

**THE NATURE AND CONTENT OF TELEVISION FOOD  
ADVERTISING AND CHILDREN'S FOOD PREFERENCES**

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ADVERTISING AND CHILDREN'S FOOD PREFERENCES**

BY

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**2018**



**DECLARATION**

**Student**

I hereby declare that this thesis is the result of my own original work and that no part of it has been presented for another degree in this University or elsewhere:

Candidate's Signature:..... Date:.....

Name: .....

**Supervisor**

I hereby declare that the preparation and presentation of the thesis was supervised in accordance with the guidelines on supervision of dissertation/thesis laid down by the University for Development Studies.

Principal Supervisor's Signature:..... Date:.....

Name: .....



**ABSTRACT**

Exposure to television (TV) is reported to be associated with unhealthy dietary behaviours among children. The surge in new television channels on TV sets in Ghana comes with all sort of advertisements. The aim of the current survey was to examine the nature and content of television food advertising and to explore the association between such exposure and children's food preferences. In a cross-sectional survey with multistage sampling, 400 primary school children (mean age 10 (SD=0.8), 50% boys) from 8 different schools in the Sagnarigu district provided data on regular television watching behaviours and their food preferences. Using a television card on three laptops, television data was recorded for 1 week from the 3 highest rated channels (UTV, TV3 and GH One) among the children. Pearson  $\chi^2$  tests was used to assess statistical significance in association between duration of exposure to television and children's food preferences. Overall 4,551 advertisements per week were shown by the 3 television channels of which 8% were food-related. Most (53.7%) of the food advertisements were sugar containing non-core foods. For every 1 core food advertisement, there were 2 non-core food advertised. Promotional character was the sole marketing strategy used by all television channels. Children in the district watch television on average 2.4 (SD=1.2) hours per day. The study concluded that free-to-air television channels in Ghana are showing potentially high volumes of less healthy food advertisements. Most of the content of the foods advertised were sugar containing non-core foods (less healthy) particularly sugar. The study could not establish a significant association between duration of TV exposure and preference for advertised food products (healthy or less healthy).



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## LIST OF ABBREVIATIONS

AIDA	Awareness, Interest, Desire and Action
AVI	Audio Video Interchange
DAGMAR	Defining Advertising Goals for Measured Advertising Results
FDA	Food and Drug Authority
GSS	Ghana Statistical Service
GTV	Ghana Television
HDD	Hard Disk Drive
HFSS	High in Fat, Salt and Sugar
JHS	Junior High School
MPEG	Moving Picture Expert Group
NCA	National Communication Authority
NZ	New Zealand
SHS	Senior High School
TV	Television
UNICEF	United Nations Children Fund
USA	United State of America
USB	Universal Serial Bus
UK	United Kingdom
WHO	World Health Organisation



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## CHAPTER ONE

### INTRODUCTION

#### 1.1 Background to the Study

In recent times, children are confronted with diet-related health problems that were unexpected few decades ago. Among such diet related health problems is obesity. Obesity was once considered a condition associated with developed countries but is now reported to be prevalent in developing and underdeveloped countries (World Health Organization, 2010). Public health practitioners have therefore expressed concerns at the increasing global rate of overweight and obesity especially in children (Lobstein, Baur, & Uauy, 2004). Obesity at the global level is reported to be an epidemic but described to be reaching pandemic proportions in children. Over the past decade, obesity and overweight rates among children have increased globally from 4.2% to 6.7% and it is expected to increase by 3% in the next 10 years (de Onis, Blössner, & Borghi, 2010). Variations in criteria for defining overweight and the absence of standardized data from different countries have restricted our understanding of the problem in children (Wang & Lobstein, 2006).



In Africa, the prevalence of overweight and obesity co-exist with undernutrition. It is estimated that 20-50% of people living in urban population in Africa are either overweight or obese. (World Health Organization, 2006). In the African region, South Africa is among the countries with the highest prevalence (41.31%) while Sudan (19.3%) has the lowest with an overall prevalence of about 19.3% (OECD, 2017). In Africa the prevalence of overweight among children under 5 years have increased by nearly 50% since 2000 (World Health Organization, 2010).

In Ghana, public health professionals have recognized obesity and overweight as a public health problem that could impact significantly on the country's national resources (Ofei, 2005). Trend of obesity in Ghana is not different from the global picture with prevalence rising steadily from as low as 0.9 % in the 1980s to about 14 % in 2003 (Amoah, 2003; Berrios et al., 1997). In 2008, the WHO approximated the prevalence of obesity among Ghanaian adults to be 7.5%. The prevalence was estimated to be higher among women (10.9%) than in men (4.1%) (Boslaugh, 2011). In the 2014 Demographic Health Survey (DHS) over 9% of Ghanaian children under 5 years were found to be obese (Ghana Statistical Service, 2014a). A recent meta-analysis in 2016 reported a rising proportion (43%) of overweight and obesity among Ghanaian adults (Ofori-Asenso, Agyeman, Laar, & Boateng, 2016). Childhood obesity is known to be highly associated with early death and infirmity in adulthood. In addition, obese children have episodes of breathing problems, insulin resistance, hypertension, increased risk of fractures, psychological problems and early markers of cardiovascular disease (World Health Organisation, 2017).

The main causes of childhood obesity are; sedentary lifestyle, unhealthy eating patterns, genetic factors, socio-economic status, race/ethnicity, the physical environment and marketing associated with the media. Television (TV) is reported to be one of the influential media for marketing and advertising products (Guran & Bereket, 2011; Uribe, 2016). A number of studies have implicated long duration of TV watching to be associated with increased consumption of sugar sweetened beverages, increased consumption of snacks and fast food (Armstrong et al., 1998). The target audience of most TV commercials are children. (Guran & Bereket, 2011). There is empirical evidence to support the hypothesis that TV watching does not add to obesity because it is a sedentary activity, but because of the viewers' reactions to the advertisements



themselves (Halford, Gillespie, Brown, Pontin, & Dovey, 2004; Zimmerman & Bell, 2010). Several studies have however reported the association between the duration and number of food advertisements seen by the viewer on TV and the prevalence of overweight and obesity (Andreyeva, Kelly, & Harris, 2011; Coon & Tucker, 2002; Goris, Petersen, Stamatakis, & Veerman, 2010). Literature suggest that for every case of childhood obesity, the estimated contribution of TV food advertising during the developmental stage of the condition is about 16–40 % in the USA, 10–28 % in Australia and 4–18 % in Britain (Goris et al., 2010). A global study in 2008 to evaluate TV advertisements shown during children’s viewing times in Europe, Australia, America and Asia revealed that food advertisements constituted 11-29% of all advertisement. The study also revealed that 53-87% of the food advertisements were for foods high in fat, salt, sugar and energy (Goris et al., 2010). Similarly, in Turkey, 32.1% of all TV advertisements were related to foods of which 81% were classified as being unhealthy (Guran & Bereket, 2011). The findings of these and numerous similar studies in the developed countries reveal that people, especially children, are exposed to many TV food advertising, most of which are for unhealthy foods.

However, there has been virtually no research into TV food advertising in Africa. In a small study carried out in South Africa, Temple and colleagues reported that approximately 55% of advertisements were for fast-food restaurants or foods of poor nutritional value. They also held the assertion that food advertisements shown to both children and adults did not foster good health despite their health claims (Temple, Mchiza, Steyn, Abrahams, & Clayford, 2013). The only published study supporting the findings of Temple and his colleagues was also from South African by Da Fonseca. Da Fonseca reported that South African parents would like to see a





reduction of food advertising on TV and stronger restrictions being applied to TV food advertising during children's viewing hours (Da Fonseca, 2010).

Over the past decade, public health practitioners in developed world have concentrated their efforts on the scope of elements and factors that contribute to the high prevalence of childhood obesity and have built up a convincing order for action. Part of which is concentrated on food marketing and its effect on the diet and wellbeing of children (Brownell, Schwartz, Puhl, Henderson, & Harris, 2009).

In 2010 the World Health Organization (WHO) published a set of recommendations to guide Member States' efforts in the development of policies on food marketing. It was aimed to help reduce the impact of advertised foods (which were high in undesirable nutrients) on children. In the guidelines, member states were encouraged to establish monitoring and evaluation systems to ensure that policy objectives are reached. The guidelines also suggested the identification and usage of existing information on the nature and effects of food marketing to children in their respective countries. (WHO, 2010).

Currently, there are several policies regulating television food advertising in the United Kingdom (Advertising Standards Authority, UK, 2011) United State of America (American Heart Association, 2012), New Zealand (Advertising Standards Authority, NZ 2010), Canada (Advertising Standards Canada, 2006), and Australia (Australian Association of National Advertisers, 2009). These policies range from an aggregate prohibition of advertising to children (Sweden) to limitations on the kind of food promoted (UK) as well as the quantity of commercials that can be shown (Australia), and to the assignment of particular time slot when commercials can be shown (Norway) (Steyn, Mchiza, Abrahams, & Temple, 2012). Apart from



South Africa much less is known about policies regulating television food advertising in other African countries.

## 1.2 Problem Statement

Promotion of less healthy foods to children may adversely influence their dietary behaviour. This can likewise affect their food preferences, choice, attitude, knowledge, purchasing behaviour and purchasing requests to guardians (Hastings et al., 2003; Cairns et al., 2013; O'Dougherty et al., 2014). Children below 9 years are particularly defenseless against such promotions since they have constrained intellectual capacity to differentiate between entertainment and commercial TV content (Carter et al., 2011). Older children (9 years and above) on the other hand have the tendency to receive advertising information without critically analyzing it (American Psychological Association, 2004; Kunkel and Castonguay, 2012). Studies in the U.S.A. have shown that TV food commercials are mainly foods high in fat, salt and sugar and children perceive them as the endorsement of recommended diet (Gatou, Mamai-Homata, Polychronopoulou, & Koletsi-Kounari, 2014). Several studies have reported that there is virtually no promotion of healthy food choices on TV. Essentially all these studies are conducted in the developed world and have provided the momentum for the development of policies to regulate TV food commercials (Gatou et al., 2014). In addition, a recent Cochran review indicated that such research numbers well over 100 and might not be necessary to continue conducting such similar studies in the developed world (Mosdøl, Lidal, Straumann, & Vist, 2017) but same cannot be said for the developing world. It is not surprising that the review did not include any published work from Africa because little or no research has been conducted in the subject area.



Generally, children from household with higher wealth index in the developed world stand a higher risk of becoming overweight. This relationship may change by population socio-demographic characteristic (e.g. age, gender, ethnicity, literacy) and location (e.g. country, urbanization) (Wang & Lim, 2012).

In summary, it may be established that there is adequate research in the developed world that permits the conclusion that TV food advertising has some influence (association) on children dietary behaviours. The issue is whether the evidence gathered for such conclusion is sufficient to support policy intervention in the developing world as proposed by the World Health Organization. Regardless of international recommendation for countries to adapt these policies, there is however no baseline information on TV food advertising in Ghana. There is also limited discussions on the regulation of foods advertised on TV that are high in fat, salt and sugar in Ghana.

The goal of this study is to conduct a cross-sectional survey to examine the nature (frequency of food advertising) and content of TV food advertising on free-to-air television stations in Ghana. The study seek to establish whether the issue of promotion of less healthy foods on TV exist. The study would also explore if there is any association between duration of watching TV and preference for food advertised on TV among children. To the researcher's best of knowledge, this is the first of such studies to be conducted in West Africa and for that matter in Ghana.



### **1.3 Goal**

To determine the nature and content of television food advertising and children's food preferences.

### **1.4 Objectives**

1. To determine the frequency of food-related TV advertising targeted at children.
2. To assess content of food-related TV advertising targeted at children.
3. To examine the marketing strategies used by food-related TV advertisers to influence children.
4. To explore the association between children's food preferences and exposure to TV food-related advertisement.

### **1.5 Significance of the study**

As part of the World Health Organization (WHO) recommendations to guide member states to develop policies to regulate food and beverage marketing to children, member states were encouraged to identify existing information on the extent, nature and effects of food marketing to children in their country. This study will be the first of its kind to explore the nature and extent of TV food advertising and its effect on children's food preferences in Ghana. The outcome of the study may provide specific recommendations for local government to formulate laws and regulations regarding food advertising on TV. The study will also lay the foundation for further research and fill geographical data gap in future academic reviews.



## 1.6 Conceptual Framework

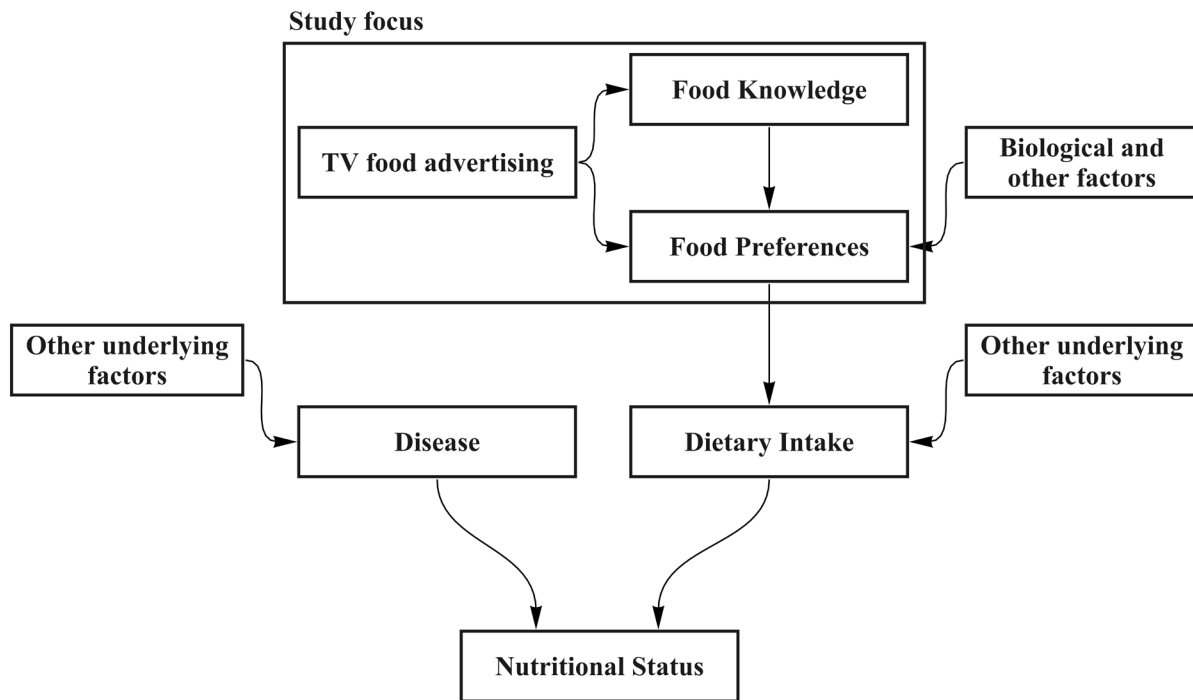


Figure 1.1: Adapted conceptual framework of factors influencing food preference (Story, Neumark-Sztainer, & French, 2002).

