voluntary** and will in no way interfere with normal school workloads or influence your participation in recreation activities. Participation in this study may result in mild emotional discomfort or embarrassment when discussing personal physical activity and eating behaviors. Participants may choose to withdraw from the study at any time, refuse to answer any question and refuse to supply any food receipts they do not feel comfortable providing.

If you are interested in participating in this study or would like further information, **please contact me, Taryn Orava, by phone at 905-727-3878 or at YRstudy@gmail.com**.

Sincerely,
Taryn Orava (MA Candidate) Dalhousie University

APPENDIX C:
SCREENING MEASURES

Participant Screening Script

To be spoken to the potential adult participant:
First of all, I'd like to thank you for taking interest in my study. If you have about five minutes right now, I'd like to review the criteria for participation.

[If caregiver does not have the time for the screening, we will schedule a time that works for both of us].

Secondly, are you the adult who may be participating in the study?

[If the adult is not the caregiver who may be participating in the study, I will ask to speak with the participating caregiver].

I am going to ask you seven questions about yourself and your child, I require just a yes or no answer; however, if you would like to explain yourself further, you are more than welcome to.

Participant Screening Checklist

To be completed for each potential caregiver-child dyad during the screening telephone conversation.

Name of adult caller:
_____
Date: _____ Time:_____ Call back? □Yes □No
Phone number:_____
When:_____

1. *Is your child between the ages of 8 to 10?*	□ Yes	□ No
• If yes, *when is their birthday?*		
2. *Do you have a television set in your home?*	□ Yes	□ No
If yes, *do you have cable television cable access?*	□ Yes	□ No
3. *Does your child have difficulty understanding and following instructions?*	□ Yes	□ No
4. *Does your child have difficulty answering questions?*	□ Yes	□ No
5. *Are you the legal guardian and immediate caregiver of your child?* • Primary caregiver is "the person primarily responsible for the care and upbringing of the child" • A legal guardian is legally responsible "for the care and management of a person incapable of administering his/her own affairs." Parents are automatically assumed to be legal guardians in Ontario, but can also be grandparents, aunts, uncles or adoptive parents.	□ Yes	□ No
6. *Are you a permanent resident of York Region?*	□ Yes	□ No
• *Which community do you currently live in?*		
7. *Are you and your child both fluent in English?*	□ Yes	□ No
• *Reading? Writing? And Speaking?*	□ Yes	□ No
TOTALS		

If participants do not meet ALL of the above criteria (report one or more 'No'):

Thank you for taking interest in my study, however, I will not be able to accommodate you in my research. I am looking for participants who meet all of the discussed criteria and unfortunately, you are not eligible to participate.

If participants do meet ALL the above criteria (reported as ALL 'Yes'):
Thank you, again, for taking interest in my study, you have met all the eligibility criteria and at this time I would like to invite you and your child to participate in my research.

If the caregiver and child are interested in learning more about the study:
If you are interested in learning more about the study, I will set up an initial meeting to discuss the research in more detail and to review the consent form. At that point you can decide whether you would like to be in the study. This face-to-face meeting will be with you and your child at your home within the next two or three weeks at a time that is convenient to you.

To make our initial meeting a success, I would like to mail a copy of the consent forms to you so you can briefly read through them before we review them together. May I please have your mailing or e-mail address? [If email option, *email will be sent from the address YRStudy@gmail.ca*].

MAILING ADDRESS:
EMAIL: _____
ADDRESS: _____
_____
_____

INITIAL MEETING:
DATE: _____
TIME: _____
LOCATION: _____

Thank you so much. In order to prepare for our initial meeting, I would like you to collect all food purchase receipts you and your family make over the next two to three weeks. These receipts can be from grocery stores, convenient stores, gas stations, fast food locations or restaurants. If you go to a farmer's market or a small local grocery store where receipts are not offered, I ask that you save a copy of your grocery list. I will not collect your family food receipts until you have read and signed the informed consent forms and all your questions have been clearly answered. If you do not feel comfortable providing me with certain receipts for any personal reason, that is totally acceptable.

Do you have any questions at this time?

Thank you for your time, I will see you on the following DATE and TIME at your family home to discuss the research in more detail and to review the informed consent forms.

DATE: _____
TIME: _____

Before we conclude this conversation, do you have any questions for me?

Thank you very much. Have a great day.

APPENDIX D:
CONSENT FORMS AND ASSENT SCRIPT

DALHOUSIE UNIVERSITY
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Dalhousie University
School of Health and Human Performance

CAREGIVER/LEGAL GUARDIAN CONSENT FORM

Study Title: **Examining the Views of Caregivers and Children on Televised Food and Drink Commercials in Comparison with Family Eating Habits.**

Principal investigator: **Taryn Orava, BKin, MA (Candidate)**
School of Health and Human Performance
Dalhousie University
6230 South Street, Halifax, NS, B3H 3J5
Telephone: (902) 471-5786
Fax: (9050 727-3878

Degree Program: **Masters of Arts, Health Promotion**
School of Health and Human Performance
Dalhousie University

Thesis Supervisors: **Dr. Susan Hutchinson**
School of Health and Human Performance
Dalhousie University
6230 South Street, Halifax, NS, B3H 3J5
Telephone: (902) 494-1163
Fax: (902) 494-5120

Dr. Sara Kirk
School of Health Administration
Dalhousie University
1318 Robie Street, Halifax, NS, B3H 3E2
Telephone: (902) 494-8440
Fax: (902) 494-6849

Contact Person: **Taryn Orava**
School of Health and Human Performance
Dalhousie University
Telephone: (902) 471-5786
Email: YRstudy@gmail.ca

Please feel free to call or email the contact person, **Taryn Orava**, if you have any questions or if you would like additional information.

Introduction

We invite you and your child to take part in a research study being conducted by Taryn Orava, who is a graduate student at Dalhousie University, as part of her Masters of Arts, Health Promotion degree. Your participation in this study is **voluntary** and you may withdraw from the study at any time. The study is described below. This description tells you about the risks, inconvenience, or discomfort which you might experience. Participating in this study might not benefit you, but we might learn things that will benefit others. You should discuss any questions how have about this study with Taryn Orava in person or by telephone (902-727-3878) or by email (YRstudy@gmail.com).

Purpose of the Study

The main purpose of this study is to learn of any influences that food and drink marketing has on children's and caregivers' physical activity and eating habits. This study is also designed to gain an understanding of how caregivers and children view commercial food and drink advertisements aimed at children.

Study Design

This study enrolls caregiver and child pairs for a two-week timeframe in which the following activities will occur: the collection of family food receipts or lists; child commercial recording worksheets; caregiver and child commercial selection worksheets; a caregiver questionnaire; a one-on-one interview with the child and a one-on-one interview with the caregiver. The worksheets, questionnaire and one-on-one interviews will take place within your own family home on a day and at a time convenient for you.

Who Can Participate in the Study?

You and your child may participate in this study if you meet ALL of the following criteria:

1. Your child is age 8, 9 or 10 during the months of September, October and November of 2009.
2. You are the primary caregiver and the legal guardian of the participating child.
    - A primary caregiver is "the person primarily responsible for the care and upbringing of the child."
    - A legal guardian is legally responsible "for the care and management of a person incapable of administering his/her own affairs." Parents are automatically assumed to be legal guardians in Ontario, but can also be grandparents, aunts, uncles or adoptive parents.
3. You and your child are the only caregiver-child pair from your household participating in this study.
4. You and your child are fluent in English (reading, writing and speaking).
5. You and your child are permanent residents of a York Region community (Aurora, East Gwillmbury, Georgina, King, Markham, Newmarket, Richmond Hill, Thornhill, Vaughan or Whitchurch-Stouffville).
6. Your household has cable television.
7. You and your child are able to complete all parts of the study, including collecting food receipts, television worksheets, questionnaires and one-on-one interviews.

This study requires your child to follow instructions, remember and answer questions with as much detail as possible. If you do not meet any of the seven criteria listed above,

or your child has difficulty following instructions, remembering and answering questions, please tell Taryn Orava at this time.

Who will be Conducting the Research?

Taryn Orava, the primary investigator, will be conducting the study. Taryn will also be the primary contact for all research participants. Taryn Orava's Masters of Arts, Health Promotion, thesis supervisors will oversee all aspects of the research process.