This survey explores the association between TV food advertising and children's food preferences as summarised in Figure 1.1. The conceptual frame work is adapted from the research on individual and environmental influences on adolescent eating behaviours (Story et al., 2002). The study focus on one of the potential influential factors in an individual's media environment namely TV advertising. TV data is examined to determine the nature and content of TV food advertising. The Individual's food preference is considered central in the framework. Food preference is not a proxy measure of food intake but a strong predictor of children's food acceptance (Domel et al., 1996) and future dietary habits (Leann Lipps Birch, 1979). The framework suggests that individuals are biologically primed to prefer and consume foods that are sweet, salty and savory but fortunately food preferences are malleable and are shaped in



response to a number of social (TV food advertising) and environmental factors. The focus of this study is to explore the nature and content of TV food advertising and children's food preferences. An understanding of this factor (TV food advertisement) will be an essential basis for understanding how preferences can be modified to best promote healthful diets across the life course.



## CHAPTER TWO

### REVIEW OF LITERATURE

#### 2.1 Advertising theory

The ultimate aim of advertising is to sustain customer loyalty as well as communicate to potential customers to persuade them to adopt a particular product or develop a preference towards the product or service. Advertising theories mostly explain why advertising is capable of changing the potential consumers' behaviour and achieving its purpose. There are several theories on advertising and most of them propose dramatic introduction of brand to potential consumers or repetitive advertising as the key strategy of effective advertising (Bhasin, 2017).

In 1961, Lavidge and Steiner proposed the "Awareness, Interest, Desire and Action" (AIDA) and hierarchy of effect model which describes the purchase journey of the consumer through advertisement using different various media vehicles. The first step in the AIDA model is to make the consumer aware of the product or services. The consumer then develops interest and moves on to desire it. This then leads to purchase of the product or service (Chris, 2008).

On the other hand, the hierarchy of effects model (which is an alternative model to the AIDA model) suggest that the advertiser makes the advertisement in such a way that the client goes through and experience 6 phases of the model (awareness, knowledge, liking, preference, conviction and purchase). The first stage (awareness) is the most critical step and the beginning stage for purchase. The manufacturer must ensure that the client knows about the brand among other particular product segment. The second stage involve impacting knowledge about the brand and where to find it against different brands. The ultimate aim is to provide and ensure enough (positive) knowledge is available about the product through the internet, retail stores



and the product package itself. Liking is the third stage. This is where the consumer builds a liking for the product. This is where the product is considered for its emotional benefits. The fourth stage is preference. The consumer by this time may be convinced to try out the product, but may like other brands too. The attributes of differentiations or unique selling qualities need to be highlighted to make sure that the consumer likes the brand more than others. The fifth stage is the conviction stage. This is where the doubt in consumers' minds about buying the product needs to be converted into action. Marketers can aid in this step by giving out free samples, test drives etc. This step mostly decides if the consumer will stick to the brand or switch after testing the sample. The last stage is the purchase. This stage is the most crucial stage of the consumer buying cycle. Purchase experience should be made easy and perhaps even enjoyable for the consumer (Karlsson, 2007).

Lavidge and Steiner went further to group these 6 stages into 3 main stages of consumer behaviour (cognitive, affective and conative) (Mbaskool, 2011). During these three stages, the consumer and advertiser put in conscious efforts to satisfy the requirements. For example in the first stage where the potential consumer cognitively discovers the product and wish to learn about it through the internet, radio announcement and jingles. It falls on the producer or advertiser of the product to make available relevant information about the product on the internet, make radio announcement and jingles. In the subsequent stage which is the affective stage, the consumer would like to shape his or her likings and preferences by emotionally attaching to the product and will find it difficult with other products and services; product manufacturers use competitive advertisements, image advertisements, status advertisements and glamour appeal to shape clients affection towards their products or services. And in the





last stage the client gets inspired to buy the product or patronize the service by developing trust for the product or service. (Belch & Belch, 2004).

The theory that discusses the outcomes and performance of commercials is DAGMAR theory propounded by Russell Colley in 1961. DAGMAR is an acronym which stands for 'Defining Advertising Goals for Measured Advertising Results'. DAGMAR was formulated to embolden measurable objectives for each stage of the communication process and does not deal purely with message.

According to the DAGMAR theory the goal of advertising includes a communication task, intended to generate awareness, convey information, develop or change attitude and bring about action (Mackay, 2007). Awareness is the first stage in the communication process. This requires the potential consumer to be aware of the product, company or service before the purchase behaviour or intention is expected. The first step is to increase the potential consumers' knowledge or awareness of the product, service or offer. This is followed with the second stage which is Comprehension. The second stage operates on the notion that awareness alone is not sufficient to generate a change or stimulate a purchase but sufficient information and knowledge about the service or product or company is require to stimulate a purchase. This step requires the potential consumer to learn something about the service, product, organization or offer. Therefore the sole task of the communication team or advertising activity is to make consumer learn more about the product and its characteristics, benefits or uses in a way that is not difficult. At this stage a sense of belief is established. By generating interest and inclination, potential consumers are moved to a position where they are persuaded that a particular service, company or product in the class should be tried at the next chance. In addition, communication



task of advertising activity is to mold the potential consumers' convictions about the product and this is often done through messages that exhibit the product's advantages over a rival or by talking about the rewards as a result of using the product. The last stage is the Action where the message communicated must move and mold the potential consumer to engage in the purchase activity (Mackay, 2007).

Recency theory states that clients have discriminatory attention process as they consider only those advertisements of the products and services which they are looking for. Clients go to the market to search for products they need. The theory stipulates that it is a waste of effort if the producer of the product tries to advertise to a potential client who is in the market for a different product or has no interest in the product advertised. The recency theory differ from the rest because it is based on the idea that the potential client only need a single exposure to the advertisement and the purchase activity is engaged. It beliefs this is very true especially if the potential client is out for a similar product or looking for the information (Mackay, 2007). This may gradually lead to a situation where the potential client begins to pay selective attention to media contents of the product or service. This eventually reinforce the attitudes or behavioural changes out of which reciprocal association from the producer is considered important. This theory is suitable for product or services which stands the advantage of using digital or social media marketing. It is even possible to make use of media vehicles such as TV or radio than other mass communication (such as print media). This certainly will be based on the time of broadcasting as it is important to find the right audience. This eventually transmits to the three-exposure hypothesis (Mackay, 2007).



One of the most cited theories when it comes to media communication research is the social cognitive theory (Ng et al., 2015). The theory describes and explains the observational learning and overt capability of human behaviours. The theory provides a causal model which explains human behaviour, the environmental factors and the reciprocal interactions among persons which includes the cognitive, affective and biological events (Bandura, 1999). According to the theory, an individual or group of persons who resolves to change another person's values or behaviour, attained through observational learning, may be encouraged or discouraged to accept it based on the apparent consequences - reward or punishment (Bandura, 1999). The theory also proposes a conceptual framework to describe the successive procedures governing observational learning, including attention, retention, production, and motivational processes. The attention process embodies how the individual or persons take notice of (sometimes selectively) other people's behaviour when exposed to the model. The retention process explains the extent to which the individual or group of people are able to remember or recall memorized behaviour. The production process explains the stage where the observer or potential client is now capable of reproducing the observed or learnt behaviour. The motivational process is where the individual obtains a reason that either encourages or discourages the continuation of the acquired behaviour. The development and use of patterns with respect to communication technology include social learning and information processing. This is called the social psychological process (Salancik & Pfeffer, 1977).



The purpose of effective communication which involves deliberate effort to minimize ambiguity will mostly reduce the information processing time and eventually results in achievement of communication objectives. The communication medium plays a key role in this hence the concept of richness theory was established. In the pyramid of media richness,

face-to-face communication is the best followed by telephone, email, and print media. Therefore, putting into practice the theories discussed above individuals or persons may join in particular social media network depending on the amount and type of the information that needs to be processed or transmitted (media richness), personal reasoning or perception (social cognition) and the degree of the socialization needed (social presence) (Karlsson, 2007).

## 2.2 How Children Process Advertisements

The impact of advertising and marketing depends on the responsiveness consumers pay to the advertisement, how well they recall the content, and how well they understand the advertiser's intent, as well as on their subsequent purchasing behaviour. Changes in children's ability to comprehend the intent of commercial messages is one area in research that has received tremendous attention (Wilcox et al., 2004). The intent of advertisers is to convince children to buy specific product or patronize certain services. However, children below the age of 8 years are limited in mental capacity and unaware of this. They mostly believe that the purpose for advertising is to help them in their purchasing choice (Robertson & Rossiter, 1974). The changes that take place in children's understanding of advertising intent are well described using theories of cognitive development. Age-based difference in how children understand commercials or television content are often explained by applying Jean Piaget's theory of cognitive development. The theory consists of four stages which are sensorimotor, preoperational, concrete operational and formal operational stage. Each stage describes the different levels of comprehension that a child reaches as they grow (Flavell, 1996).



### **2.2.1 Sensorimotor Stage**

A child is born into this first stage. Gunter et al (2004) explains that the stage is characterized with child's development from birth to an initial understanding such as independent thought and simple problem solving. It is said that the child remains in this stage for the first two years of life. Gunter and his friends explains that "nonetheless, children's limited language and cognitive development in this period precludes any possibility of understanding advertisement" (Gunter, Oates, & Blades, 2004).

### **2.2.2 Preoperational Stage**

This stage occurs between two years to seven years of the child's life. Piaget called it the preoperational stage because he saw children at this stage to have limited mental capacity or reasoning. Two limitation were identified by Piaget. The first limitation identified was that children found it difficult to solve tasks that involved the changing and transformation of materials. The second one is that children exhibited high levels of egocentrism. This means that children found it extremely difficult to understand and see another person's point of view. Therefore it is projected that children in this stage will probably experience extreme difficulty in comprehending the persuasive meaning of advertisement (Gunter et al., 2004).

### **2.2.3 Concrete Operational Stage**

Children within the age range of seven to eleven years operate in this stage. They are capable of reason and solve logical problems. They likewise can see two parts of a task at the same time. Linking the concrete operational stage to the situation in advertisement, the child is capable of seeing the two aspects of advertising. One side of it is the child's developed ability to reasoning and thereby one can expect a better comprehension of advertisement. The other



side is the child's capacity to reason is only good in concrete situations, which are circumstances where they can control and experience at the same time (Gunter et al., 2004).

#### **2.2.4 Formal Operational Stage**

This stage is the final stage in the development process. This ranges from eleven years upwards. The individual is capable of abstract reasoning. The individual is capable of combining all sides of abstract and hypothetical reasoning in any situation to solve complex problems. Although the individual reaches this final stage at eleven years the development continues throughout life. For example a teenager of age 13 years logical reasoning is not as developed as of an adult of 30 years. Associating this stage in the understanding of advertisement on TV, it is assumed that individuals in this stage have similar comprehension as an adult individual (Gunter et al., 2004).

Expanding on Piaget's theory, Deborah John developed a three-layered model of consumer socialization: the perceptual stage (generally age three to seven); the analytical stage (generally age seven to eleven); and the perceptual stage (generally age eleven to sixteen). The perceptual stage is portrayed by "perceptual boundness" as children concentrate on single dimensions of objects and occasions, in this manner constraining their decision-making abilities as informed consumers. Amid the analytical stage, as children attain the capacity to dissect items as per in excess of one dimension at any given moment, their insight into advertising strategies and brands turns out to be significantly more advanced. During the reflective stage, a develop comprehension of items and marketing practices results in a relatively sophisticated knowledge of products and advertiser intent. All things being equal, children can be influenced to buy certain items if the items are made attractive enough to consumers (John, 1999).



Incorporating a wide range of different theoretical perspectives, Patti Valkenburg and Joanne Cantor propelled a developmental model of how children progress toward becoming customers.

In the first stage (birth to two years), children have desires and preferences, however they are not yet true clients or consumers since they are not yet genuinely objective coordinated in their item decisions. During the second stage (two to five years), children nag and negotiate, arrange, requesting and notwithstanding demand certain items. At this point children still do not comprehend the persuasive goal of commercials. They focus on the appealing characteristics of the items and cannot keep their minds off the items for long. These developmental attributes make them amazingly defenseless against commercial advertisements. By the end of this stage, children substitute whining and throwing tantrums to get a desired item with more successful arrangements and negotiations.

In early grade school (five to eight years), children attain the stage of adventure and first buys. They start to make clearer distinctions between what is genuine and what is imaginary, their capacities to focus are longer, and they make their first buys outside the company of their parents. In the last stage (eight to twelve years), children are receptive to their peer groups' opinions. Their basic abilities to survey items develop, and their comprehension of others' feelings enhances significantly.

In the later long stretch of this stage, there is an interest shifts from toys to more grown-up like items, for example, music and sports equipment. At this stage the child's consumer behaviour continues to improve until adolescent where concrete foundation of desires and wants are laid.



Here the individual now have bigger and elaborate plans of purchase (Valkenburg & Cantor, 2001).

### 2.3 Food preference

Food preference refers to the manner in which individuals choose from among available accessible foods based on biological or economic perceptions including taste, value, purity, ease or difficulty of preparation, and the availability of fuel and other preparation tools (Smith, 2006). Most individual would like to eat nothing but their favorite foods. Preference or liking is an essential determinant of intake patterns and nutritional status, and therefore needs to be addressed in the study of patterns of human food intake. However, the adult will normally consider an increasing number of factors which eventually influence liking thus influence food consumption patterns. No less than three categories of factors influence adult intake:

- Concerns about procuring food such as costs and ease of obtaining and preparing the food.
- Concerns about the consequences of eating such as healthfulness, fat content, satiety value, and other anticipated consequences of ingestion.
- Cultural rules about what constitutes food within the culture, rules of food and food taboos.

During childhood, food preferences are the essential and primary determinants of food intake. Children at this period are not influenced by the wide range of factors and considerations that influence adults' food acceptance pattern. However, children preferences are not fixed but are modified and adjusted through early socialization and experiences. Factors that adult consider such as what is procured, consequences of ingesting it and taboos of food have an indirect





effect on children's food preferences and consumption. These parental factors eventually determines whether or not a particular food is made available to the child. This also influence the frequency and quality of exposure which are both key determinants of preferences. Given the power of children's preferences, measures of likes and dislikes can be particularly valuable as indicators of food consumption patterns (Birch & Sullivan, 1991).

Preference involves choice of one thing over others. In the strict behavioural sense, preference as choice suggests nothing about the motivational procedure that leads to the choice. A definition of preference as behavioural choice is, however, unnecessarily restrictive. It overlooks verbal or gestural markers of children's preferences which regularly are given promptly and suddenly.(Mccrickerd & Forde, 2016).

In consumer and marketing research, it is established that self-reported food preferences are primary predictors of food choice (McEwan & Thomson, 1988). In epidemiological studies, it (self-reported food preferences) is also the preferred method of assessing dietary intake especially in studies of chronic diseases. (Taren, 2002; Thompson, 1994). Even though food preferences and food frequencies may be associated with each other it was long regarded as a predictive measure of dietary habits and food choices. This has made the majority of consumer research expert rely on the premises that self-reported food preferences can be used as a proxy to predict the frequency of food consumption (McEwan & Thomson, 1988). In the developed world energy consumption does not depend on the household income then food preference becomes a critical proxy measurable indicator of dietary behaviours. Early classical studies considered the definition of client preferences as food consumption and vice versa (Pilgrim, 1957). Food consumption was deduced indirect from defined preference of a particular food



item, whereas an acceptable food was defined as one that was eaten and eaten with pleasure and satisfaction (Coleman, 2016). Later studies differentiated preferences from actual consumption measures because scholars realized that food preferences provided only an estimate of actual food consumption (Schutz, 1965). Later studies then made use of preference measures to assess the interest of an individual on a product compared with another and to estimate the individuals purchase intent (Drewnowski, 1997; McEwan & Thomson, 1988; Meiselman, Waterman, & Symington, 1974). The food frequency approach was used to establish most of the current knowledge on diet related disease. (Drewnowski, 1997; Thompson, 1994; Wirfalt, Jeffery, & Elmer, 2018). Scholars are much aware that food preference measures provide only an approximation of actual food consumption (Thompson, 1994) . Despite all the challenges and limitation of using food preference measures (Helain & Colditz, 1997; Thompson, 1994), it is acknowledge to have contributed as a pivotal tool around which knowledge of chronic disease in epidemiology is uncovered epidemiology (Taren, 2002). The suitability of food frequency questionnaire use in the developing world is generally accepted as being poor (Coates, 2018; Kristal, Feng, Coates, Oberman, & George, 1997).

Food-frequency and preference checklists are both questionnaire printed surveys that is capable of reflecting the approximate mental form of food pattern consumed by the subject and an appropriate report generated. A typical 9-point category scale is used to measure food preferences and food frequencies. Food preference is a measure of an affective component of attitude. On the other hand food-frequency is based on recall of dietary behaviour (McEwan & Thomson, 1988).



A key point of the study conducted by Hastings et al (2003) for the food standards agency has turn the attention of the public, academic and policy makers on the effects of TV food promotion on children's dietary choices, defined in terms of food preference, behaviour and knowledge. The effect of TV food promotion on children's preferences, consumption and behaviour is independent of the factors and function at brand and category level (Hastings et al., 2003).

In 1998 a study was conducted by Lewis and Hill (1998) that examined the content and frequency of advertisements shown on children TV channels. The study revealed that most of the advertisements were for food and most advertised food category were confectionary, cereals and savory snacks. They reported in the results that 60% of the foods were convenience foods whilst 6% were fast foods outlet. Cereals and confectionery constituted the remaining percentage. The study also revealed that overweight children were initially less satisfied with their weight but immediately felt liked, healthier and satisfied after watching advertisements where they saw children of similar weight eating the product advertised. The reverse feeling was report for children who were underweight. Underweight children were initial satisfied with the weight but immediately felt disliked and unsatisfied with their weight and quickly developed interest in taking sweets or the foods advertised on TV. The study reported that the foods that are necessary for proper growth and considered healthy are least advertised on TV but foods that has little nutritional values were most advertised on TV (Lewis & Hill, 1998).

Guardians in a survey conducted in the UK for the national and family and parenting institute in 2004 reported that they felt their children were bombarded with vigorous food advertisements from all TV channels and a wide range of different media. They reported to be



irritated, anxious and pressurized as it eventually resulted in children demands conflicts in the family(OFCOM, 2004).

Young (2003) in his work reported that

study he concluded that children understand advertising from eight to nine years old and that they play an active role in families' food buying. Dietary preferences of children are said to be established by about five years old, before advertising is understood. The author further argues that a multiplicity of factors, of which advertising or television viewing is only one, influence eating patterns (Young, 2003).

Stratton & Bromley (1999) in their study determined through a series of interviews that the dominant preoccupation of parents is to get their children to eat enough. Parents try to adjust the food to the preferences of family members so that children can eat. There was a notable lack of reference to nutrition and health when talking about food choices for children in the British families interviewed. There have been many investigations determinant of children's diets, while schools and peers are also influential in determining preferences and habits (Stratton & Bromley, 1999).



A study in New Zealand showed that although teenagers had good knowledge of what was healthy and what was less healthy, what they ate was determined by how desirable the foods were (Hill, Casswell, Maskill, Jones, & Wyllie, 1998). Gracey et al (1996) in their study "Nutritional knowledge, beliefs and behaviours in teenage school students" described that one of the critical and important factor of enhancing and balancing eating habits is to increase the awareness amongst the children to control their diet; "this needs to be accompanied by

provision of nutrition education, and parents and schools need to be involved in making healthy foods more available” (Gracey, Stanley, Burke, Corti, & Beilin, 1996).

This is really significant to develop the strong eating habits at the earlier stage of the life; if this pattern of eating habits would be continued in mature life and hard to change at a later stage of the life (Hill et al., 1998; Kelder, Perry, Klepp, & Lytle, 1994). Numerous studies pointed out the fact that those who eat with the family have healthier dietary habits. Family meals become less frequent as children get older and the frequency of those meals differ for different ethnic groups and socio-economic status (Neumark-Sztainer, Hannan, Story, Croll, & Perry, 2003). The influence of family eating patterns on dietary intake stays strong even after controlling for other variables such as television viewing and physical activity. Eating away from home also increases the consumption of soft drinks which is related to problems with weight (French, Lin, & Guthrie, 2003).

#### **2.4 What is marketing?**

Marketing has the same number of definitions as it is the number of authors who write about marketing. Chisnall, (1995) proposed a definition of marketing as “the management process responsible for the identifying, anticipating and satisfying customer requirements according to the objectives of the organization” (Chisnall, 1995). In 2004, the American Marketing Association (AMA) modified their 1985 definition of marketing to read as "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." This 2004 definition received considerable interest on the part of scholars and practitioners alike. After several discourse and meetings, an overhauled variant was issued in 2007 to address the deficiencies of the 2004 definition. The new 2007 AMA definition of



marketing read as "the activity, set of institutions, and processes for creating, communicating, delivering and exchanging offerings that have value for customers, clients, partners and society at large " (Gundlach & Wilkie, 2009). Kotler et al (1995) also defined marketing as “managing profitable customer relationships, the twofold goal of marketing is to attract new customers by promising superior value and to keep and grow current customers by delivering satisfaction" (Kotler, Wong, Saunders, & Armstrong, 1995)

Based on the definitions above it can be conclude that the basic task of marketing is to identify and meet the needs of users in the most profitable manner (Tomse & Snoj, 2014) . This is done using basic marketing tools collectively described by Neil Borden as the marketing mix (Borden, 1964). Borden’s model was further refined over the years until E. Jerome McCarthy reduced it to 4 elements called “The Four Ps”: product, price, place and promotion.

Kotler et al (1995) explains the 4Ps in its basic form suggesting that for a firm to deliver on its value proposition, it must first create a need-satisfying market offering (product). The firm must decide how much it will charge for the offer (price) and how it will make the offer available to the target customers (place). It must communicate with target customers about the offers and persuade them of its merits (promotion) (Kotler et al., 1995)

Another aspect of marketing that is key and worth defining is marketing communication mostly shorten as “MarCom”. This is defined in literature as “the management process through which the organization participates with various audiences” (Fill, 2006). Semenik defined marketing communication as “the process of communication in marketing, which purpose is to create a favourable preference for brand, product, service or person” (Semenik, 2002). MarCom is a fundamental and complex part of a company’s marketing efforts and includes advertising,



direct marketing, branding, packaging, online presence, printed materials, public relation activities, sales presentations, sponsorships, trade show appearances etc. MarCom is considered to be so spread out and iconic that it has become a favored term among practitioner and whenever members of the public interacts with an organization, MarCom has been used (Tomse & Snoj, 2014).

## 2.5 What is advertising?

Advertising is the most common marketing term that organizations and even members of the public understand and evaluate. A number of people have come across advertisement at least a number of times in their everyday lives. According to Snoj et al, 2014 advertising is only a small section of marketing communication and is not an alternative term to it. (Tomse & Snoj, 2014). Advertising can be defined in numerous ways with different perspective and its definition can be previewed in different senses (Akrani Gaurav, 2012).

In 1904, John E. Kennedy gave the shortest definition of advertising as “salesmanship in print”. Most authors have argued that this definition cannot be made better or more succinct that it is (Buildingpharmabrand, 2013). The American Marketing Association defines advertising as “any paid form of non-personal presentation and promotion of ideas, goods, or services by an identified sponsor” (insert). A more clear definition is presented by Philip Kotler as “any paid form of non-personal presentation and promotion of goods, services, or ideas by an identified sponsor” (Kaptan, 2002).

Based on the definitions above several common themes emerged. Wienclaw (1969) states them in three points. First, advertising is considered a paid form of communication and is therefore



commercial in nature. Secondly, advertising employs non-personal channels of communication (mass media) that is directed at a mass audience rather than at individual consumers. In this way it becomes a monologue where recipients cannot respond or ask questions about the content of the message. Lastly, advertising has an identified sponsor (Wienclaw, 1969). Advertising is also noted to be the most expensive of all the promotional element and should be controlled and managed with care and accountability (Semenik, 2002).

There are several reasons/objectives for advertising, some of which are to increase the sales of the product/service, create and maintaining a brand identity, communicate a change in the existing product line, introduce a new product or service, increase the buzz-value of the brand or the company etc. In respect of the reason, advertising objectives can be categorized into three classes such as informative objectives, persuasive objectives and reminder objectives. Jaideep explains that new advertising objectives may emerge as per change in situations but the ultimate objective of advertising will remain the same to increase sales and earn profits (S. Jaideep, n.d.).

## **2.6 Advertising techniques**

Marketers use a variety of techniques to attract audiences to increase product purchases. Traditional advertising techniques include repetition, branded characters, catchy and interesting production features, celebrity endorsements, and premiums (Calvert, 2008)

### **2.6.1 Repetition**

Repetition involves simply repeating the same commercial message over and over. This technique is used in advertising as a way to keep a brand or product in the forefront of





consumer's minds. The idea is that familiarity with a product increases the likelihood of purchase and usage. The name of the brand comes first when the consumer goes to buy a particular product. Even though repetition can build brand familiarity it can also quickly lead to consumer fatigue. This is when consumers become so tired of an advertisement that they tune out or actively avoid the product. Therefore, to be effective, repetition must occur in the right proportion, as too much repetition may be counter-productive as an advertising strategy (Shrum, 2004).

There are several different types of advertising repetition. One is simply to repeat the same advertisement, such as a television commercial, over and over. For example, the same commercial may be broadcast at each advertising break of a show. Another way to use repetition is to place the product or brand in as many places as possible. For example, print advertisements in newspapers and magazines, television advertisements, radio advertisements and utilize product placement on television shows or in movies. Another type of repetition is to use advertisements that are produced with similar styles, but have a slightly different final product. For example, television advertisements that use the same actors, but in different scenarios (Calvert, 2008).



Another type of repetition is one developed in the 1970s by University of Toronto psychologist professor Daniel Berlyne. This theory, called two-factor theory or wear-in/wear-out, suggests that repetition has a positive effect for a period, and then begins to have a negative effect. During the first phase, called wear-in, repetition of an advertisement allows consumers to become familiar with the brand. In this phase, repetition can overcome consumer reluctance to purchase a new product or brand. As the repetition continues, consumers become used to the

brand and may enter a second phase, called wear-out. In the wear-out phase, consumers become tired of hearing about the brand and continued repetition of advertisements can cause consumers to stop buying the product or brand (Shrum, 2004).

The effect of repetition can vary based on whether the consumer is already familiar with the brand being advertised. Consumers tend to pay more attention to an advertisement that is for a completely new product or brand, than to an advertisement for a product or brand with which they are already familiar. The new advertisement will be more interesting to consumers, so they will be more likely to take note of it. In this case, repetition may be more effective when it is used to advertise a new brand or product. Once consumers are familiar with a brand or product, the advertiser may be able to decrease the frequency of the advertisement and still achieve the same effect (Shrum, 2004).

Repetition of an advertisement may signal to consumers that the brand or product is a good buy or a quality product. This is sometimes referred to as signaling theory. In 1975, University of Wyoming researcher Anthony McGann and Raymond Marquardt found that advertisements with high rates of repetition tended to also be rated as high quality in Consumer Reports. A later study, published in the Journal of Consumer Research, confirmed that consumers tended to think products advertised with repetition were good buys. Repetition may convince consumers that the manufacturer is willing to spend a lot of money on advertising because the product is a good one (Magloff, 2013).

### **2.6.2 Branded characters**

Successful marketing campaigns often use branded characters in their advertisement. The branded characters are media characters that are associated with a company, and hence promote



its brand's name in such a way that it is appealing to consumers especially children (Greer, Potts, Wright, & Huston, 1982). For example the Ronald McDonald character is used to sell the McDonald's brand in America (Wilcox et al., 2004) while the sports dressed cow character is used to promote the Cowbell brand in Ghana (Cowbell Ghana, n.d.).

#### **2.6.4 Attractive production features**

Attractive production features are designed to attract children's interest in commercial content (Gentile & Anderson, 2007). Such features which are mostly heavily concentrated in children's television advertisements, include action and movement, rapid pacing, sound effects, and loud music (Greer et al., 1982). Television is a visual and auditory medium that, unlike print media, affords advertisers additional methods and opportunities to influence customers' decisions. The sights and sounds of television help advertisers appeal to different senses at the same time. If the visual does not attract, the music may, or vice versa. Advertisers mostly choose their words and visuals carefully. The use of music in television advertisements may include pop songs meant to elicit specific emotions or brand-specific jingles. A jingle is music written specifically for a commercial and makes the viewer retain information about the product or even simple awareness of the product in his subconscious (Ryan, 2013).

#### **2.6.5 Celebrity endorsement**

There are a number of advantages to using celebrities in advertising, whether it is print, internet, radio or television commercials. Celebrities build brand awareness, attract potential users and can revive failing brands. Advertisers must ensure the celebrity is relevant and has broad appeal as this normally generate lots of attention. Consumers have the attitude, "If the product is good enough for him/her, it is good enough for me." This philosophy is often the impetus behind



advertisements for makeup, skin creams, hair products and attire. For example consumers want the wavy hair of celebrities hence they purchase the brand that the celebrity uses to achieve the hair style (Greer et al., 1982).

### **2.6.6 Premiums and product placement**

The business dictionary describes premiums as an advertising technique in which a product is package with a sample of another related product at no additional charge. For example, a company that sells shaving cream might create an in-pack premium by attaching a disposable razor for free. This type of advertising technique is also call package enclosure. On the other hand Product placement is a marketing concept where a product or logo is used as a prop in a movie or television show. It can sometimes be in games. With on-demand media growing, traditional commercials and advertising methods have declined and the need for strategic product placement has increased based on a 2007 study printed in the "Journal of Advertising". Filmmakers are increasing revenues by replacing generic props with brand-name drinks, restaurant locations, designer clothing etc. Filmmakers initially saw product placement as something that should not detract from the story being told. This strategy places brand-name items in plain sight for audiences to see. The film characters may never reference the product but the Coke can, pack of Marlboro cigarettes or Toyota Camry are not hidden. In fact, the director may start or end a scene using the brand-name product in a close-up and pull away to the action of the characters. The products in a "seen but not said" strategy focus on subtle showings of the products at intermittent times of the story (McGinnis, Gootman, & Kraak, 2006).



In recent years advertisers have begun to experiment with new techniques. One such technique is stealth advertising, in which marketers attempt to conceal the intent of an advertisement (Antonios, 2011). The theory behind the new technique is that advertising is most effective when consumers do not recognize it as advertising. If consumers' "guards" are down, they will be more open to persuasive arguments about the product. Using this approach, marketers try to blur the line between the advertisement and the content (Eisenberg, 2002).