What you will be asked to do

This section describes exactly what you, the caregiver, will be asked to do in the study.

If you agree to participate in this study, you will sign this informed consent form, as well as an informed consent form for your child. Your participation in this study's activities will last for approximately 4.5 hours throughout the span of two weeks. All the written worksheets, television watching activities and face to face interviews will take place in your home. After you have provided your consent to participate in the study you and/or your child will be asked to participate in the following activities, including:

1. Provide your family's food receipts collected over two-three weeks, with all financial information removed.
2. Participate in a brief training exercise that will last no longer than one hour (to learn how to complete the commercial selection worksheet with your child). At the end of the training session, you will be provided with a calendar to schedule activities within the next two weeks as well as a follow-up meeting.
3. Complete four 'commercial selection' worksheets with your child over two weeks (two during weekdays (Mon-Fri) and two on a weekend (Sat-Sun). This worksheet allows you and your child to select your favourite and least favourite food and drink commercials and explain why. Each worksheet will take about 10 to 15 minutes to complete.
4. After the two weeks, participate in a follow-up meeting. During this meeting you will be asked to complete a family eating and activity habits questionnaire (which will take about 30 minutes) and participate in a one-on-one interview. This interview will discuss your views of food and drink advertising directed at children. At this same meeting your child will also be asked to participate in a card-sorting activity and a one-on-one interview.

If you grant permission, your one-on-one interview will be audio-recorded and later transcribed word-for-word. If you do not wish to have your interview audio-recorded, Taryn Orava will just take notes during the interview. This interview will last approximately 30 to 35 minutes.

Possible Risks and Discomforts

There is minimal risk involved in participating in this study. Nonetheless, the discussion of your family's physical activity and eating habits, discussion of your role in controlling the eating and physical activity habits of your child and the completion of the family eating and activity habits questionnaire may lead to some mild discomfort. You may also feel embarrassed to disclose personal information about how you choose to structure food selection and family meal times.

In regard to your child, exposure to food and drink commercials may lead to some mild discomfort as the child may be introduced to new ideas and concepts about advertising. Some mild discomfort or embarrassment caused through a discussion regarding personal dietary habits and physical activity habits.

Taryn Orava will have appropriate resources in the forms of reference phone numbers to family psychologists and nutritionists, copies of the Canadian Food Guide and a list of available food banks and local grocery stores. **You will only be asked to provide food receipts for purchases you are comfortable disclosing. You and your child will only be asked to answer questions that you feel comfortable answering. You and your child will only be asked to share information that you or your child feel comfortable talking about.**

Possible Benefits

Through participating in the study you may add to your personal understanding of the influences of food and drink marketing has on personal physical activity and food selection. Participation in this study also may add to your understanding of how your child views food and beverage marketing.

Your child may add to their personal understanding of the concepts of marketing and increase their awareness of the healthy and unhealthy foods advertised on television as a result of participating in the study.

Discussion of these topics, however, may not directly benefit you and your child.

Compensation/Reimbursement

You will receive a $35 food voucher upon completion of this research study. During this initial meeting Taryn Orava will ask you for your preference of grocery store and a food voucher will be purchased on your behalf. You will receive the $35 food voucher at the end of the follow-up interviews, which will take place in two weeks time.

Confidentiality and Anonymity

You will be asked to black out any identifying information found on your family food receipts including food purchase location, prices, totals, debit and credit card numbers on all food receipts before you give them to Taryn Orava. All one-on-one interviews will be audio-recorded and transcribed word-for-word by Taryn Orava. Any personal information, such as your name or name of family members or friends mentioned in the interview, location of your family home and food purchase locations will be removed from transcripts. Any additional personal information will **NOT** be identified in any reports, publications or presentations of this study. Any personal information will be replaced with a pseudonym, a description of your gender and assigned participant number (i.e. female caregiver 1 or male caregiver 1, etc). Similarly, your child's interview will also be audio-recorded and transcribed word-for-word. Any identifying information will be removed and their name will be replaced with another pseudonym (i.e. female child 1 or male child 1, etc).

The major themes identified in the interviews will be reported and direct quotes from the participants may be used to illustrate these themes. Direct quote will only be described by gender and an assigned participant number (e.g. male 1, female 2, etc.).

During the study, all food receipts, worksheets, questionnaires, audiotapes, transcripts and electronic files will be stored in a locked filing cabinet. Taryn Orava and her thesis supervisors, Dr. Susan Hutchinson and Dr. Sara Kirk, will be the only people with access to these files throughout the study.

After the study, all food receipts, worksheets, questionnaires, audiotapes, transcripts and electronic files will be stored in a locked filing cabinet at Dalhousie University for five years, after which time all will be destroyed. It is the responsibility of Taryn Orava to make every effort to protect your identity.

A breach of confidentiality may take place due to the legal obligations Taryn Orava has as a researcher entering a family home. Taryn has the duty to report any suspected sexual abuse, child abuse, neglect or domestic violence to the York Regional Police or Children's Aid Society. If any of the above is suspected, the authorities will be contacted and your participation in this study will be revoked and all information provided by you to Taryn Orava will be destroyed.

Questions

If you have any questions before, during or after you participation in this study, or about this consent form, please do not hesitate to contact Taryn Orava by telephone at 905-727-3878 or by email at YRstudy@gmail.com.

Problems or Concerns

If you have any difficulties with, or wish to voice concern about, any aspect of your participation in this study, you may contact Patricia Lindley, Director of Dalhousie University's Office of Human Research Ethics Administration, for assistance at (902) 494-1462, patricia.lindly@dal.ca. As a resident of York Region, it is very acceptable to contact Patricia Lindley through a collect call.

Caregiver and Child Informed Consent Signature Page

Study Title: **Examining the Views of Caregivers and Children on Televised Food and Drink Commercials in Comparison with Family Eating Habits.**

Please check each box that applies to you:

☐ I give consent for **my** interview to be audio-recorded.

☐ I give consent for **my child's** interview to be audio-recorded.

☐ I give consent for my food receipts to be collected and analyzed.

☐ I give consent for direct quotes from my interview to be used in the study's findings. I understand that my name and/or personally identifying information will **NOT** be revealed.

☐ I give consent for direct quotes from **my child's interview** to be used in the study's findings. I understand that my child's name and/or personally identifying information will **NOT** be revealed.

☐ I would like Taryn Orava to contact me to discuss the study's preliminary results.
Please Contact me by:
Phone:_____
OR Email:_____

☐ I would like Taryn Orava to send me a summary of the study's final results.
Please Contact me by:
Email:_____
OR Address:_____
_____
_____

I _____ (please print name) have read the explanation about this study. I have been given the opportunity to discuss it and my questions have been answered to my satisfaction. I hereby consent to take part in all aspects of this study including providing Taryn Orava with family food receipts, participating in a training exercise, completing a demographic questionnaire, completing worksheets, a one-on-one interview and a questionnaire. However I realize that my participation is voluntary and I am free to withdraw from the study at any time.

I hereby consent for **my child** _____(please print child's name) to take part in all aspects this study including participating in a training exercise, completing worksheets and a one-on-one interview. However I realize that their participation is voluntary and they are free to withdraw from the study at any time.

_____ _____
Signature of caregiver/guardian Date

Please keep a copy of this consent form for your personal records. Thank you.

DALHOUSIE UNIVERSITY
Inspiring Minds

Dalhousie University
School of Health and Human Performance

CHILD ASSENT FORM

Study Title: **Examining the Views of Caregivers and Children on Televised Food and Drink Commercials in Comparison with Family Eating Habits.**

Principal investigator: **Taryn Orava, BKin, MA (Candidate)**
School of Health and Human Performance
Dalhousie University
6230 South Street, Halifax, NS, B3H 3J5
Telephone: (902) 471-5786
Fax: (9050 727-3878

Degree Program: **Masters of Arts, Health Promotion**
School of Health and Human Performance
Dalhousie University

Thesis Supervisors: **Dr. Susan Hutchinson**
School of Health and Human Performance
Dalhousie University
6230 South Street, Halifax, NS, B3H 3J5
Telephone: (902) 494-1163
Fax: (902) 494-5120

Dr. Sara Kirk
School of Health Administration
Dalhousie University
1318 Robie Street, Halifax, NS, B3H 3E2
Telephone: (902) 494-8440
Fax: (902) 494-6849

Contact Person: **Taryn Orava**
School of Health and Human Performance
Dalhousie University
Telephone: (902) 471-5786
Email: YRstudy@gmail.ca

Please feel free to call or email the contact person, **Taryn Orava**, if you have any questions or if you would like additional information.