Marketers who practice stealth advertising embed products within a program's content, use so-called viral (word-of-mouth) marketing enable children to interact with online characters who promote specific brands, disguise advertisements as video news releases and collect information from youth at online sites. All these practices are designed to create or enhance branded environments that foster user loyalty (Meyer & Schwager, 2007).

## **2.7 Advertising media**

Advertising media is defined in the marketing dictionary as any outlets or vehicles (such as newspapers and magazines, television, radio, cinema, posters etc.) used in communication between advertisers and customers (Advertising Media, n.d.). The media are usually classified into either mass or niche media. Mass media mostly deliver messages to a widespread and anonymous audience and this include newspapers, magazines, television radio etc. The wide coverage of the mass media makes them ideal vehicles for advertisers who need to reach a large audience. On the other hand, cable television and direct mail are often viewed as "niche" media because they reach a narrowly defined audience with unique demographic characteristics or special interests (Singer Adam, 2009).



### **2.7.1 Television (TV)**

Television has been used as an advertising medium since its introduction at the New York World's fair in 1939 (Gilani Natasha, n.d.). Despite the rapid growth and emergence of electronic media, television is still one of the most popular ways of conveying a mass message (Jaspersen & Yun, 2007) and is also the most likely form of media to be remembered and discussed by the public (Hayko, 2010). Advertising on television allows the advertisers to show and tell a wide audience their business, product, or service. It allows advertisers to actually demonstrate the benefits of ownership, how the product or service works and how it is packaged so prospective customers will know what to look for at the point of sale. It is not surprising that Brassel referred to it as the "King" of advertising and has proven its power to influence human behaviour again and again (Brassel Mike, n.d.).

#### **Advantages of Television as a medium of advertising**

- It is most effective as it has an audio-visual impact.
- It reaches relatively large audience at a short period of time.
- It has the ability to convey your message with sight, sound and motion, and can give a product or service instant validity and prominence.
- It can easily reach selected targeted audiences. For example, children can be reached during cartoon programs.

#### **Disadvantages of Television as a medium of advertising**

- TV advertisement are usually expensive to prepare as well as to telecast.
- There is competition between advertisements and also compete with the viewer's environment for viewer attention.



- Multiple exposures are required to achieve message retention and consumer action. A minimum of 5-7 times of advertisements repetition is required for viewer retention.
- Viewers have little or no loyalty to the TV channel showing the advertisements. Viewers turn to get a snack, go to washroom, check social media or have a conversation when programs are interrupted for commercial breaks.
- The introduction of DVRs and other program recorders often allow viewers to avoid commercials (Pleshette, 2013)

### 2.7.2 Print Media Advertising

Many different forms of print are available for advertising. They include newspapers, magazines, journals, brochures, banners, billboards, flyers and newsletters. Traditional print requires interesting and unique content that engage consumers while increasing name and brand recognition. The cost of advertisements vary greatly depending on the level of viewership and number of competitors for the same media space. Print advertisements mostly require professionally written and laid out spreads with the intention to put the advertisers content in the best light (Pleshette, 2013).



Print advertising also known as press advertising has proven to be quite effective for several reasons. First, print advertising is not annoying because it is a contact medium that is consciously allowed. Recipients are addressed while they are in a calm state of mind for reading. This enhances the impact of advertising. Secondly, print advertising conveys exclusivity, seriousness and information in connection with leading brands and products. Thirdly, print media allows almost unlimited message length and processing time. Compared to TV-commercials that deliver sound-, motion-, and text messages simultaneously, print

media deliver messages one topic at a time and one thought at a time. People tend to trust print media more than broadcast and absorb it more carefully because of its structured nature (Eagle, 2006).

The print media is reported to be one of the best ways to remain in touch with consumers. It has the added advantage of a long shelf life (magazine or journals are mostly shelf for future reference). Print media makes great use of visually appeal pictures of the product. A good visual emotionally allows the reader to invest in the product or sometimes cut it out for future reference (Eagle, 2006).

### **2.7.2.1 Newspapers**

Newspaper advertising has been around longer than any other form of advertising. Readers of newspapers mainly want to learn about current events and form opinions about social, political and economic issues. Newspapers are a good way to reach a large number of people especially those aged 45 and above because they tend to read newspaper more frequently than younger demographic groups who tend to get their news from television, radio or the internet (Greene Felicia, n.d.). Newspapers are mostly sources of comprehensive information on current issues.

As technology continues to modernize how information is accessed, newspapers still reign supreme, providing a number of significant benefits that cannot be found elsewhere including television, radio and the internet (Sadmin, 2015).

### **Advantages of newspaper as a medium of advertising**

Newspapers normally have wide circulation and a single advertisement in the newspaper can quickly reach to a large number of people.





- The cost of advertising is relatively low.
- Generally newspapers are published daily. Thus, the same advertisement can be repeated frequently and remind readers every day.
- Advertisement can be given to newspapers at a very short notice. Even last minute changes in the content are also possible. This makes advertising quite flexible.

#### **Disadvantages of newspaper as a medium of advertising**

- Newspapers are read soon after they are received and then are kept generally in some corner of the houses. After 24 hours a fresh newspaper is obtained. This makes the life of a newspaper shorter.
- People read newspapers mainly for news and pay little or no attention to advertisement.
- Illiterate persons cannot read and thus, newspapers advertising do not reach them (Pleshette, 2013).

#### **2.7.2.2 Periodicals**

Periodicals are publications which come out regularly but not on a daily basis. They are mostly published on a weekly, fortnightly, monthly, bimonthly, quarterly or even yearly basis.

Examples include magazines and journals.

#### **Advantages of periodicals as a medium of advertising**

- Periodicals have a much longer life than newspapers. These are preserved for a long period to be referred in future or read at leisure or read again, whenever required.
- Periodicals have a selected readership and so advertisers know their target customers.



### **Disadvantages of periodicals as a medium of advertising**

- Advertising in periodicals are costlier.
- The numbers of people to whom the advertisements reach are small in comparison to newspapers.
- The advertisement materials are given much in advance; hence last minute change is not possible (Pleshette, 2013)..

### **2.7.3 Radio Advertising**

Radio has been a traditional medium for advertising, however it has fallen out of favor in recent years. While many still listen to radio while traveling in cars or outside of their home, the radio has been battered by competition from personal music players, satellite radio and internet based music sources. Radio is considered for reaching older markets who have not adopted new technologies and still use the radio on a consistent basis (May, 2013).

### **Advantages of using radio as a medium of advertising**

- It is more effective as people hear it on a regular basis.
- Advertisers can reach the illiterate population.

### **Disadvantages of using radio as a medium of advertising**

- A regular listener may remember what he has heard. But, occasional listeners tend to forget what they have heard in Radio.



- The message that any advertisement wants to communicate may not be proper as there is no chance to hear it again immediately. There may be some other disturbances that distort communication.
- In comparison to Television, Radio is less effective as it lacks visual impact (Pleshette, 2013).

#### **2.7.4 Internet Advertising**

Since the discovery of the internet in 1994, it is accepted as a medium for marketing and advertising. The Internet is not the same as conventional advertising media but different in several aspects. It does not only serve as a communications channel but also a transaction and distribution channel. The internet user can get information and make purchases and payments through the Internet. There are no other mediums that can fulfil these marketing functions instantly without assistance from other means. The Internet is interactive by its modeling (Sadmin, 2015). It has the capacity for multimedia content and carries not only text and graphics but also audio and video content. The multimedia nature of the Internet makes it suitable for high-impact advertising. It is a convergent medium for all other media, that is, a hybrid of television, radio, newspapers, magazines, billboards, direct mail, and so forth.

Different forms of advertising exist on the internet such as buttons, banner advertisements, pop-up advertisements, paid text links, sponsorships, target sites, superstitials, e-mail advertisements, and so forth (Brownell et al., 2004).

#### **Advantages of internet as a medium of advertising**

- Access to Information from other parts of the world is easily accessible.
- Users have access to advertisement at their own time as per their schedule.



### **Disadvantages of internet as a medium of advertising**

- It is not readily accessible without a computer.
- It is not widely acceptable for the general public.
- It is not convenient for the illiterate and those with no knowledge about the operation of Internet (Pleshette, 2013).

#### **2.7.5 Mobile phone**

An important and unavoidable addition to the increasing list of communication carriers, is that of SMS (Short Messaging Service) i.e. advertising by mobile. SMS is becoming one of the fastest, easiest and the most convenient ways to communicate in recent times. The most recent objective of SMS is aimed at satisfying the consumer offering him products and services like many of the other mass media would. Mobile marketing is a brand new phenomenon and strongly promises to become one of the best, if not the best targeted advertising medium as it provides consumers their personal information, based on their location, time of day and interests (Scharl, Dickinger, & Murphy, 2005). Unlike the mass media, mobile advertising supports micro targeting, which monitors then use of the communication. Access to this medium also allows the consumer to react to the communication immediately, which helps measure the effectiveness of the campaign. With this there is always the choice to investigate the ability of this medium being used to propagate word of mouth.



### **Advantages of using mobile network as a medium of advertising**

- Mobile advertising is made personal as the mobile phone is individually owned and for many; it has an emotional attachment, which is an important factor while considering using SMS as a communication channel.
- The possibility of an SMS not being read is quite negligible. Even a message that does not interest the consumer will at the most go unanswered but hardly unnoticed.
- Mobile advertising is interactive, generates impulsive responses and direct as far as approaching the right target is concerned.

### **Disadvantages of using mobile network as a medium of advertising**

- Only 164 characters are allowed in a SMS, which limits delivery of complete information at one hit.
- As far as rural consumers are concerned, language to communicate is the biggest challenge.
- Mostly Commercial advertisements on mobile are considered annoying and intrusive (Pleshette, 2013).



## **2.8 Television advertising**

Popularization of a products is thus, the basic aim of advertising. The choice of media is dependent upon the nature of the message and the intended target viewers. Television advertising is the best viewed and economical media ever invented. It has a possible advertising impact matchless by any other media (Kotler & Keller, 2006). The advantage of television over the other mediums is that it is perceived as a mixture of audio and video features; it provides products with instant validity and fame and offers the greatest chance for creative advertising

(Saxena, 2005). Reactions to TV advertisements seem to be stronger than the reaction to print advertisements. The advertisers find it more effective to use television rather than print media to reach consumers, partly due to low literacy rate (Ciochetto, 2004). TV advertising not only change emotions but give considerable message exerting a far attainment influence on the daily lives of people (Kotwal, Gupta, & Devi, 2008).

In 1977, US had three national networks—ABC, CBS, and NBC. In 2004, more than 80% of all television households in the United States had cable television. Approximately 90% of all cable subscribers receive at least “expanded basic” service, which offers approximately 60 stations (Desrochers & Holt, 2007).

On the other hand, television was first established in Ghana in 1965 with the collaboration of Sanyo of Japan. It was not until 1996 when the airwaves was liberalized and other stations were established (Bott, 2014). In 2016, 75 television stations were authorized to operate in Ghana but 34 of these stations were on air (NCA, 2016). The World Bank in 2009 reported that 47.4% of Ghanaian household had working television sets (Trading Economics, 2010). In recent years, alternative delivery systems, including satellite and wireless services, have supplemented both traditional free-to-air and cable service, offering consumers a greater variety of stations.

As television changed, so did television advertising. Globally total television advertising expenditures increased from approximately \$147.8 billion in 2010 to \$178 billion in 2017 (Kafka & Molla, 2017). Over 75% of US food manufacturers' advertising budgets and 95% of US fast-food restaurant budgets are allocated to television (Gallo, 1999). Television viewing starts early, US children between the ages of 2 and 4 years view 2 hours of television daily;



this increases to over 3.5 hours near the end of grade school, then drops off to about 2.75 hours in later adolescence (Roberts, Foehr, Rideout, & Brodie, 1999).

Nielsen Media Research (2016) shows that a child watches television more than 21 hours in a week (Holmes, 2016). Doston and Hyatt concluded in 2005 that the three factors that impact on children's buying behaviour are parents, colleagues and media. Children are also influenced by their class fellows and playmates (Furnham, Abramsky, & Gunter, 1997). Children like advertisements and are more easily attracted toward those which consists of child models, celebrities, animals and cartoon characters (Blosser & Roberts, 1985; Ross et al., 1984). Schooler et al. (1996) reported a strong relationship between viewing tobacco advertisement and later usage (Schooler, Feighery, & Flora, 1996).

Comstock and Strzyzewski (1990) argued that children learn behaviours of jealousy, revenge and controversy (Comstock & Strzyzewski, 1990). Klein et al. (1993) has shown that those children who watch television frequently, they show behaviours that are violent in nature. For example they start drinking, cheating, smoking, stealing, class bunking and driving without license (Klein et al., 1993). Singer et al. (1995) studied symptoms of Psychological trauma and violence in children's behaviours who watch more television. He concluded that those children who watch television more than 6 hours a day, they show more violence in their behaviours and they have more chances of trauma. He also said that children who watch action and fighting show, they are more violent in their attitude (Singer, Song, Lunghofer, & Anglin, 1995).

The largest single source of media messages about food to children, especially younger children, is television. Food is the most frequently advertised product category on US children's



television and food advertisements account for over 50% of all advertisements targeting children (Gamble & Cotugna, 1999; Howard L. Taras & Gage, 2015). Children view an average of one food commercial every five minutes of television viewing time, and may see as many as three hours of food commercials each. In a descriptive study that examined US food advertising during 52.5 hours of Saturday morning children's programming, 564 food advertisements (57% of all advertisements) were shown week (Kotz & Story, 1994). On average, 11 of 19 commercials per hour were for food. Of these advertisements, 246 (44%) promoted food from the fats and sweets group, such as candy, soft drinks, chips, cakes, cookies and pastries. Fast-food restaurant advertising was also prevalent, comprising 11% of total food advertisements. The most frequently advertised food product was high sugar breakfast cereal. There were no advertisements for fruits or vegetables. Several other studies have documented that the foods promoted on US children's television are predominantly high in sugar and fat, with almost no references to fruits or vegetables. The food advertised on US children's television programming is inconsistent with healthy eating recommendations for children (Byrd-Bredbenner & Grasso, 2000; Coon & Tucker, 2002; Gamble & Cotugna, 1999).

An international comparative survey of television advertising aimed at children was recently conducted by Consumers International, a non-profit organization consisting of a federation of consumer organizations (Kelly et al., 2010a). Television advertisements were monitored during approximately 20 hours of children's programming in 13 countries during a three month period in 1996. The 13 countries included Australia, Austria, Belgium, Denmark, Finland, France, Germany, Greece, Netherlands, Norway, Sweden, United Kingdom and the USA. The findings showed that Australia, US and UK had the most food advertisements, between 10 and 12 an hour or about 200 in a 20 hour period. This was twice as many advertisements as in Denmark,





Germany and France, and between 6 to 10 times more than in Austria, Belgium and Sweden. The least amount of food advertising was in Sweden, which had almost no food advertisements (<1 advertisement/hour). Food products comprised the largest category of all advertisements to children in virtually all countries. In two-thirds of all countries food advertisements accounted for more than 40% of total advertisements. Confectionery, breakfast cereals (mainly sweetened), and fast food restaurants accounted for over half of all food advertisements. Confectionery was the largest category accounting for nearly a fifth of all food advertising. A nutritional analysis conducted for the advertised foods in the UK found that 95% of the advertisements were for foods that were high in fat (62%), sugar (50%) or salt (61%) The results from this study indicate that the advertising of high fat/high sugar foods to children is an international issue (Kelly et al., 2010a).

## **2.9 Types of Television Advertising**

The type of advertising is dependent on the product or service it serves to promote. The concept of low involvement was first proposed by Krugman (1965) in an article on the effectiveness of TV commercials. His sense of the relationship between advertising effectiveness and audience involvement was derived from studies about persuasiveness of nonsensical and unimportant messages (Krugman, 1965).

### **2.9.1 Toys advertising**

Commentators argue that children are particularly exposed to the wide variety of advertisements during Christmas time adding pressure to parents wishing to grant their children's holiday wishes. They further state that toy advertisements tend to dominate Saturday



morning television, and the share is increased by 75% around Christmas time (Gunter et al., 2004).

### **2.9.2 Food advertising**

According to Story and French (2004) one of the major market forces in the food and beverages industry has been children and adolescents. Thus the children's market has been bombarded with commercialism by food advertisers through a variety of channels and the single most often source of media being used is Television. In the U.S. 75% the advertising budget of food manufacturing companies are allocated to television advertisement opposed to Sweden which is by far the country broadcasting the least amount of food advertisement on television according to an international comparative study conducted by Consumer International. In fact the study showed that Sweden had little or no food advertisement during the times most children watch television (<1 advertisement/broadcasting hour). The food and beverage industry has been a major market force children and adolescents as. Children and adolescents are targeted aggressively by food advertisers, as a result they are exposed to a growing and unprecedented amount of advertising, marketing, and commercialism through a wide range of channels. The principal goal of food advertising and marketing aimed at children is to influence brand awareness, brand preference, brand loyalty, and food purchases among youth (Story & French, 2004)



### **2.9.3 Humorous Advertising**

According to Weinberger & Gulas (1992) the use of humor in advertising has been estimated to as much as 24.4% of prime time television advertising in the U.S. is intended to be humorous. They further state that while the use of humor is high, the efficacy of humor as a

communications device remains uncertain. In attempts to define its impact, humor has proven to be very quiet indefinable. The fact is that humor is a complex topic that has been experimentally studied by advertisers in several dozen studies over the two decades. Humor is a multidimensional concept which includes a wide variety of factors (Weinberger & Gulas, 1992). However Lee & Mason (1999) argue that does not generate positive thoughts and thus have no significant benefit over non-humorous advertising (Lee & Mason, 1999).

### **2.10 Regulation of TV food advertising**

Since the dawn of the medium, television advertising has been both the lifeblood of the industry and a constant source of irritation to viewers. Government agencies, industry groups and individual networks all have put into practice their rules on the content, volume and timing of TV commercials. These rules have changed over the last half-century to fit the needs and tastes of an evolving society. For example, cigarette advertisements were a staple of TV advertising a half-century ago but have been banned on television since 1970 (Hanks, 2012).

### **2.11 Regulation at the global level**

The Hastings systematic review, for the first time, provided an evidence base for action on limiting the impact of advertising directed to children on health grounds (Hastings et al., 2003).

The World Health Organization (WHO) therefore challenged the food industry over the promotion of certain types of fats and processed foods. A joint WHO/Food and Agriculture Organization (FAO) report sees advertising as being included in the prevention equation, driven in part by the rise in diet-related non-communicable diseases and specifically by their impact on obesity, and identifies the fast-food industry and the role of advertising as key components in the rise of obesity (WHO, 2010). The WHO recommends the development of policies aimed at regulating the marketing of foods high in saturated fats, trans fatty acids, free



sugars and salt to children in order to foster a healthy lifestyle and prevent obesity and other chronic diseases (WHO, 2010).

## **2.12 Regulations in Other Countries**

Concerns about the effects of television advertising on children are shared by a number of European countries and Australia (Weber, Story, & Harnack, 2006; Wilcox et al., 2004). The Nordic countries are at the forefront of protecting children from the effects of advertising. Sweden has the strictest controls in Europe and in 1991 instituted a ban on television and radio advertising targeted at children under the age of 12 (Wilcox et al., 2004). The Swedish government views advertising to children as morally and ethically unacceptable, since children have difficulty distinguishing between the purpose of advertising and other modes of communication (Wilcox et al., 2004). In Belgium, it is forbidden to broadcast commercials during children's programs as well as during the 5 minutes before and after them. Australia does not allow advertisements during television programming for preschoolers (Cairns, Angus, & Hastings, 2009).

## **2.13 The U.S. story**

Television Concerns about advertising on children's television were first raised in the early 1970s by the children's advocacy group, Action for Children's Television (ACT) which urged the FCC and the FTC to prohibit or limit advertising directed at children (A. J. Campbell, 1998). In 1978, the FTC formally proposed a rule that would ban or severely restrict all television advertising to children (Fried & Nestle, 2002; Kunkel & Gantz, 1993). The proposal provoked intense opposition from the food, toy, broadcasting and advertising industries, who initiated an aggressive campaign to oppose the ban. In 1990, children's advocacy groups persuaded



Congress to pass the Children's Television Act that included limiting the amount of commercial time during children's programming to 10.5 minutes per hour on weekends and 12 minutes per hour on weekdays. Internet Advertising and marketing aimed at children is rapidly becoming a pervasive presence on the Internet, with new techniques constantly being developed, yet advertising on the Web is virtually unrestricted. In 1997, CARU revised its Children's Advertising Guidelines to include a new section addressing the Internet (Campbell, 1999). However, the CARU guidelines regarding online and Internet advertising are considerably weaker than those applied to television. In the mid-1990s, children's media advocacy groups documented a number of exploitative data collection marketing practices on children's websites used to gather personal information from children and learn about their preferences and interests. In 1998, the US Congress passed the Children's Online Privacy Protection Act (COPPA), which directed the FTC to develop rules restricting certain data collection practices and requiring parental permission for collection of personal information for children under 13 (Montgomery, 1999). This law went into effect in 2000.

Several national organizations and youth advocacy groups are concerned about the growing influx of in-school marketing and advertising and have advocated limiting commercial activities in schools, arguing that children's health is not an acceptable "trade off" for increased revenue. The Consumers Union Education has urged that parents and educators unite to make schools advertisement-free zones, where young people can pursue learning free of commercial influences and pressures (Piachaud, 2008).

Recently, there have been successful local initiatives to eliminate soft drink vending machines and advertising from schools. Several school districts across the country have refused to enter



into agreements with soft drink companies after protests by parents, students and school officials. In 2002, Oakland, California school district banned all school sales of soda and candy. The same year, the Los Angeles unified school district, which includes 677 schools and 736,000 students, voted to ban the sales of soft drinks in vending machines. These initiatives demonstrate the effectiveness of local efforts to regulate commercial activities in schools (Kelly et al., 2010b).

In 2001, a statement released by the committee on public education from the American Academy of Pediatrics described the possible negative health effects of television viewing on children and adolescents such as sexual activity, substance use, obesity, violent or aggressive behaviour, poor body image and decreased school performance. The committee indicated that media education is an effective approach to mitigating these potential problems. The statement acknowledge the contributing effects of the existing television rating system and the v-chip (electronic device to block programming). The academy in the statement offered a list of recommendations on the issue for pediatricians and parents, federal government and the entertainment industry to adhere to. Among the recommendations worth noting are those that were recommended for health care professionals. In one of such recommendation the health care professional is reminded to remain knowledgeable about the effects of television including violent and aggressive behaviour, obesity, poor body concept and self-image, substance use and early sexual activity. The pediatricians and other health care professionals are encourage to be involved in the American Academy of Pediatrics media matters campaign, educate patients and their parents about these effects. The statement also give a number of recommended guideline pediatricians should use for parents. Among the guidelines, parents are to limit children's total media time (with entertainment media) to no more than 1 to 2 hours



of quality programming per day, remove television sets from children's bedrooms, discourage television viewing for children younger than 2 years and encourage more interactive activities that will promote proper brain development such as talking, playing, singing and reading together (American Academy of Pediatrics, 2001).

#### **2.14 Regulations in Africa**

The global legal summaries reports that South Africa is the only country in Africa with a number of laws implemented since 2000 that has brought itself in line with similar regimes and development in North America and Europe (Global Legal Summaries, 2017). However, there has been little research into food advertising on TV in South Africa. A study undertaken between 2003 and 2005 on children 7 to 15 years old found that children were exposed to 24 minutes of advertising per day (Cassim, 2010). One small study carried out in 2007 reported that approximately 55% of advertisements were for fast-food restaurants or foods of poor nutritional value (Temple, Steyn, & Nadomane, 2008). The Advertising Standards Authority (ASA) of South Africa provides guidelines on advertising of food and beverages to children by means of its Code of Advertising Practice. However, the ASA is not a controlling or enforcing body and only reacts to complaints. This means that advertisements on food and beverages are not screened and checked before they appear (Steyn et al., 2012).

#### **2.15 Regulations in Ghana**

In Ghana, there is currently no policy or standards for food advertising and marketing aimed at children. The advertising industry therefore uses self-regulatory policies and compliance to the broadcasting regulation. The regulation applies to all forms of advertising, but it has no legal authority over advertisers and can only seek voluntary compliance.



Because of age-based limits in children's ability to understand advertiser intent, the guidelines for broadcasting regulation has placed safeguards into the television advertising marketplace to protect young child audiences. Among the guidelines is the separation principle, which consists of three components. First, the transitions between an advertisement and the program content must be distinct; the program must use a constant production convention, such as "After these messages, we'll be right back," to separate program and commercial content. Second, "host selling" is not allowed. That is, the main characters on a television program cannot sell products during that program or during blocks of commercial time adjacent to it. And, third, products being sold cannot be integrated into program content (a practice that resembles the common practice of product placements) (Eve, 2008).

In addition, the guideline limits the time allocated to commercial content during a given hour of children's programs not exceeding 10 minutes per hour. While the guidelines stipulates the dos and don'ts, the Food and Drug Authority (FDA) is charged the enforcement of the regulation (Eve, 2008). There has been little or no research into food advertising. A news article publish in the Daily Graphic in 2009 reported about spelling mistakes and a moral issue in a milk advert. The writer calls the Advertising Association of Ghana, the Ghana Journalists Association and the Chartered Institute of marketing to collectively throw their weight to champion the course of regulating what is advertised (Wireko, 2009). In 2015, FDA called on the media to ensure that advertisements on food, medicines and cosmetics are duly endorsed by the authority (FDA) before they are aired. Another news article published on Ghana Web reported the intention of the Food and Drug Authority (FDA) to ban both advertisement and mentioning of alcoholic beverages in the media before 8pm. The article recalls an earlier ban





of celebrities endorsement on alcoholic beverages which was an adherence to the World Health Organization policy (GhanaWeb, 2017).

## **2.16 Previous studies on TV food advertising**

The first research in this area was conducted by Barcus & Cuzzo (1971) in the United States. Their research (MA thesis) was not published but cited by Winick and his friends who claimed that Barcus and Cuzzo had found that 99% of televised food commercials in the USA emphasised “sensory pleasure”, that about one-third of those commercials were addressed to children and that sugar was the food promoted in 25% of the cases, and that snacks made up the content of nearly half the messages. (Winick, 1973). Young & Hetherington, 2014 reported that Choate (1972) reiterated the original findings of Cuzzo stressing that the content of television advertising of food products to children provides a menu that no nutritionist would recommend. Choate stated that children’s programmes in the United States were interrupted on average twenty times per hour for advertisements. Half of these advertisements were for edible products and nine out of ten of these advertisements for edible products promoted these products on the basis of their sugared, sweetened or “crisped” (i.e. fried) qualities (Young & Hetherington, 2014).

However, it is worth noting that Winick and his colleagues were the first to produce a book-length study on the content of children’s television commercials in the USA. Unlike previous studies, the frequency of television commercials was not recorded directly off the air. Instead, the authors wrote to advertising agencies in order to collect copies of commercials of products directed to children, excluding toys. A total of 236 commercials were included for study this



way. Out of these only 15 were classified as miscellaneous. The remainder were for food or food-related products/services (such as restaurants and vitamins) (Winick, 1973).

Gussow (1972) monitored 388 networked television commercials on children's television in the United States and found that 82% were for ingestible items like food, drink, candy (sweets), gum (chewing gum) or vitamin pills. Her sampling strategy was similar to that of Choate, to monitor advertising during "children's television" on US broadcast television for one week. She reckoned that these figures erred on the side of being an underestimate as they omitted local spot announcements which were heavily weighted toward food. Out of these commercials, almost 40% were for cereals (Gussow, 1972).

A study by Condry et al. (1988) looked at the non-programme content of children's television broadcast on Saturday mornings and weekday afternoons in the USA. They observed a drop in the percentage of commercials that advertised food products over a period of three years (1983 to 1987) and an increase in advertising for toys and games. Condry's study sampled television at different times of the year and on different days and his study should be regarded as sound in this respect (Condry, Bence, & Scheibe, 1988). In contrast, Cotugna (1988) randomly selected three hours on a Saturday in January 1987 in the USA and taped commercials from all three broadcast channels (ABC, CBS, NBC). She found that 71% of the 225 commercials recorded were for food products and she judged 80% of these to be "...of low nutritional value". The results have to be questioned on the basis of lack of representativeness in the sampling (Cotugna, 1987).



In 1977, Atkin and Heald monitored all Saturday morning advertising that was broadcast on all three of the United States networks on a pair of comparable days in November 1972 and November 1973. Saturday morning had been viewed by broadcasters and advertisers as a time when the child audience was available and could be entertained and sold to. The expression “kid- vid ghetto” was coined at that time to describe, in a journalistic phrase, the extent to which advertisers aimed at children on Saturday mornings. Foods comprised 48% of all advertisements in 1972 and 32% in 1973, the remainder being mainly toys. About half of these food advertisements were for cereals. 62% of the food commercials used some animation either totally animated as a cartoon or mixed with live-action film whereas 99% of the toy advertisements used only live-action film. Toy advertisements also tended to be serious (71%) whereas 92% of the food advertisements contained some humour. Food advertisements almost exclusively promoted the product for its fun quality, as in for example, fun to eat. 94% were like this whereas the corresponding figure for toy advertisements was 43%. Reference to sweetness such as a sugary or sweet taste occurred in 21% of the food advertisements sampled. Toy products are almost always illustrated in use (either a photograph of the real product or a portrayal of it). Food products are almost always shown being consumed. Food commercials generally show the characters as highly satisfied with the product (Atkin & Heald, 1977). Atkin and Heald’s study is an example of poor sampling. Two days in November on Saturday mornings does not provide a representative sample of advertising for children. It is well- known that other times such as after school hours include much advertising aimed at children and



Young (1985) has established that, in the UK as reported by Young & Hetherington, that there are systematic seasonal variations in advertising to children (Young & Hetherington, 2014). In that study commercials were videotaped from programmes broadcast in the North West of

England over a period of seven weeks in October and November 1983 and selected days from January to March 1984. A complete log of commercials broadcast over a period of 47 days in 1983 and 1984 was also obtained. Television advertising that was child-directed was selected on two criteria - the time of broadcasting and the product advertised. Saturday morning and after-school advertising has an audience that consists predominantly of children (audience share) although there are more children viewing in absolute terms given audience ratings at other times such as early evening. In addition the programme content at these times is child-directed and one would expect to find advertisement directed at children. Young found that there was a defined Saturday morning market of television commercials for children where the product was toys. In the period before Christmas toy advertising to children dominated the screen on Saturday mornings. However, outside the pre-Christmas period there was less toy advertising, more advertising of foods for children and, importantly, advertising of adult products. There is evidence from this study that the 'kid-vid ghetto' does not exist to the same extent in the UK as it was claimed in the USA in the 1970s. Young found that one third of his sample of television commercials for children were for food products and one third of those food products advertised for children were foods containing more than 10% sugar. No other food constituent was examined in this study (Young & Hetherington, 2014).