Assent Script – Initial Meeting

To be read aloud to the child:

Today, I am inviting you to be a part of my research study. A research study is a bunch of different activities that help people find out about things. You get to decide if you want to be in the study or not. If you would like to be a part of my research study, you will watch television for thirty minutes and complete a fill-in-the-blanks worksheet. You will also talk with your caregiver about your favourite and least favourite commercials. You will do this four times over the next two weeks. You don't have to do any activities if you don't want to, you can stop at any time and it will be okay.

There are parts of the study that may make you feel uncomfortable, upset or nervous. We will talk about commercials you see on television and you may change your mind about liking or not liking certain commercials after we talk. You may learn things from the study, you may learn things about healthy and unhealthy foods and you may learn about why you like or dislike a commercial. I cannot be sure you will learn something, but we may learn things that can help other people some day.

If you want to be in the study, please print your name here:

I, _____*want to be in this research study.*
Date: _____

Assent Script - Interviews

Today I am inviting you to take part in an interview. An interview is when two people sit down and talk. One person asks some questions and the other person answers them. I will ask you some questions about what types of food you like to eat and if you like to play games. Remember, you make your own decisions, so you can choose the questions you want to answer. After our talk, we will play a game with some cards that have pictures of food on them. Our talk and our card game will take about thirty minutes, or half an hour. During our talk, if you want me to, I will audio-record our talk using a tape recorder. I will also write some notes in a notebook while we are playing with the cards.

Remember, you don't have to do this if you don't want to and you can stop at any time and it will be okay.

If you want to be part of the interview, please print your name here:

I, _____ *want to be in this research study.*
Date: _____

APPENDIX E:
DEMOGRAPHICS SURVEY

The following demographic information is collected from you for the purposes of understanding where participants are from. You do not have to complete this survey if you do not feel comfortable. Take your time and please ask Taryn Orava if you have any questions.

1. I am the legal guardian and…

☐ Male Caregiver

☐ Female Caregiver

2. My child is:

☐ Male

☐ Female

3. My child is:

☐ 8 years old

☐ 9 years old

☐ 10 years old

---

4. My family lives in:

☐ Aurora

☐ East Gwillmbury

☐ Georgina

☐ King

☐ Markham

☐ Newmarket

☐ Richmond Hill

☐ Thornhill

☐ Vaughan

☐ Whitchurch-Stouffville

☐ Other:

(Please specify:)

5. What is your approximate annual household income?

☐ Less than $24,999

☐ $25,000 - $44,999

☐ $45,000 - $64,999

☐ $65,000 - $84,999

☐ $85,000 - $104,999

☐ $105,000 - $114,999

☐ Greater than $115,000

☐ Prefer not to specify

6. How many people are in your household and have to rely on this income?

---

7. Do you, or your child, identify with any ethnic group? If so, please specify:

Caregiver:_____ Child: _____

8. How many people live in your home? Adults: _____ Children: _____

9. What is the highest level of education that you have attained?

☐ Some secondary education

☐ Completed secondary education

☐ Some post-secondary education

☐ Completed a post-secondary degree (e.g. undergraduate, college diploma)

☐ Completed a graduated graduate degree (e.g. medicine, graduate school)

☐ Other:

APPENDX F:
COMMERCIAL ACTIVITY WORKSHEETS

Commercial Recording Sheet

What is today's date? _____

What show are you watching? _____

What channel is it on? _____

What time is it? _____

Write down all the commercials you see for **FOOD and DRINKS** on this piece of paper. Pay close attention to all the commercials. Check off if you think the food and drinks are healthy or unhealthy. Have fun!

Commercial is for: This food or drink is:	☐ Healthy	☐ Unsure	☐ Unhealthy
Commercial is for: This food or drink is:	☐ Healthy	☐ Unsure	☐ Unhealthy
Commercial is for: This food or drink is:	☐ Healthy	☐ Unsure	☐ Unhealthy
Commercial is for: This food or drink is:	☐ Healthy	☐ Unsure	☐ Unhealthy
Commercial is for: This food or drink is:	☐ Healthy	☐ Unsure	☐ Unhealthy

Commercial is for:			
This food or drink is:	☐ Healthy	☐ Unsure	☐ Unhealthy
Commercial is for:			
This food or drink is:	☐ Healthy	☐ Unsure	☐ Unhealthy
Commercial is for:			
This food or drink is:	☐ Healthy	☐ Unsure	☐ Unhealthy
Commercial is for:			
This food or drink is:	☐ Healthy	☐ Unsure	☐ Unhealthy
Commercial is for:			
This food or drink is:	☐ Healthy	☐ Unsure	☐ Unhealthy
Commercial is for:			
This food or drink is:	☐ Healthy	☐ Unsure	☐ Unhealthy
Commercial is for:			
This food or drink is:	☐ Healthy	☐ Unsure	☐ Unhealthy

Great Work! Don't worry if you have blank spaces. Within the next hour choose your favourite and least favourite commercial with your caregiver.

Appendix E: Commercial Selection Worksheet

Caregiver and Child Favourite and Least Favourite Commercials

This worksheet is to be completed after the child has watched their 30 minutes of television and is to be completed by both yourself (the caregiver) and child. Begin this activity by reviewing the commercial recording sheet. Let your child select their favourite and least favourite commercials. Record the details of their favourite/least favourite commercials in the appropriate sections below. This activity should take no more than 15 minutes to complete.

Date: _____

Time: _____

Television show: _____

Program's Station: _____

Favourite Commercial

Product Name: _____

This food/drink product is: ☐ health ☐ unhealthy

The commercial involved:

☐ Physical activity ☐ Fun ☐ Active Kids ☐ Exercise ☐ Walking

☐ Cartoon characters ☐ Dance ☐ Celebrity ☐ Sports ☐ Comedy

☐ The Outdoors ☐ Jokes ☐ Bicycling ☐ None of the above

☐ Other (please specify)_____

To the child: Please explain why you liked this commercial?

_____

_____

_____

_____

_____

_____

_____

_____

To the caregiver: Do you also enjoy this commercial? Please elaborate on your favourite television food/drink commercial (that is targeted at children).

_____

_____

_____

_____

_____

_____

_____

_____

Least Favourite Commercial

Product Name: _____

This food/drink product is: ☐ health ☐ unhealthy

The commercial involved:

☐ Physical activity ☐ Fun ☐ Active Kids ☐ Exercise ☐ Walking

☐ Cartoon characters ☐ Dance ☐ Celebrity ☐ Sports ☐ Comedy

☐ The Outdoors ☐ Jokes ☐ Bicycling ☐ None of the above

☐ Other (please specify)_____

To the child: Please explain why you disliked this commercial?

To the caregiver: Did you also dislike this commercial? Please elaborate on your least favourite food/drink commercial (that is targeted at children).

APPENDIX G:
CHILD INTERVIEW GUIDE

Before the Interview
Prior to the one-on-one interview with the child, we will select a room in the house that is appropriate for a one-on-one conversation such as the kitchen, living or dining room. The follow-up interview child assent form will then be read aloud by Taryn Orava and the child will have the opportunity to provide assent.

The Interview Process
Spoken to the child: *The questions I am going to ask you today are all about the things you do on a regular basis. At the end of all the questions we are going to play a game with some cards. So let's get started.*

Weekday routines
Let's start off by thinking about what we normally do on a school day. If it helps, you can think back to what kinds of things you did this past week. So, let's say that you just woke up!

1. ***What do you do from the time you wake up until when you get to school?***

Prompts:
- Can you tell me about what you do for breakfast?
    - What do you usually eat for breakfast?
    - Where do you normally eat your breakfast?
    - Who do you usually eat your breakfast with?
    - What does mom/dad do when you are eating your breakfast?
- After breakfast, what do you do?
- Can you tell me how you get to school in the mornings?
    - Do you ever walk or ride your bike to school?