### **2.17 Previous studies on TV food advertising and its effects on children**

According to Chernin a large body of research suggests that food marketing affects children's preferences and is categorized according to short and long term dietary consumptions and purchase requests. Chernin discusses that in preference studies, children are stimulated by pictures, and in short term dietary consumption studies, children are stimulated by choice and then in long term dietary consumption is stimulated according to parents report on eating habits.

She further explains that purchase request is linked to parents and marketing strategies being made at them upon children's request which is linked to advertise products they view. In the study Charnin made many references to experiments done using children in preschool and upper classes to cite an example concluding on the fact that, advertised products that are shown on television affects children's preferences in food and choices. She argues that, children who are exposed more to television are more influenced and affected by the advertisements than those who are not exposed. This according to her affect their choices. Results from the study suggested that food marketing influences children's regular dietary intake. The study also indicates that exposure to food advertisement was positively associated with snacking and the consumption of low nutrient, high calorie foods, so this also indicated that parents eating behaviour had a much stronger influence on children's diet than advertising. The effect of age was also researched and concluded that age act as a moderator. It is often assumed that children below the ages of 8 years are more susceptible to advertising than older children because they lack the knowledge of persuasive intent. The study also revealed that gender has the potential of being a moderator of advertising effects although there was no empirical evidence to support such claims. However, the study provides evidence to make the conclusion that girls expressed greater preferences for heavily advertised, branded products than boys, although this wasn't conclusively demonstrating that girls were more persuaded by the advertising for the products than the boys (Chernin, 2008).

Exposing children to commercial messages can lead to both positive and negative outcomes, including parent-child conflict, cynicism, obesity, and possibly materialistic attitudes for both younger and older children, not every request for a product leads to a purchase. Being denied a product can lead to conflict between parent and child (Valkenburg & Cantor, 2001). For



instance, Atkin found that when parents denied children's requests for products, children who were heavy viewers argued about the purchase 21 percent of the time, while light viewers argued only 9 percent of the time (C. K. Culley, J. Atkin, 1975). Advertisers call this the "nag factor". In a review of research, one study found a causal relationship between children's viewing of television commercials and their pestering parents in the grocery store (McDermott, O'Sullivan, Stead, & Hastings, 2007). Because so many advertisements targeted at children are for foods that are high in calories and low in nutritional value, concerns have been raised that food advertisements are partly to blame for children being overweight and obese (Wilcox et al., 2004).

A comprehensive review of the empirical literature on food advertising, conducted by a National Academies panel to investigate the role of marketing and advertising in childhood obesity, concluded that television food advertisements affect children's food preferences, food requests, and short-term eating patterns. The panel was unable, however, to conclude that television food advertising had causal effects on child obesity, because the data were, by necessity, correlational, not causal one cannot ethically conduct research to cause some children to become overweight and obese (McGinnis et al., 2006).



Two major reports based on a systematic evaluation of peer-reviewed literature on the relationship between food marketing and children's behaviour and diets have been published. The first was published in September 2003 in the United Kingdom for the Food Standards Agency. The authors of this report concluded that food promotion affects children's preferences, purchase behaviour, and consumption not just for different brands but also for different product categories (Hastings et al., 2003).

In 2004, the American Psychological Association's Task Force on Advertising and Children published a report based on a broad collection of academic research addressing how children recognize and respond to commercial messages (Wilcox et al., 2004). The authors concluded that television advertising specifically targeted to children is fundamentally unfair, because of young children's limited comprehension of the nature and purpose of television advertising, and therefore warrants governmental action. Shortly after the publication of Hastings and colleagues' (2003) report, the Center for Science in the Public Interest (2003) published a position paper recommending the restriction of the marketing of high-calorie, low-nutrition foods to children. A few months later, the Kaiser Family Foundation reviewed 40 studies of children's use of media and concluded that it "appears likely that the main mechanism by which media use contributes to childhood obesity may well be through the children's exposure to billions of dollars' worth of food advertising and cross-promotional marketing" (Brownell et al., 2004).

Not all studies, however, corroborate the link between television advertising and childhood obesity. For example, Zywicki et al (2004) conducted an extensive review of the literature in both economics and public health and evaluated whether evidence supported the proposition that television advertising caused the rise in childhood obesity. They concluded that this hypothesis did not have strong empirical support for several reasons. First, the evidence showed that children were not watching more television now than before the rise in obesity, though they do spend more time in front of television and computer screens. Second, they did not find evidence that children are exposed to more food advertising now than they were 20 years ago. Third, they noted that all the studies that find support for increased exposure to food



advertisements over the decades were based on small and possibly unrepresentative samples of television programming. As a result, Zywicki and his friends argued that there is a need for a detailed empirical assessment of children's exposure to television advertising over time (Zywicki, Holt, & Ohlhausen, 2004).

To address this need, KFF recently released the findings of a study focused specifically on television advertising to children (Gantz, Schwartz, & Angelini, 2007). Gantz and colleagues (2007) analyzed advertising on all programming on a sample of networks that are popular with children. Their key findings include the following: (1) food advertising pervades the television landscape of children, (2) exposure to food advertising ranges from 12 to 21 advertisements per day depending on a child's age, and (3) many constituencies, including the U.S. Department of Health and Human Services, would consider most of the foods advertised to children non-nutritious. Furthermore, Gantz and colleagues' analysis of the larger sample of programming did not find the increase in children's exposure to food advertisements that had been cited in previous research.

Another review of literature on the effects of television food advertising on preschool and school-age children's food behaviour concluded that: 1) studies of food preferences using experimental designs have consistently shown that children exposed to advertising will choose advertised food products at significantly higher rates than children who were not exposed; 2) findings from food purchase request studies based on surveys, diaries, experimental trials, and direct observation of mother-child pairs shopping have consistently shown that children's exposure to food television advertising increases the number of attempts children make to influence food purchases their parents buy; 3) purchase requests for specific brands or





categories of food products also reflect product advertising frequencies; and 4) fewer studies have been conducted on food advertising effects on actual food intake, in part due to difficulty in controlling children's exposure to advertising or to foods outside experimental settings (Coon & Tucker, 2002).

However, considering all the evidence to date, the weight of the scientific studies suggests that television food advertising is associated with more favorable attitudes, preferences and behaviours towards the advertised product (Coon & Tucker, 2002). The research evidence is strong showing that preschoolers and grade school children's food preferences and food purchase requests for high sugar and high fat foods are influenced by television exposure to food advertising (Borzekowski & Robinson, 2001; Coon & Tucker, 2002; Taras et al., 1989).

Gorn and Goldberg conducted a novel, well-designed experimental field study which randomly assigned children ages 5–8 years old attending a summer camp to one of four conditions to examine television exposure of snack food commercials to actual food consumption. Daily for two weeks, children watched 30 minutes of a television cartoon with about 5 minutes of advertising embedded. The four experimental conditions differed in the type of food advertising included with the cartoon: advertisements for candy and Kool-Aid; advertisements for fruit and fruit juice; control (no advertisements); and public service advertisement announcements for healthy foods. Each day after the television exposure, the children were given a selection of fruits, juices, candy, or Kool-Aid to choose to eat. Children in the candy/Kool-Aid commercials condition selected the most candy/Kool-Aid and the least fruit and juice. For example, those in the candy commercial condition selected significantly less fruit (25%) than those in the fruit commercial condition (45%) (Gorn & Goldberg, 1982).



In 2016 Shuja and his colleagues published a study with the purpose to find the effectiveness of animated spokes character in advertising targeted to kids. The research design was quantitative and had a causal approach. The respondents were pre-primary school children from nine different school from Karachi, Pakistan. They used the classification regression tree (CRT) to analyze the data. The results revealed that preference for animated spokes character had a significant effect on the product and brand character recognition, product-brand character association and brand preference. Shuja and his colleagues argues that most of the earlier related studies have been descriptive in nature and their findings are supported by a number of studies conducted in the past decade. Their finding also reveals that kids who liked the animated brand characters did not only recognized the product better as compared to those kids who did not like the brand character but they showed a heartily love for the cartoon character. This leaves strong mark in the minds of such children and gradually increases with aging (Shuja, Ali, Anjum, & Rahim, 2016).

In one study published in the International Journal of Behavioural Nutrition and Physical Activity, Klepp and his friends' explored exposure to food commercials on TV in 9 European countries (Austria, Belgium, Denmark, Iceland, the Netherlands, Norway, Portugal, Spain and Sweden) and its association with fruit and vegetable intake. The study also assessed possible mediating effects of attitudes toward and liking of fruit and vegetables. Using a self-administered questionnaire among 11 year old school children, data was collected on usual intake of fruit and vegetables and related correlates. The study had 13,035 children completed data taken. Analysis of variance was used to compare the differences in exposure to television advertisements between countries, gender and social class. They also used multiple linear



regression analysis to test associations between exposures to television advertisement and to assess mediating effects. The results revealed that most of the children in all the nine countries reported recently seeing a number of television advertisement for food and the foods were more often unhealthy foods. The study revealed that boys (2.5 hours per day) watch somewhat more television than girls (2.2 hours per day). The study also reported that children from lower social classes (2.4 hours per day) were more likely to watch television for a longer duration than children from high social class (2.0 hours per day). Further finding from the study revealed that for all countries, exposure to television advertisement for healthy food was positively associated with reported fruit and vegetable intake. The study attributed the observed association to be mediated by attitudes toward and liking for fruits and vegetables. The study had to its benefit the use of relatively large representative sample of children and a validated instrument to measure intake, attitude and preferences with good scale properties. However, the use of a cross-sectional study design limited the ability of the study to establish causality between television advertisement exposure and intake. The study concluded that children across European countries are exposed to relatively high volumes unhealthy food advertisements. However, most children also reported exposure to healthy food advertisement (fruits and vegetables). The association between exposure to fruits and vegetables was significantly and consistently positive with reported frequency of intake (Klepp et al., 2007).



In 2012, Lucia and her friends conducted a study to investigate the impact of television advertising on children's food knowledge and food preferences. The study then correlated the findings with the weight status of the respondents. The study was a prospective cohort study that made use of IDEFICS data which was conducted in 2007/2008 as baseline. The baseline survey consisted of 16,225 children ages 2 to 10 years from 8 European countries. Data

collected in the baseline survey included children's lifestyle described by their parents, television consumption habits, diets, parental attitude and sociodemographic information. Data on physical examination was also collected on all children such as amount of body fat, weight, height and other health indicators. In other to collect more information on children's food knowledge and preferences the researcher developed instruments (choice experiments and a questionnaire) and collected additional data for a subsample in five countries. Their resulting sample size was 229 children aged between 6 and 9 years. The study acknowledged the possible impact of genetics as well as lifestyle factors that can potentially modify appetite, food intake and preferences in their analysis. The key findings revealed that better food knowledge is not seemingly linked to healthier food preference and diet apparently has no significant effect on weight status. The study also acknowledge the limited sample size and operationalization of the variables was based on their own reasoning and hence could be debated. Their findings was in line with the contention that traditional policy strategies that are based primarily on informational and educational goals are certainly insufficient to decrease the effects of advertising on children. The authors states that although food smartness and advertising literacy remain unquestioned goals of young consumers' socialization, they cannot be expected to adequately guide behaviour in a healthy direction. Hence the conscious need to go beyond informational approaches. The authors suggest that a more promising policy approach is probably prescribed in the behavioural economics literature "Nudging" (Thaler & Sunstein, 2008). The strategy is for parents and caretakers to be aware of their decisive role as "choice architects" and as 'artisans' who guide their children's selections by regularly offering healthful and attractive food and limiting their exposure to television and other sedentary behaviours. Hence, the old WHO motto "making the healthy choice the easy choice" should



be reassessed and taken more seriously by everyone responsible for children's diet (WHO, 2012).

A study conducted by Halford and his colleagues in 2004 to examine children's ability to recognize 8 food and 8 non-food related advertisement in a repeated measures design. Thirty seven children between the ages of 11 to 13 were studied. The sample children were lean, overweight and obese. The researchers measured the children's consumption of sweet and savoury, high and low fat snack foods after each sessions. The results of the study revealed that even though the difference in the number of non-food adverts recognized by lean and obese children was not significant, the number of food advertisement recognized by obese children was statistically significant than the number of food advertisement recognized by the lean children. The results also indicated that the ability to recognize the food advertisements was significantly correlated with the amount of food eaten after exposure to them. The study reported statistical significant increase in the overall snack food intake of the obese and overweight children against the lean children considered to be in the control condition. With the exception of low fat savoury snack, the results indicated that consumption of all food offered increase post food advertisement. The researchers indicated that the data demonstrated that obese children heightened alertness to food related cues and such cues induces increased food intake in all children. The study concluded that the relationship between TV viewing and childhood obesity appears not merely a matter of excessive sedentary activity but initiate cues that increase preference and subsequent increases the demand for advertised products among the children (Halford et al., 2008).



## 2.18 Summary

This chapter explored relevant literature on TV food advertising and children's food preferences. Several advertising theories were explored with most of them explaining why advertising is capable of changing potential consumers' behaviour. The key strategy for effective advertising as proposed by most of the theories was a dramatic introduction of brand to potential consumers and repetitive advertising to sustain consumer interest. Literature on how children process advertisements was also explored. Children's ability to comprehend the intent of commercial messages varies based on age and mental capacity. Jean Piaget's theory of cognitive development gave a comprehensive description of age-based differences in how children understand commercials. Children below the age of 8 years are limited in mental capacity and unaware of the intent of advertisers. Some countries in the developed world have advertisement restriction to children in such age group (<8 years). During childhood, food preferences are the essential and primary determinants of food intake. Children at this period are not influenced by the wide range of factors and considerations that influence adults' food acceptance pattern. Television advertisements usually play a role in either introducing a product, reinforcing the familiarity to the product and also convincing to purchase the product. Advertisements are among the most visible of the marketing strategy and have been the subject of a great deal of attention in the last ten to fifteen years. The impact of the advertisements is more on television than the print media or radio. Children spend a considerable amount of time watching television and this has influence on their dietary behaviours. Almost all of the studies reviewed had been conducted in high income countries (Australia, the US, Europe) with very few (2) from Africa (South Africa). While the literature reviewed is quite conclusive on the influence of TV food advertising on children's dietary behaviour, there is evidence that suggest that the influence of TV food advertising on children's dietary behaviours are confounded by



social, economic and demographic factors which by nature is largely variable across continents. A more significant concern is the lack of such studies in Africa evident in a recent Cochran review (Mosdøl, Lidal, Straumann, & Vist, 2017).



## CHAPTER THREE

### METHODOLOGY

#### 3.1 Study Area

Sagnarigu district is one of the 26 districts in the Northern Region of Ghana. It was carved from the Tamale Metropolitan district in 2012. The population of Sagnarigu district is estimated to be 148,099 (6% of the region's total population). Males constitute 50.6% and females represent 49.4%. The district has an urban population of 93,550, representing 63.2%. The population of the district is youthful (0-14 years) representing 37.5% and depicting a broad base population pyramid which tapers off with a small number (5.9%) of elderly persons (60+ years).