2. ***Do you get a morning and an afternoon snack break at school?***
- If so, what do you normally have a snack?

3. ***Can you tell me about lunchtime at your school?***

Prompts:
- What do you normally eat for lunch?
- Does your school have pizza lunches or have a cafeteria?
    - If so, was there a pizza lunch this past week?
    - If there is a cafeteria, do you ever buy your lunch?
    - What do you normally buy from the cafeteria?
- Does your school have vending machines?
    - If so, do you ever buy something from the vending machine?

- How often, would you say, that you buy a snack/soft drink from the vending machines?

4. ***After lunch, what do you do?***

Prompts:
- Can you tell me what you like to do at recess?
  - What does your schoolyard look like?
  - What types of activities can you do at recess?

5. ***So now let's think to the end of the school day bell has rung…. what do you do after school?***
   a. ***Tell me what happens when you leave school all the way up to when you eat dinner.***

6. ***Tell me about the television shows you watch after school.***

Prompts:
- What do you like about these television shows?
- What is your favourite television show?
- Which shows did you watch yesterday/Friday?
- How many show do you normally watch in one day?

7. ***Do you like to play video games or play on the computer? If so, can you tell me about your experiences playing video games or games on the computer?***

Prompts:
- How much time do you spend playing video games?
- What is your favourite video game?
- What is your favourite computer game?
- How much time are you allowed to spend on the computer?

8. ***During the week, do you go to any extra-curricular classes? If so, could you tell me about your experiences with this activity.***

Prompts:
- Do you play hockey? If so, how many days this week did you play?
- Do you do gymnastics? If so, how many days this week did you go to the gym?
- Do you dance? If so, how many days this week did you go to dance?

9. ***Sounds good so far, now let's talk about dinner! Tell me what happens during dinnertime in your house.***

Prompts:
- What do you normally have for dinner?
- Does mom or dad cook?

- Do you usually have take-out for dinner?
- Where do you eat dinner?
- Who do you eat dinner with?

10. Now can you tell me what happens from the time you finish dinner until the time you go to bed?

Prompts:
- Do you watch television/play computer games/participate in a family activity?
- Do you do your homework after dinner?
- Do you normally have a bedtime snack?

11. When you are hungry at home, are you allowed to help yourself to snacks?

Prompts:
- Do you know where your mom/dad keep the snacks?
- Do you have your own snacks to choose from?
- Are you allowed to buy your own snacks or candy?
    - If so, how often are you allowed to buy 'treats?'

Those are all the questions I was hoping to ask you. Now that we are done, do you have any questions for me? Do you have any stories about eating or physical activity that you would like to share with me? Is there anything else you would like to share with me?

Great work! Now we are going to play a game with a group of cards.

APPENDIX H:
CHILD CARD SORT ACTIVITY

Hand the child the deck of cards. Ask them to shuffle the cards and become familiar with their pictures.

To be spoken to the child: *Let's play the game. What I would like you to do is to split the cards into three piles. One pile will be for all the cards with pictures of healthy foods, one pile will be for all the cards with a picture of unhealthy foods and the middle pile will be for the foods you aren't sure about. There are no right or wrong answers. That is how you win the game! So take your time and feel free to ask me questions about foods you may be unfamiliar with. In the meantime, I am going to take some notes. Are you ready?*

After the child has separated the healthy and unhealthy foods, we will return to the 'undecided' food products. I will help describe which each of items are and ask:

1. Tell me about each of the foods you chose to put in the middle pile.
2. One by one, can you tell me why you had difficulty deciding if they were healthy or unhealthy foods?
3. One by one, can you tell me which foods are in the healthy pile?
4. What makes these foods healthy?
5. Tell me about when you see these foods on television.
6. One by one, can you tell me which foods are in the unhealthy pile?
7. What makes these foods unhealthy?
8. Tell me about when you see these foods on television.

Card Sorting Activity

The child cart sorting activity involves the use of 52 small cards, each picturing a different food or drink item and corresponding name. The 52 cards will represent foods/drinks outlined by Canada's food guide as well as foods from the big five. Cards will depict the following:

Apple	Lollipop
Orange	Gummy worms
Banana	Gum balls
Green pepper	Chocolate bar
Tomato	Gummy Bears
Potato	Pudding
Salad (leafy greens)	Granola bar
Whole wheat bread	Fruit snacks
Bagel	Popcorn
Flat bread	Potato chips
Cooked white rice	Rice Krispies
Spaghetti	Cinnamon Toast Crunch
Couscous	Mini Wheats
Wild Rice	Coco-Puffs
2% Milk	Frosted Flakes
Skim Milk	Water
Soy Milk	Fruit Juice
Plain Yogurt	Lemon Lime Drink
Strawberry Yogurt	Cola
Cheddar cheese	Hamburger
Goat cheese	Breakfast sandwich
Cooked salmon	Chicken nuggets
Shrimp	Cheese burger
Kidney beans	French Fries
Tofu	
Hard boiled eggs	
Peanut butter	
Almonds	

APPENDIX I:
FAMILY EATING AND ACTIVITY HABITS QUESTIONNAIRE

Modified from Golan and Weizman (1998)

Please refer your answers to questions 1-4 to yourself and your child.

1. **How many hours per week on average do you watch television and/or play computer games?**

   Parent/Guardian _____ Child_____

2. **How many hours per week on average do you engage in the following activities?**

	Parent/Guardian	Child
Ride bicycles Take a walk Swim Do gymnastics or basketball or football Dance Play hockey Other:		

3. **How many times per week on average do you attend leisure time classes (including exercise classes)? (If none, write 0).**

   Parent/Guardian _____ Child_____

4. **When you are alone and are not busy, do you get bored? (Place the number of your answer in the appropriate column)**

	Parent/Guardian	Child
0 – Never 1 – Almost never 2 – Some times 3 – Frequency 4 – Always		

In modern society, people often skip meals, do with snacks instead of proper meals or eat irregularly or depending on their mood. The following questions are related to the types of foods you and your family eat, and your eating behaviour. (Circle the

appropriate items).

5. How many of the following snacks are usually found in your home?
Chitos, Pretzels, Potato Chips, Ruffles, Popcorn, Sunflower seeds, Peanuts, Almonds, Pistachios, Nuts, Other.

0 ---- 1 ---- 2 ---- 3 ---- 4 ---- 5

6. How many of the following types of sweets are usually found in your home?
Chocolate and chocolate bars, Candy, Wafers, Cookies, Jam,
Other:_____

0 ---- 1 ---- 2 ---- 3 ---- 4 ---- 5

7. How many types of cake are usually found in your home? _____

8. How many types of ice-cream and popsicles are usually found in your home? _____

9. During the weekend, do you add more of the foods listed in 5-8?
0 – ☐ Don't add.
1 – ☐ Add.
2 – ☐ Add a lot.

10. You usually keep snacks and sweets in your home in:
0 – ☐ A hiding place
1 – ☐ Known but not seen place
2 – ☐ Reachable place

11. To what degree can your child eat snacks and/or sweets without your permission?
0 – ☐ Never
1 – ☐ Almost never
2 – ☐ Sometimes
3 – ☐ Frequently
4 – ☐ Always

12. How frequently does your child buy his/her own sweets?
0 – ☐ Never
1 – ☐ Almost never
2 – ☐ Sometimes
3 – ☐ Frequently
4 – ☐ Always

13. When your child asks to eat, does he/she claim to be hungry?
0 – ☐ Yes
1 – ☐ No

14. Usually when your child eats
1 – ☐ He/She asked for it.
2 – ☐ The food was offered by their caregiver.

15. If it is mealtime and your child is not hungry, how would you respond?
0 – ☐ You suggest that the child will eat later
1 – ☐ You suggest that the child sit at the table with the rest of the family but would not eat
2 – ☐ You suggest that the child sit at the table with the rest of the family but would eat less
3 – ☐ You convince the child to eat with the rest of the family
4 – ☐ This is an irrelevant question, the child is always hungry

16. When it is mealtime and you are not hungry what would you do?
0 – ☐ Not eat
1 – ☐ Eat less
2 – ☐ Eat the same
3 – ☐ It never happens

Frequently, we just grab something to eat, or eat under certain conditions or moods. (Please refer your answer to questions 17-20 to yourself and your child).