The district has a household population of 146,291 with a total number of 23,447 households. The average household size in the district is 6.3 persons per household. Children constitute the largest proportion of the household composition accounting for 43.3%.

Of the population aged 3 years and above (135,846) in the district, 33.7% have never attended school, 44.7% are currently attending and 21.5% have attended in the past. Among those currently attending school, 13.9% are in nursery, 18.9% in junior high school (JHS), 11.9% in senior high school (SHS), 6% in tertiary and the largest proportion (40.8%) is in primary school. About 60% of the population (11 years and above) are literate (speak and write both English and Ghanaian languages) with a higher literate proportion of males (68.3%) than females (52%) (Ghana Statistical Service, 2014b). The district has about 122 primary schools and houses most of the educational institutions in the region (Sagnarigu District Report, 2016). This makes it a suitable study area especially since the target population are most likely to be in school.





The District has recently witnessed an increase in media activities. Operational radio stations have increased to 32 (NCA, 2017) and free-to-air TV stations from 1 to 6 (GTV, TV Africa, TV3, GH one, VIASAT, UTV) with a considerable jump (from 5 to 9) in newspaper supply vendors (NCA, 2016).

### **3.2 Study design**

The survey was conducted in two parts. The first part of the study was to determine the nature and content (per product label or claim) of TV food advertisement. Cross-sectional study was employed and all advertisements broadcast on the three most watched free-to-air TV stations were recorded over one-week period on a hard disk. The three most watched free-to-air TV stations were determined through a pilot study conducted by the researcher.

The second part of the study was administration of a survey questionnaire to determine children's food preferences and TV watching habits in 8 primary schools in the Sagnarigu district.

### **3.3 Study population**

All free-to-air TV stations in the Sagnarigu district constituted the target population for the first part of the study. At the time of the study, there were 6 free-to-air TV stations in the district: Ghana Television (GTV), TV3 Network Limited (TV3), Television Africa Limited (TV AFRICA), Viasat Broadcasting Limited (VIASAT 1), Multiple Concepts (GH ONE) and U2 Company Limited (UTV). Even though most of the TV stations broadcast content in other Ghanaian languages, the official language of broadcast was English and they operated at least 18 hours per day (05:00-23:00 GMT) (NCA, 2016).



The target population for the second part of the survey consisted of all primary school children between the ages of 9 to 11 years in the Sagnarigu district. Children at this age range have stable self-care activities and have the ability to understand the intent of advertising. (Kennedy, 2000a). The total population of children (9-11) in the district was estimated to be 10,150 with most (63%) of them staying in urban areas. Slightly over 90% of children (9-11) in the district are literate (and in school) with 51% being males (Ghana Statistical Service, 2014b). Most of the children (9-11) were in primary 4 or 5.

### 3.4 Sampling and Sample Size Determination

For the first part of the study, a pilot survey was conducted to identify the three most-watched free-to-air TV stations in the district. Using a convenience sampling, 3 primary schools were selected and all (96) children within the age range (9-11 years) were interviewed. UTV (72), TV3 (56) and GH One (37) were identified as the three most-watched free-to-air TV stations among children (9-11) in the district. These 3 free-to-air TV stations constituted the study population for the first part of the study.



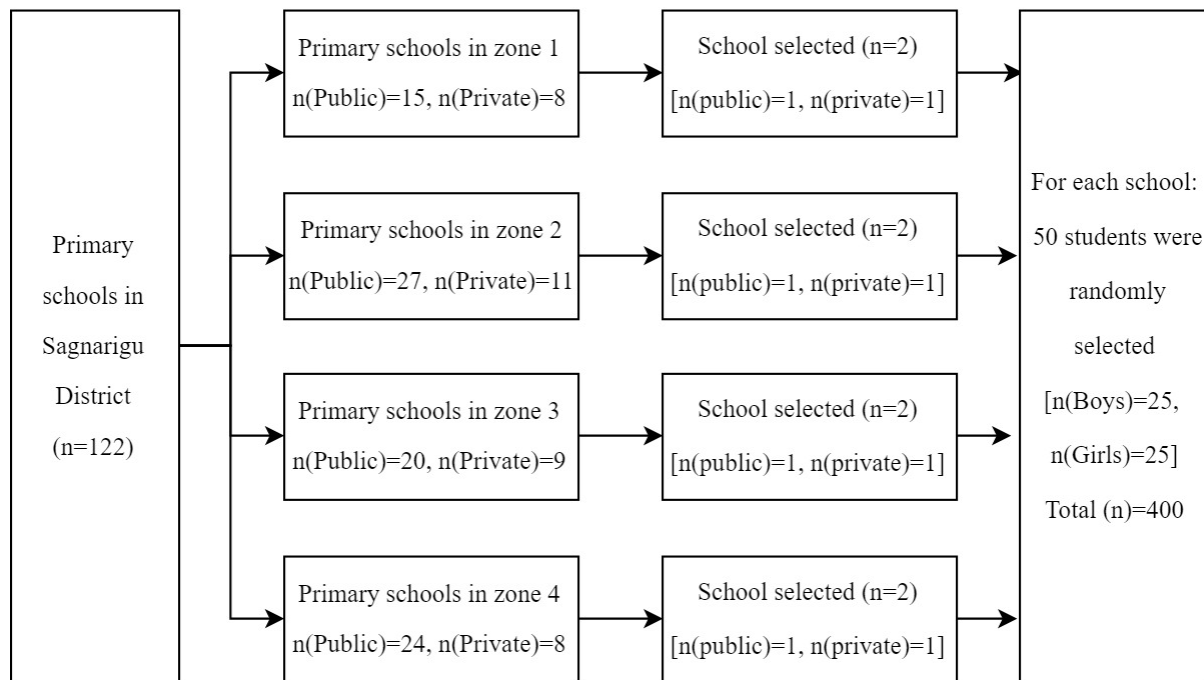
In the second part of the study, the study population was chosen using multistage sampling to select 400 primary school children (9-11 years) in the district. The sample size was based on the formula for calculating sample size in a cross-sectional study (Charan & Biswas, 2013) with an attrition of 4%.

$$N = \frac{z_{1-\frac{\alpha}{2}}^2 * p(1 - p)}{d^2}$$

Where  $p=50%$ ,  $z=1.96$  and  $d=0.05$

$$N = \frac{(1 \cdot 96)^2 * 0.5 * 0.5}{(0.05)^2} = 384.16 \approx 385 + (4\% \text{ attrition}) \approx 400$$

A list of all primary schools (122) was obtained from the district education office. From the obtained list the primary schools were grouped based on their geographical locations (zones). Four zones were identified (Kamina, Bagabaga, Choggu and Gumani). (Sagnarigu District Report, 2016). Using the existing 4 educational zones as clusters, two schools were randomly selected from each cluster (1 public and 1 private). At the school level, simple random sampling was used to select 50 pupils (25 males and 25 females) within the age range of 9-11 years (verified from school register). Figure 1 shows the flowchart of how the schools were selected.



**Figure 3.1: Flowchart of how schools and subjects were selected**

### 3.5 Data Collection Methods

For the first part of the study, TV data was recorded for a period of one week (13<sup>th</sup> – 18<sup>th</sup> March, 2018) from 06:00 to 22:00 GMT each day. TV advertisements are usually scheduled to play once or more per day or once per week. Therefore choosing a week to record TV data was adequate to capture any advertisement that was scheduled to play once a week. The recording week (13<sup>th</sup> – 18<sup>th</sup> March, 2018) was selected to be devoid of any special holidays or events in order to ensure that recorded data represented typical broadcasting session. The recording was digitally done using a USB TV card on three laptops (Appendix VI). Taking advantage of the time schedule function on the USB TV card, the 3 most-watched TV stations (UTV, GhOne, TV3) were simultaneously recorded on a laptop hard disk drive (HDD) and a back-up made at the end of each day on an external HDD. The USB TV card had the option to record TV data in 3 video formats (MPEG1, MPEG2 and AVI uncompressed). After several test, the recording was done in the MPEG2 format at 25 frames per second. This format was chosen as it gave a relatively smaller file size but still retained a higher image quality as compared to the MPEG1 and AVI uncompressed formats. The recorded TV data was imported into adobe premiere pro a software used in video editing. From one frame to another, the start and end of an advertisement was identified and trimmed. All advertisements were then studied and coded for channel, time and type.

An advertisement included ‘any advertisement for a retail food/beverage product, supermarket or restaurant’ (Kelly et al., 2016). For each food advertisement, the main product advertised was identified and coded into one of three categories:



- Core/healthy - those that are recommended to be consumed daily to meet nutrient requirements (<10g fat/100g, <20g sugar/100g, >5g fibre/100g and <900mg sodium/serve);
- Non-core/less healthy; foods that are relatively high in undesirable nutrients such as fat, salt and refined sugar (>10g fat/100g, >20g sugar/100g, <5g fibre/100g and <900mg sodium/serve) or
- Miscellaneous (examples include supplements, lozenges, tea, coffee etc) (Kelly et al., 2010b).

The grouping was done using product nutrient label and when that was not available nutritional information from the company's websites or nutritional claims in the advertisement was used. Advertisements were also coded as broadcast during children's peak or non-peak viewing times. Each food advertisement was coded for the use of persuasive marketing techniques: premium offers (including competitions, giveaways, rebates and vouchers) and promotional characters (including celebrities, sports persons, cartoon characters and spokes/branded characters) (figure 3.2). The coding process was conducted by three trained research assistants and checked for validity by another three trained research assistants.

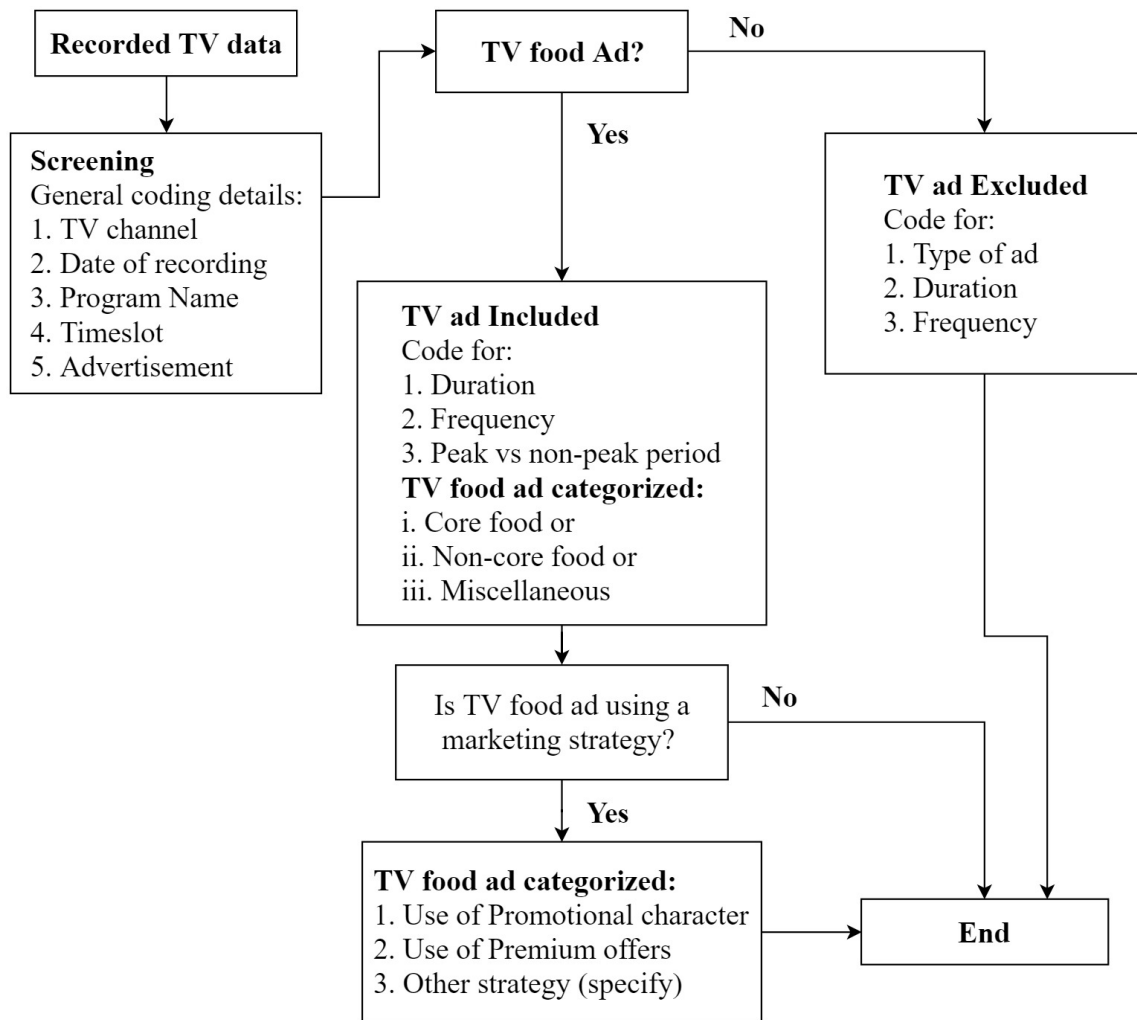


In the second part of the study, a questionnaire was administered to the children. The first section captured data on socio-demographic characteristic including subject's most-watch TV station, time of viewing and duration for both weekdays and weekends. The major exposure variables measured were TV viewing hours per day and peak watching period. The peak watching period was defined as the period when more than 10% of the children were watching TV (Kelly et al., 2016). They were asked the average usual number of hours they spent watching TV during weekdays and weekends. Knowledge on healthy food was also measured.

The children were asked to make a choice between two food type (one healthy and the other less healthy) based on which they considered healthy. A wrong choice is score 0 and a correct choice scored 1. Sum of the scores gave the variable Sum of healthy food choice score.

In the second section of the questionnaire a food preference check list was developed taking into consideration a wide range of advertised foods across a number of TV channels in the district. The questionnaire featured 29 food items. For each food item, the questionnaire had five responses alternative – ‘extremely unwilling’, ‘unwilling’, ‘neutral (neither willing nor unwilling)’, ‘willing’ and ‘extremely willing’ – which was scored from 1 to 5. Liking for a food was defined as a score  $\geq 4$  and disliking as a score  $\leq 3$ . To facilitate responses and understanding, a five-point ‘face scale’ (Appendix III) was used together with the questionnaire. The questionnaire was administered in the respective schools by three trained research assistants.





Ad-advertisement

**Figure 3.2: Flowchart of how TV data was coded**



### 3.6 Data analysis and presentation

All data were entered, cleaned and analyzed using IBM Statistical Package for Social Sciences (SPSS) version 25. Descriptive statistics were used to present data on TV recording and watching characteristics. The nature and content of food advertising was described using the rate of advertisements per channel, putting advertisements into food groups, classifying advertisements based on content, marketing strategy used and time shown (peak vs non-peak

periods). Reliability of indices from the food preference section were evaluated by calculating Cronbach's alpha ( $\alpha$ ). An  $\alpha \geq 0.70$  was considered as a satisfactory internal consistency. The Pearson  $\chi^2$  tests was used to assess association between children's food preferences and exposure to TV food advertisement.