17. How frequently do the following behaviours occur for each family member:

Parent/Guardian	Never 0	Almost Never 1	Some-times 2	Frequ-ently 3	Al-ways 4
17. Eat while Standing 18. Eat straight from the pot/ pan/bowl 19. Eat while watching television, reading, working 20. Eat when bored 21. Eat when angry or in other negative mood states 22. Eat in disorderly way between meals 23. Eat late in the evening or at night					

Child	Never 0	Almost Never 1	Sometimes 2	Frequently 3	Always 4
17. Eat while Standing 18. Eat straight from the pot/ pan/bowl 19. Eat while watching television, reading, working 20. Eat when bored 21. Eat when angry or in other negative mood states 22. Eat in disorderly way between meals 23. Eat late in the evening or at night					

In many houses eating is not limited to the dining room or kitchen.

24. How often do you eat in the following rooms?
(If you do not have such a room in the house, please mark with ---)

Parent/Guardian	Never 0	Almost never 1	Sometimes 2	Frequently 3	Always 4
24. Living/TV room 25. Bedroom 26. Office					
Child	Never 0	Almost never 1	Sometimes 2	Frequently 3	Always 4
24. Living/TV room 25. Bedroom					

---

27. Compared to the other people your age, how would you rate your eating pace:

Parent/Guardian:	1 – Slow	2 – Average	3 – Fast
Child:	1 – Slow	2 – Average	3 – Fast

28. How often do you customarily ask for or take a second helping?

Parent/Guardian:	0 Never	1 Almost never	2 Sometimes	3 Frequently	4 Always
Child:	0 Never	1 Almost never	2 Sometimes	3 Frequently	4 Always

29. How often do you or your spouse eat with the child?

29. Breakfast:	0 Always	1 Frequently	2 Sometimes	3 Almost never	4 Never
30. Lunch:	0 Always	1 Frequently	2 Sometimes	3 Almost never	4 Never
31. Afternoon Snack:	0 Always	1 Frequently	2 Sometimes	3 Almost never	4 Never
32. Dinner:	0 Always	1 Frequently	2 Sometimes	3 Almost never	4 Never

33. How many times per week do you and your family eat fast food?

(Hamburgers, French fries, fried chicken, submarine sandwiches, tacos etc.)

1 2 3 4 5+

Family Eating and Activity Habits Questionnaire
SCORING SHEET

Questionnaires will be scored, and scores will be recorded by Taryn Orava after the follow-up interviews.

	Caregiver	Child
Questions	**Leisure time activities**	
1		
2*		
3*		
4		
	Exposure and availability of problematic foods	
5		
6		
7		
8		
9		
10		
11		**-**
12		**-**
	Hunger cues	
13		**-**
14		**-**
15		**-**
16		**-**
	Eating in problematic situations	
17		
18		
19		
20		
21		
22		
23		
24		
25		
26		
27		
28		
	Family rites	
29		
30		
31		
32		
Total	**Sum**	**Sum**

Family Eating and Activity Habits
SCORING

Questions	**Leisure time activities**		
Definition:	The leisure time activities scale produced a score based upon the number of hours children and their caregivers participated in both physical and non-physical extracurricular activities (those participated in during free-time only).		
1 to 4	(-68 to -10)	(-9 to 49)	(50 to 108)
	Proper Activity Habits	Somewhat Appropriate Activity Habits	Inappropriate Activity Habits
	Exposure and availability of problematic foods		
Definition:	The exposure and availability to problematic foods scale was designed to examine the presence of unhealthy foods, the child's accessibility to these products and the caregivers' ability to control the eating behaviors of the child.		
5 to 12	(0 to 26)	(27 to 53)	(54 to 80)
	Little to no exposure to foods/drinks	Some Exposure to foods/drinks	Inappropriate overexposure to foods/drinks
	Hunger cues (Related to parenting style)		
Definition:	The hunger cues scale represented the occurrence of eating at any other time besides from when an individual felt hungry.		
13 to 16	(1 to 4)	(5 to 8)	(9 to 12)
	Little visibility and accessibility to snack foods in family home	Moderate visibility and accessibility to snack foods in family home	High visibility and accessibility to snack foods in family home
	Eating in problematic situations		
Definition:	The eating in problematic situations scale described situations other than sitting at a table with proper china with other people and at a slow pace.		
17 to 28	(2 to 30)	(31 to 59)	(60 to 88)
	Appropriate eating styles	Somewhat appropriate eating styles	Inappropriate eating styles
	Family rites		
Definition:	The family rites scale represented the ability of caregivers to monitor their children's consumption of foods and beverages by being present at meal times and preparing homemade meals.		
29 to 32	(0 to 10)	(11 to 21)	(22 to 32)
	Child eats with caregivers on a regular basis	Child eats with caregivers on occasion	Child eats alone on a regular basis
TOTAL	(-65 to 61)	(62 to 188)	(189 to 316)
	Appropriate eating and physical activity habits of the family	Somewhat appropriate eating and physical activity habits of the family	Inappropriate eating and physical activity habits of the family

Family Eating and Activity Habits Questionnaire
Appropriateness Definitions

LEISURE TIME ACTIVITIES

This scale examined the frequency at which caregivers and the child engaged in physical activities and sedentary behaviours (Golan & Weizman, 1998). Physical activities can include organized physical activities such as hockey, gymnastics or dance, active transportation and leisure time activities such as exercise classes. Sedentary behaviours specifically refer to time spent watching television and playing computer or video games. Families with appropriate activity habits, participate regularly in physical activities and limit hours spent in sedentary or activities that restrict being active. Families with somewhat physical activity habits therefore have a balance between physical activities and sedentary activities. Families who report inappropriate activity habits are less likely to participate in physical activities and more likely to spend the majority of their leisure time being inactive.

EXPOSURE AND AVAILABILITY OF PROBLEMATIC FOODS

This scale examines the family food environment in the context of the presence of unhealthy food products, the child's accessibility to these products and the caregiver's ability to control the eating behaviour of their child (Golan & Weizman, 1998). The unhealthy products discussed in this section of the questionnaire include snacks, sweets, cakes and ice-creams, which are representative of the Big five products (Golan & Weizman, Harrison et al., 2008). Families who report having little to no exposure and availability to problematic foods within the home

HUNGER CUES

Within the home family members can experience nonproductive food intake when they are bored, stressed or under social pressure, i.e. other members of the family are eating. The hunger cues scale represents the occurrence of eating at any other time besides from when an individual feels hungry.

EATING IN PROBLEMATIC SITUATIONS

Golan and Weizman (1998) provide a list of examples of eating in problematic situations, which include eating: while standing; from the pot, pan, bowl; in front of the television, while reading or working; in the living room; in the bedroom; in the office; at a higher rate; and more than a serving size. These situations are rated as problematic because they do not follow the recommendation of many researchers and dietitians who suggest to eat only when hungry, and when hungry, eat at the dining room table only, using a proper plate, remain seated and do not partake in any other activity while dining (Golan & Weizman).

FAMILY RITES

This scale represents the ability of the caregiver to monitor the child's consumption of foods and beverages. This monitoring occurs when the caregiver is present during mealtimes.

Email: Monday June 1, 2009

Good luck. Here is the revised version.

****

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-----Original Message-----
From: Taryn Orava [mailto:TR792017@DAL.CA]
Sent: Monday, June 01, 2009 8:09 PM
To: moriag@netvision.net.il
Subject: Permission to use Questionnaire

Good afternoon Dr. Golan,

My name is Taryn Orava and I am a graduate student at Dalhousie University In Halifax, Nova Scotia, Canada. I am completing a Masters degree in Health Promotion and my thesis research examines the influences of marketing on Family eating and activity habits. This being said, I have come across the Family Eating and Activity Habits Questionnaire and would love the opportunity to incorporate it into my study as a self-report measurement completed by parents. Therefore, are you able to grant permission for me to use this Questionnaire?

If you require more information about my study before permission to be granted,
I can email you a brief abstract or outline.

Thank you for your time and consideration, it is much appreciated.

Taryn Orava
BKIN MA HPRO (Candidate)
Dalhousie University
Nova Scotia, Canada
902 471 5786

APPENDIX J:
CAREGIVER INTERVIEW GUIDE

Before the Interview
Prior to this interview, the caregiver would have been completing the Family Eating and Activity Habits Questionnaire as I was interviewing the child in a separate room. Therefore, I will begin the adult interview by asking the caregiver to provide me with the four completed television activity worksheets and the Questionnaire.

To be spoken to the caregiver: *Thank you so much for taking part in my study. Just a reminder that your participation in this interview is totally voluntary, you have the power to stop or skip over questions whenever you do not feel comfortable. Before we begin, do you have any questions?* [I will answer questions to the best of my ability].

This interview will have four separate topics, the first of which discusses the commercial selection worksheet you have just handed into me.

1. By reviewing the commercial selection worksheet, can you tell me more about the commercials your child selected as their favourite/least favourite?
2. In your opinion, why do you believe you child chose those commercials?
3. Can you tell me a little bit more about the selection process?
    a. Did you agree with all of the selections made by your child?
    b. Please explain why you agreed or why you disagreed with your child's preferences.

Let's talk more about requesting for food purchases
4. Does your child ever request you purchase their favourite commercially advertised product?
    a. If so, please tell me more about this experience.
        i. Which specific brands do they request?
        ii. Why do you think that they request these specific brands?
        iii. Tell me about how you go about making the decision to purchase or not to purchase requested products.
        iv. How often does your child make these types of requests?
        v. Could you provide me with a situation where you may give in to requests?

Now let's talk about how you structure grocery shopping and family meals.
5. Tell me in as much detail as possible, how you go about planning grocery shopping for your family.
    Prompts:
    a. How do you decide what meals to have each day?
    b. Who helps make the meal selection decisions?
    c. Do you make a shopping list? If so, who contributes to what foods are being brought into the home?

6. Tell me in as much detail as possible, how you shop for food.
   Prompts:
   a. Do you shop alone?
   b. Where do you do the majority of your food shopping?
   c. Do you shop with your child? If so, do they request food items while at the grocery store? How do you handle these situations?
   d. How do you control the foods that come into your home?

Thank you so much for your input, it is much appreciated. My last question is regarding the influence that food and beverage marketing has on children. So my question to you is:

7. In as much detail as possible, please describe to me your own personal thoughts about marketing of food and beverages targeted at children.

After the Interview
I will bring the child back into the room for the interview-wrap up.

Thank you so much for participating in my study. From here, I will type up both interviews, word for word, and remove all the identifying information from your activity worksheets and transcripts. At this time, I would like to ask for your permission for me to use the quotations you have provided today in my final write up (thesis). Also, as mentioned at our initial meeting, would you like the opportunity of receiving a summary of this study's findings?

APPENDIX K:
NUTRITIONAL PROFILING SYSTEM CALCULATIONS

The following calculations used reference heights (m) and weights (kg) retrieved from the CDC/NCHS growth charts (Centers for Disease Control and Prevention [CDC], 2000). These growth charts were developed through the calculations of the median height and median body mass index for ages 4 through 19 years of age (CDC).

- Children ages 4 – 8: Height was 1.15 m and weight was 20 kg.
- Males ages 9 – 13: Height was 1.44 m and weight was 36 kg.
- Females ages 9 – 13: Height was 1.44 m and weight was 37 kg.

The Physical Activity Level (PAL) of an individual is defined as "the ratio of total energy expenditure to basal energy expenditure. The PAL is categorized into sedentary, low active, active and very active" (Dietitians of Canada, 2005, p. 2). For the purposes of this study, low active PAL coefficients were used, as this includes typical daily living activities plus 30-60 minutes of daily moderate activity. Ontario curriculum supports the 30 minutes of daily physical activity and therefore this category was selected as children ages 8 to 10 would be daily participants in low level activities at their own schools (Ontario Ministry of Education and Training, 1998).

Low Active Coefficients:
- Males 3 – 18 years: 1.13
- Females 3 – 18 years: 1.16

EER (kcal/day) for 8-year-old male

EER = 88.5 – (61.9 x Age[y]) + PA x {(26.7 x weight[kg]) + (903 x height[m])} + 20

EER = 88.5 – (61.9 x 8) + 1.13 x {(26.7 x 20) + (903 x 1.15)} + 20
EER = 88.5 – 495.2 + 1.13 x {534 + 1038.45) + 20
EER = -406.7 + 1176.8685 + 20
EER = 790.1685 kcal/day
790.1685 kcal/day x 4.18400 kilojoules = **3306.06504 kJ/day**

EER (kcal/day) for 9-year-old male

EER = 88.5 – (61.9 x Age[y]) + PA x {(26.7 x weight [kg]) + (903 x height[m])} + 25

EER = 88.5 – (61.9 x 9) + 1.13 x {(26.7 x 36) + (903 + 1.44)} + 25
EER = 88.5 – 557.1 + 1.13 x (961.2 + 1300.32) + 25
EER = -468.6 + 2555.5176 + 25
EER = 2111.9176 kcal/day
2111.9176 kcal/day x 4.18400 kilojoules = **8836.2632384 kJ/day**

EER (kcal/day) for 10-year-old male

EER = 88.5 – (61.9 x Age[y]) + PA x {(26.7 x weight [kg]) + (903 x height[m])} + 25

EER = 88.5 – (61.9 x 10) + 1.13 x {(26.7 x 36) + (903 + 1.44)} + 25

EER = 88.5 – 610 + 1.13 x (961.2 + 1300.32) + 25
EER = -521.5 + 2555.5176 + 25
EER = 2059.0176 kcal/day
2059.0176 kcal/day x 4.18400 kilojoules = **8614.9296384 kJ/day**

EER (kcal/day) for 8-year-old female

EER = 135.3–(30.8 x Age[y]) + PA x {(10.0 x weight[kg]) + (934 x height[m])} + 20

EER = 135.3 – (30.8 x 8) + 1.16 x {(10.0 x 20) + 934 x 1.15)} + 20
EER = 135.3 – 246.5 + 1.16 x (200 + 1074.1) + 20
EER = -111.1 + 1477.956 + 20
EER = 1386.856 kcal/day
1386.856 kcal/day x 4.18400 kilojoules = **5802.605504 kJ/day**

EER (kcal/day) for 9-year-old female

EER = 135.3-(30.8 x Age[y]) + PA x {(10.0 x weight[kg]) + (934 x height[m])} + 25

EER = 135.5 – (30.8 x 9) + 1.16 x {(10 x 37) + (934 x 1.44)} + 25
EER = 135.5 – 277.2 + 1.16 (370 + 1344.96) + 25
EER = -141.7 + 1989.3536 + 25
EER = 1872.6536 kcal/day
1872.6536 kcal/day x 4.18400 kilojoules = **7835.1826624 kJ/day**

EER (kcal/day) for 10-year-old female

EER = 135.3-(30.8 x Age[y]) + PA x {(10.0 x weight[kg]) + (934 x height[m])} + 25

EER = 135.5 – (30.8 x 10) + 1.16 x {(10 x 37) + (934 x 1.44)} + 25
EER = 135.5 – 308 + 1.16 (370 + 1344.96) + 25
EER = -172.7 + 1989.3536 + 25
EER = 1841.6536 kcal/day
1841.6536 kcal/day x 4.18400 kilojoules = **7705.4786624 kJ/day**

The EER provided how many kiocalories children must eat per day to balance their energy output (Dietitians of Canada, 2005). I then converted kilocalories to kilojoules (using the conversion coefficient of 4.18400) so results would correspond to findings of the Food Standard Agency's nutrient profiling system.

APPENDIX L:
NUTRITIONAL CONTENT ANALYSIS SCORING

Points	Energy	%	Sat Fat	%	Tfat	%	Tcarbs	%	Sodium	%	Fiber	%
0 to 10	kJ	kJ/day*	g	g/day*	g	g/day*	g	g/day*	mg	mg/day*	g	g/day*
0	≤335	≤5%	≤1	≤5%	≤2	≤5%	≤4.5	≤1.5%	≤90	≤6%	≥4.7	≥15%
1	>335	>5%	>1	>5%	>2	>5%	>4.5	>1.5%	>90	>6%	>3.7	>12%
2	>670	>10%	>2	>10%	>5	>10%	>9	>3%	>180	>12%	>2.8	>9%
3	>1005	>15%	>3	>15%	>8	>15%	>13.5	>5%	>270	>18%	>1.9	>6%
4	>1340	>20%	>4	>20%	>11	>20%	>18	>6%	>360	>24%	>0.9	>3%
5	>1675	>25%	>5	>25%	>14	>25%	>22.5	>8%	>450	>30%	<0.9	<3%
6	>2010	>30%	>6	>30%	>16	>30%	>27	>9.5%	>540	>36%		
7	>2345	>35%	>7	>35%	>19	>35%	>31	>11%	>630	>42%		
8	>2680	>40%	>8	>40%	>22	>40%	>36	>13%	>720	>48%		
9	>3015	>45%	>9	>45%	>25	>45%	>40	>14%	>810	>54%		
10	>3350	>50%	>10	>50%	>28	>50%	>45	>16%	>900	>60%		

*The percent (%) of daily reference intake is based upon a 7000 kJ/day diet.

APPENDIX M:
EXAMPLES OF NUTRITIONAL CONTENT ANALYSIS

FRUITS AND VEGETABLES

Product:	Measures	Reported	Conversion	Per 100g	%	Points
Apple	Energy	52	N/A	217	<5	0
100 g	Tcarbs			13.81	>10	3
Company:	Fiber			1.9	>6	3
CNF 1696	Tfat			0.17	<0.5	0
	Sat Fat			0.028	<1.5	0
	Sodium			1	<6	0
Category: Healthy	**Class:**	Fruits and Vegetables		**Score:**		6

GRAIN PRODUCTS

Product:	Measures	Reported	Conversion	Per 100g	%	Points
Whole Wheat Bread	Energy	246	N/A	1029	>15	3
100 g	Tcarbs			46.1	>35	10
Company:	Fiber			6.9	>15	0
CNF 4067	Tfat			4.2	>1.4	7
	Sat Fat			0.917	<1.5	0
	Sodium			527	>30	5
Category: Healthy	**Class:**	Grain Products		**Score:**		25

MILK AND ALTERNATIVES

Product:	Measures	Reported	Conversion	Per 100g	%	Points
2% Milk	Energy	56	N/A	234	<5	0
100 g	Tcarbs			5.49	>3.5	1
Company:	Fiber			0	<3	5
CNF 62	Tfat			1.98	>3.2	6
	Sat Fat			1.218	>8	6
	Sodium			59	<6	0
Category: Healthy	**Class:**	Milk and Alternatives		**Score:**		18

MEAT AND ALTERNATIVES

Product:	Measures	Reported	Conversion	Per 100g	%	Points
Hard Boiled Egg	Energy	155	N/A	648	>5	1
100 g	Tcarbs			1.12	<3.5	0
Company:	Fiber			0	<3	5
CNF 130	Tfat			10.61	>5	10
	Sat Fat			3.267	>15	10
	Sodium			124	>6	1
Category: Healthy	**Class:**	Meats and Alternatives		**Score:**		27

CONFECTIONERIES

Product:	Measures	Reported	Conversion	Per 100g	%	Points
Chocolate Bar, Sweet Chocolate	Energy	505	N/A	2112	>30	6
100 g	Tcarbs			59.6	>35	10
Company:	Fiber			5.5	>15	0
CNF 4149	Tfat			34.2	>5	10
	Sat Fat			20.08	>15	10
	Sodium			16	<6	0
Category: Unhealthy	**Class:**	Confectioneries		**Score:**		36

SNACKS AND SPREADS

Product:	Measures	Reported	Conversion	Per 100g	%	Points
Chocolate Chip and Peanut Granola Bar	Energy	100	4.1666	1743.333333	<5	0
24 g	Tcarbs	18		75	>35	10
Company:	Fiber	1		4.166666667	>12	1
Quaker Oats	Tfat	3		12.5	>5	10
	Sat Fat	1.5		6.25	>15	10
	Sodium	75		312.5	>18	3
Category: Unhealthy	**Class:**	Snacks and Spreads		**Score:**		34

CEREALS

Product:	Measures	Reported	Conversion	Per 100g	%	Points
Cinnamon Toast Crunch	Energy	130	3.225806452	1754.580645	>25	5
31 g	Tcarbs	25		80.64516129	>35	10
Company:	Fiber	1		3.225806452	>9	2
General Mills	Tfat	3		9.677419355	>5	10
	Sat Fat	0.5		1.612903226	>12	8
	Sodium	220		709.6774194	>42	7
Category: Unhealthy	**Class:**	Cereals		**Score:**		42

FAST AND FROZEN FOODS

Product:	Measures	Reported	Conversion	Per 100g	%	Points
Chicken Nuggets	Energy	279	N/A	1242	>15	3
100 g	Tcarbs			16.32	>10	3
Company:	Fiber			0.9	<9	3
CNF 5864	Tfat			18.82	>5	10
Fast Food, breaded and fried, plain	Sat Fat			4.022	>15	10
	Sodium			574	>36	6
Category: Unhealthy	**Class:**	Fast and Frozen		**Score:**		35

BEVERAGES

Product:	Measures	Reported	Conversion	Per 100g	%	Points
Lemon Lime Soft Drink	Energy	40	N/A	167	<5	0
100 g	Tcarbs			10.4	>7	2
Company:	Fiber			0	<3	5
CNF 2857	Tfat			0	<0.5	0
	Sat Fat			0	<1.5	0
	Sodium			11	<6	0
Classification: Healthy	**Category:** Beverages			**Score:**		7

APPENDIX N:
PARTICIPANT RESOURCES

Services Offered to York Region Families

York Region Health Connection

1 – 800 – 361 – 5653

Speak directly to a:

- Public health nurse;
- Public health inspector;
- Registered dietitian;
- Dental hygienist;

Kids Help Phone

1 – 800 – 668 – 6868

Kidshelpphone.ca

Kinark Child and Family Services

24 Orchard Heights Blvd Unit 101A

Aurora, ON L4G 6T5

905 – 713 – 0700

1 – 800 – 230 – 8530

Monday – Thursday

8:30 am – 8:00 pm

Friday

8:30 am - 5:00 pm

"Kinark child and family services is a children's mental health organization that provides help to children and youth, families and communities."

Newmarket

Elke Sengmueller

905-713-5209

thefoodlady1@hotmail.com

130 Prospect St.

Newmarket, ON

L3Y 3T5

Evenings and Saturdays

Services Available (specific to this research)

- Family Nutrition Counseling
- Children Ages 4-13 years
- Dietary Assessment
- Grocery Store/Nutrition Tours
- Group Counseling
- Individual/Private Counseling
- Nutrition Screening/Assessments

Aurora

Martine Payne

416-716-1041

Martinepayne@rogers.com

Aurora, ON

L4G 4R1

9:00 am – 5:00 pm

Services Available (specific to this research)

- Children Ages 4-13 years
- Dietary Assessment
- Grocery Store/Nutrition Tours
- Individual/Private Counseling
- Nutrition Screening/Assessments

Eat Right Ontario

www.Ontario/ca/EatRight

1-877-510-510-2

York Region Family Dietitians

Aurora & Newmarket

Local Professionals who Offer Family Services

YR Family Resource Centers

Child and Family Health Clinic

Outpatient counseling for children <13 years old age with eating disorders.

For more information: 905-895-4521 ext 2215

Nutrition Counseling

Individual nutrition counseling for those interested in managing and preventing lifestyle related challenges, such as obesity and pre/post surgical weight loss.

Physician referral not required.

For more information: 905-832-8070 ext 2243

H.E.L.P

Healthy Eating and Lifestyle Program for Kids

Group program to assist children in managing and preventing lifestyle related challenges such as obesity, diabetes and cardiovascular disease. <17 years old.

Referral from physician recommended.

For more information: 905-832-8070 ext 2243

For more York Region Community Services please go to: http://www.york.ca/NR/yorklink

Or

Phone: 905-830-4444, ext. 2101
Toll-free: 1-877-464-9675, ext. 2101

Resource Centers

Family Resource Centres Serve:

- Parents, grandparents, care providers and young children
- Pregnant and parenting teens
- Families who need an opportunity to get involved with other adults with young children
- Care providers who want to enhance their child development skills and resources
- Stay-at-home parents of young children
- Families who need information on assessing and choosing quality child care services
- Individuals with young children who want a break within a warm, positive environment
- Families who need peers support from other adults with children

Family Resource Centers Offer:

- Professional resources and support
- Opportunities for children to play with other children
- Peer support for adults caring for children
- Child care registries
- Care provider support, and information to help enhance their programs
- Information on licensed and unlicensed child care options
- Tools to use when assessing child care services
- Educational workshops for parents and care providers
- Information and referrals to other community agencies and services
- Professional child care staff


Price Chopper
17730 Leslie St
Newmarket, ON
L3Y 3E4
(905) 895-0028
Price Chopper
18075 Yonge St
Newmarket, ON
(905) 953-1576
Metro, Food at its best
1111 Davis Dr
Newmarket, ON
L3Y 7V1
(905) 853-5355
Wal-Mart Tire & Lube Express
17940 Yonge St
Newmarket, ON
L3Y 8S4
(905) 853-8811
Metro, Food at its best
17725 Yonge St
Newmarket, ON
L3Y 7C1
(905) 895-970
No Frills
Newmarket
17255 Leslie
Street,Newmarket
Newmarket
Win Kuange Asian Foods
16925 Yonge St
Newmarket, ON
L3Y 5Y1
(905) 953-8445
Vince's Country Market
869 Mulock Dr
Newmarket, ON
L3Y 8C3
(905) 853-3356
Weston Produce
16655 Yonge St
Newmarket, ON
(416) 444-4477
Metro, Food at its best
1-16640 Yonge St
Newmarket, ON
L3Y4V8
(905) 853-5100
Real Canadian Superstore
15900 Bayview Ave
Aurora, ON L4G 7Y3
(905) 726-9532
Socahome Caribbean Grocery
130 Hollidge Blvd
Aurora, ON L4G 7H7
(905) 727-3002
Foodland
24 Orchard Heights Blvd
Aurora, ON L4G 6T5
(905) 727-7795
Sobeys
15500 Bayview Ave
Aurora, ON L4G 7J1
(905) 726-2530
Aurora Food Pantry
15213 Yonge St
Aurora, ON L4G 1L8
(905) 841-1577
Longos' Aurora
650 Wellington St.
East Aurora ON
L4G 0K3 P.
905.726.7928
Aurora
Paesano Foods
305 Wellington St W
ON
(705) 949-0116
No Frills Aurora
14800 Yonge St.,Aurora
Wal-Mart Supercentre
135 First Commerce Dr
Aurora, ON L4G 0G2
(905) 841-0300
Metro, Food at its best
1 Henderson Dr
Aurora, ON
L4G1J7
(905) 727-0185
Green Ln E
Regional Rd 19
Yonge St
Leslie St
Davis Dr
Prospect St
Bayview Ave
Mulock Dr
Bathurst St
Woodbine Ave
Wellington St E
17th Sideroad
Bloomington Rd E
Pleasantville
Glenway Country Club
Mable Davis Conservation Area
St Andrews
Fleury Park
OFS Sheppards Bush Park
Aurora Highlands Golf and Country Club
Beacon Hall Golf Club
Westview Golf Club

Appendix O:
Dyad Family Food Purchases

Dyad A: Family Food Receipt Summary

Category	# Healthy	# Unhealthy	% Groceries
Fruits & Vegetables	60	2	32.12%
Grain Products	6	8	7.25%
Milk & Alternatives	29	4	17.10%
Meats & Alternatives	11	11	11.40%
Beverages	9	0	4.66%
Confectioneries	1	17	8.81%
Snacks & Spreads	6	11	8.81%
Fast & Frozen Foods	1	15	8.29%
Cereals	1	1	1.04%
Total:	124	69	193
	64.25%	35.75%	

Overall Min Score:	**3**	Green Beans
Overall Mean Score:	**21.16062176**	
Overall Max Score:	**47**	Chicken Gravy & Alfredo Sauce

Dyad B: Family Food Receipt Summary

Classification	# Healthy	# Unhealthy	% Groceries
Fruits & Vegetables	51	0	32.28%
Grain Products	5	11	10.13%
Milk & Alternatives	8	5	8.23%
Meats & Alternatives	36	3	24.68%
Beverages	7	0	4.43%
Confectioneries	3	9	7.59%
Snacks & Spreads	2	8	6.33%
Fast & Frozen Foods	0	8	5.06%
Cereals	0	2	1.27%
Total:	112	46	158
	70.89%	29.11%	

Overall Min Score:	**3**	Green Beans
Overall Mean Score:	**20.38853503**	
Overall Max Score:	**41**	Chips Ahoy Cookies

Dyad C: Family Food Receipt Summary

Classification	# Healthy	# Unhealthy	% Groceries
Fruits & Vegetables	30	0	36.59%
Grain Products	5	6	13.41%
Milk & Alternatives	4	6	12.20%
Meats & Alternatives	5	5	12.20%
Beverages	5	0	6.10%
Confectioneries	2	3	6.10%
Snacks & Spreads	1	8	10.98%
Fast & Frozen Foods	0	2	2.44%
Cereals	0	0	0.00%
Total:	52	30	82
	63.41%	36.59%	

Overall Min Score:	**2**	Raspberry
Overall Mean Score:	**23.48780488**	
Overall Max Score:	**46**	Potato Chips - Classic

Dyad D: Family Food Receipt Summary

Classification	# Healthy	# Unhealthy	% Groceries
Fruits & Vegetables	34	1	33.33%
Grain Products	5	9	13.33%
Milk & Alternatives	9	4	12.38%
Meats & Alternatives	7	4	10.48%
Beverages	4	0	3.81%
Confectioneries	2	1	2.86%
Snacks & Spreads	3	6	8.57%
Fast & Frozen Foods	0	8	7.62%
Cereals	0	8	7.62%
Total:	64	41	105
	60.95%	39.05%	

Overall Min Score:	**2**	Coriander
Overall Mean Score:	**20.87619048**	
Overall Max Score:	**45**	Popcorn - Buttery

Appendix P:
Caregiver and Children Favourite and Least Favourite Commercial Codes and Examples

Marketing Tactics	Description
As a Toy	In reference to using/displaying the use of a food or beverage product as an object for a child to play with.
Boring	A televised commercial advertisement that lacks any aspect that an audience member may find interesting or exciting.
Caregiver Perceives Product as Healthy	The caregiver's understanding/interpreting of an item to be healthy.
Caregiver Perceives Product as Unhealthy	The caregiver's understanding/interpretation of a televised commercial product as unhealthy.
Cartoon Characters	A motion picture using animation techniques to photograph a sequence of drawings rather than real people or objects.
Caught my Attention	Any strategy used to reinforce the two objectives of marketing.
Celebrity	The use of a famous individual or cartoon character in a commercial advertisement for food or beverage products.
Children's Perception Unhealthy Item	The child participant's understanding/interpretation of an advertised product to be unhealthy.
Comedy	The humorous or amusing aspect of a televised commercial advertisement intended to make an audience laugh.
Entertaining	A commercial advertisement that brings amusement or enjoyment to audiences.
Family	A televised commercial advertisement that portrays any members of a group of caregivers and children whom may or may not share the same household.
Food Appearance	The way the food/drink products looks and is displayed in a televised commercial advertisement.

Fun	Any aspect of a televised commercial advertisement that promotes enjoyment, amusement or lighthearted.
Information-Based	A televised commercial advertisement that provides information on a specific topic.
Music	The art or science of combining vocal or instrumental sounds (or both) to produce beauty of form, harmony and expression of emotion.
No Comedy	No presence of any humorous or amusing aspect of a televised commercial advertisement resulting in no audience laughter.
No Fun	No aspect of a televised commercial advertisement that promotes enjoyment, amusement or lighthearted.
Not Memorable	In reference to a commercial advertisement product lacking in any intersting or worth remembering
Personal Preference	An individual perception of taking a linking to something.
Processed Foods	Foods that have been altered from their natural state for safety reasons or convenience. Methods include: canning, freezing, refrigerating and dehydration.
Targeted at Moms	A televised commercial advertisement specially aimed at an audience of mothers and wives.