### **3.7 Ethical Consideration**

Ethical approval was obtained from the Navrongo Health Research Centre (APPENDIX IV and V). Administrative approval to conduct the study in the primary schools was sought from the district education office and school administrators. Parents of participants signed a consent form while children gave verbal informed assent prior to the interviews (APPENDIX II and I)





## CHAPTER FOUR

### RESULTS

This chapter presents the findings of the survey on the nature and content of TV food advertising and children food preferences. The findings are presented in two parts. The first part presents findings on TV data recording and the second part presents finding on children's characteristics and food preferences.

#### PART I

##### 4.1 TV advertisement

A total of 336 hours of TV programming was recorded from the three most-watched TV channels (TV3, UTV and GH One) over a period of one week. Overall, 4,551 advertisements were recorded of which 16.7% were for food advertisement. This represented 4.8% of the 7 days TV broadcasting duration. The overall rate of advertising was 14 advertisements per hour while the rate of food advertising was 2 per hour. UTV had the highest rate of food advertising, at 3 food advertisements per hour. Program promotions were the most frequently played advertisement on GH One and TV3, with the exception of UTV, where channel promotion and food advertisement were most frequently advertised. These findings are summarized in Table

4.1.



**Table 4.1: Number, duration and category of advertisements per TV channel per week**

TV channel	Category of advertisement				
	Food	Product*	Channel <sup>+</sup>	Programme <sup>#</sup>	Total
	n (hrs)	n (hrs)	n (hrs)	n (hrs)	n (hrs)
GH One	234 (10.76)	230 (2.14)	161 (1.58)	753 (12.51)	1378 (26.99)
TV3	210 (1.69)	165 (1.89)	641 (9.58)	872 (13.52)	1888 (26.67)
UTV	316 (3.69)	460 (7.12)	338 (2.36)	171 (7.84)	1285 (21.02)
<b>Total</b>	760 (16.13)	855 (11.15)	1140 (13.52)	1796 (33.87)	4551 (74.67)

\*This refers to advertisements of non-food products eg. toilet soap, cars etc.

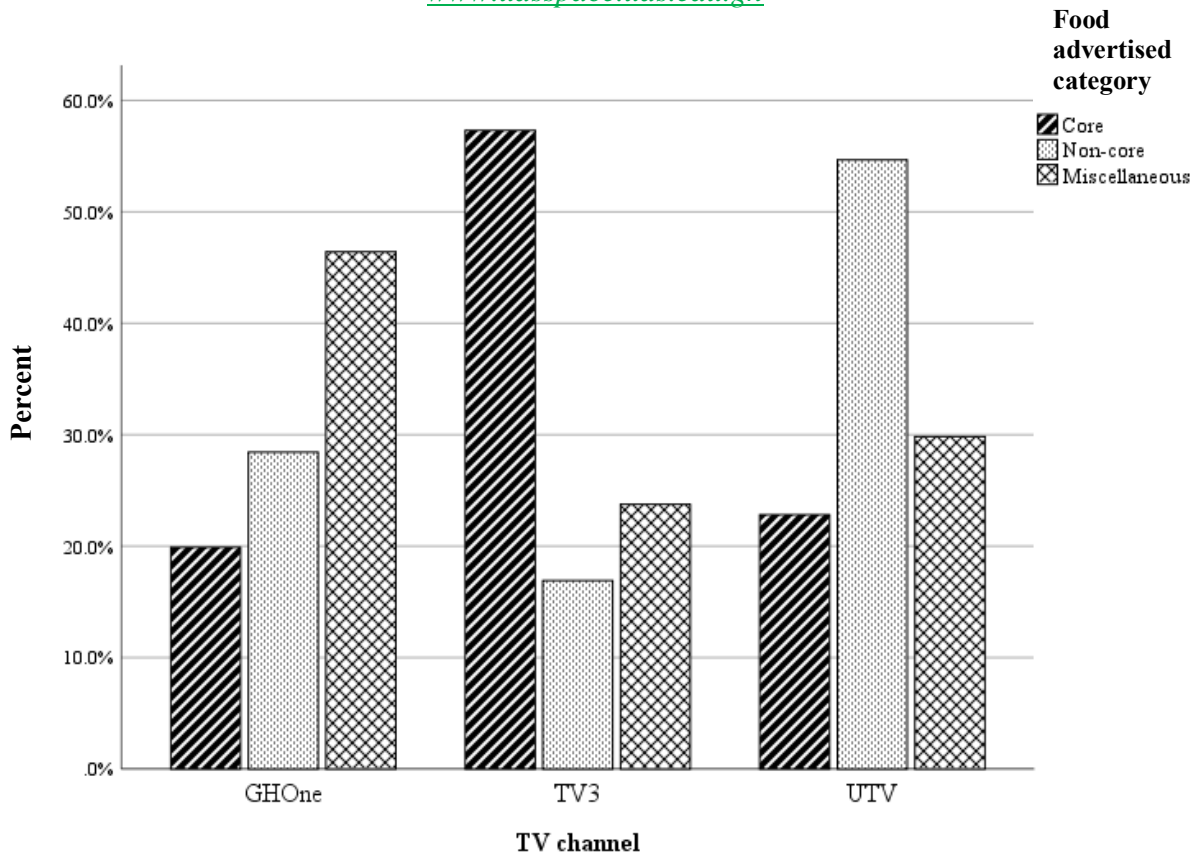
<sup>+</sup>This refers to advertisements that promote the TV station or channel.

<sup>#</sup>This refers to advertisements that promote TV programmes and shows.

#### 4.2 Food-related TV advertisement on free-to-air channels

The most frequently advertised food category was non-core foods, constituting 53.7% of all food advertisements. UTV showed most of the non-core food advertisement while TV3 showed most of the core food advertisements (Figure 4.1). For every 1 core food advertisement, there were 2 non-core food advertisements shown.





**Figure 4.3: Advertised food category per TV channel**

Overall, the most frequent type of food group advertised were sugar sweetened drinks (37.6%), alcoholic beverages (20.6%) and condiments (16.5%). In addition, 9.7% were for starchy staples; 7.4% were for infant and toddler foods; 6.6% were for dairy products, ice cream and medicine (food supplements). The least advertised food related products were spreads (1%), tea and coffee (0.5%) (Table 4.2).



**Table 4.2: Advertised food groups per TV channel**

Advertised food groups	TV Channel				
	% of food group per channel				
	n	% of total food ad	GH One	TV3	UTV
Sugar sweetened drink	299	39.3	29.8	24.7	45.5
Alcoholic beverages	152	20.0	52.6	11.8	35.5
Condiments	122	16.1	34.4	12.3	53.3
Starchy foods	72	9.5	12.5	29.2	58.3
Infant and toddler foods	55	7.2	0.0	78.2	21.8
Medicine (food supplements)	25	3.3	0.0	100.0	0.0
Ice cream	12	1.6	0.0	41.7	58.3
Dairy products	12	1.6	83.3	16.7	0.0
Spreads	7	0.9	0.0	100.0	0.0
Tea and coffee	4	0.5	100.0	0.0	0.0
<b>Total</b>	<b>760</b>	<b>100</b>			



### 4.3 Children’s peak versus non-peak TV viewing times

Children’s peak viewing time was reported to be from 18:00 GMT to 21:00 GMT (Figure 4.2). During children’s peak viewing period, the proportion of both core and non-core food advertisements were significantly lower than non-peak viewing periods ( $p < 0.001$ ) (Table 4.3). However, a slightly higher percentage of alcoholic beverages (53.9%) and infant and toddler foods (54.5%) advertisements are shown during peak viewing period. However, all ice cream, tea and coffee advertisements were shown during children’s peak viewing periods. (Table 4.4)

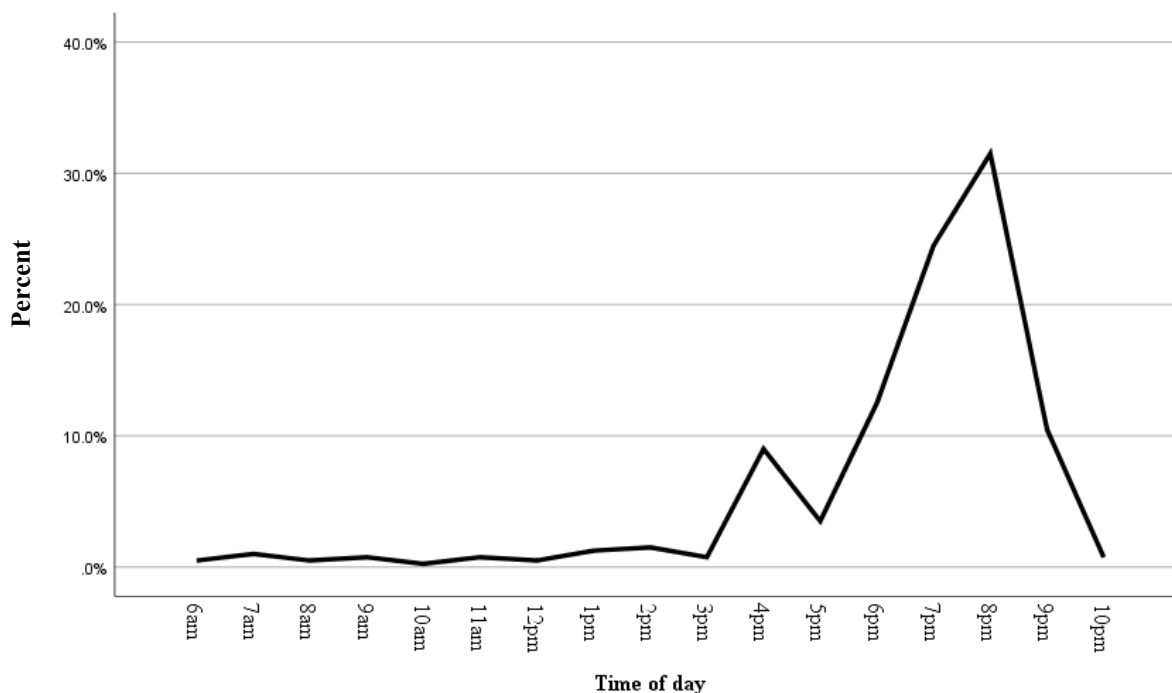


Figure 4.4: Children's peak and non-peak TV viewing period

Table 4.3: Category of food advertisement shown during peak and non-peak periods

Ad food category	Peak n (%)	Non-peak n (%)	Total n (%)	$\chi^2$	p-value
Core	74 (43.3)	97 (56.7)	171 (100)	16.12	$p < 0.001$
Non-core	145 (35.5)	263 (64.5)	408 (100)		
Miscellaneous	96 (53.0)	85 (47.0)	181 (100)		
<b>Total</b>	<b>315 (41.4)</b>	<b>445 (58.6)</b>	<b>760 (100)</b>		



**Table 4.4: Advertisement of food groups during peak and non-peak periods**

Ad food category	Ad food groups	Watching period	
		Peak n (%)	Non-peak n (%)
Core	Dairy products	2 (16.7)	10 (83.3)
	Infant and toddler formula	30 (54.5)	25 (45.5)
	Sugar sweetened drink	42 (40.4)	62 (59.6)
Non-core	Condiments	31 (25.4)	91 (74.6)
	Ice cream	12 (100.0)	0 (0.0)
	Spreads	2 (28.6)	5 (71.4)
	Starchy foods	12 (16.7)	60 (83.3)
Miscellaneous	Sugar sweetened drink	88 (45.1)	107 (54.9)
	Alcoholic beverages	82 (53.9)	70 (46.1)
	Medicine (food supplements)	10 (40.0)	15 (60.0)
	Tea and coffee	4 (100.0)	0 (0.0)

#### 4.4 Persuasive marketing techniques used on free-to-air TV

Overall, only 3.9% of food advertisements contained promotional characters. No food advertisement on the three channels used premium offer as a persuasive technique. The proportion of promotional characters in food advertising were significantly higher during non-peak periods than peak periods ( $p < 0.05$ ). Promotional characters were heavily used in sugar sweetened drinks (57.3%) and UTV (58.3%) showed the most advertisements with promotional characters. In addition, the majority of advertisements using promotional characters were for non-core foods (60%) (Table 4.5). Food advertisements that were grouped into the dairy



product, infant and toddler formula, spreads, alcoholic beverages, tea and coffee, and medicine did not use any of the two marketing strategy. Most of the advertisements which did not use any of the two strategy just had ‘common people’ (people who are not popular) using the advertised product or shown how to use it.

**Table 4.5: Use of promotional character in food advertising per TV channel and watching period**

Ad food group	Promotional character per channel per watching period				
	TV channel			Watching period	
	GH One	TV3	UTV	Peak	Non-peak
	n (%)	n (%)	n (%)	n (%)	n (%)
Dairy products	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
Infant and toddler formula	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
Condiments	0 (0.0)	15 (24.6)	46 (75.4)	22 (36.1)	39 (63.9)
Ice cream	0 (0.0)	5 (41.7)	7 (58.3)	12 (100)	0 (0.0)
Spreads	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
Starchy foods	0 (0.0)	5 (25.0)	15 (75.0)	0 (0.0)	20 (100)
Sugar sweetened drink	28 (22.4)	38 (30.4)	59 (47.2)	49 (39.2)	76 (60.8)
Alcoholic beverages	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
Medicine	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
Tea and coffee	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)



**PART II**

**4.5 Children’s demographic characteristics**

A total of 400 children (200 boys, 200 girls) participated in the survey with a mean (SD) age of 10 (0.8) years. There was no difference in age between boys and girls. Most of the children were Muslims (51.2%). The most common household asset reported by the children were mobile phones (98.0%) and electric fan (97.5%). On the other hand, sewing machine (41%), LCD TV (53.3%) and car (53.3%) were the least household asset reported by the children. About 40% of the children were categorized as having low wealth index and 60% categorized as having high wealth index. Children in private schools had significantly larger proportion of households with higher wealth index than children in public schools ( $p < 0.001$ ).

The mean (SD) family size of the sample population was 7 (2) (range: 2-24). However, the mean (SD) family size of children in private schools 6 (3) was significantly ( $p < 0.05$ ) less than children in public schools 7 (2). Subject characteristics are summarized in Table 4.6.

**Table 4.6: Socio-demographic characteristics of participating school children**

Characteristics	Type of school			
	Public		Private	
	n (%)	mean (SD)	n (%)	mean (SD)
Age (years)		10 (0.7)		10.0 (0.8)
Family size		7 (2)		6 (3)
Religion	Christian	36 (45.0)		44 (55.0)
	Muslim	164 (51.2)		156 (48.8)
Wealth index (WI)	Low WI	104 (65.4)		55 (34.6)
	High WI	96 (39.8)		145 (60.2)





#### 4.6 TV watching habit of participating school children

Overall, TV3, UTV and GH One were the most watched free-to-air TV channels (figure 4.5). Movies including telenovelas and soap operas (57.5%) were the most watched programs. This was followed by cartoons (17.5%), news (12.8%), talk shows (9.3%) and sports (3%). Children from private schools spent more time watching movies and news than children from public schools. On the other hand, public school children spent more time watching cartoons, sports and talk shows than private schools children. In terms of gender, more boys than girls reported watching cartoons, movies and talk shows. A higher number of children from household with high wealth index watch cartoons, movies and talk shows than children with low wealth index. These findings are summarized in Table 4.7.

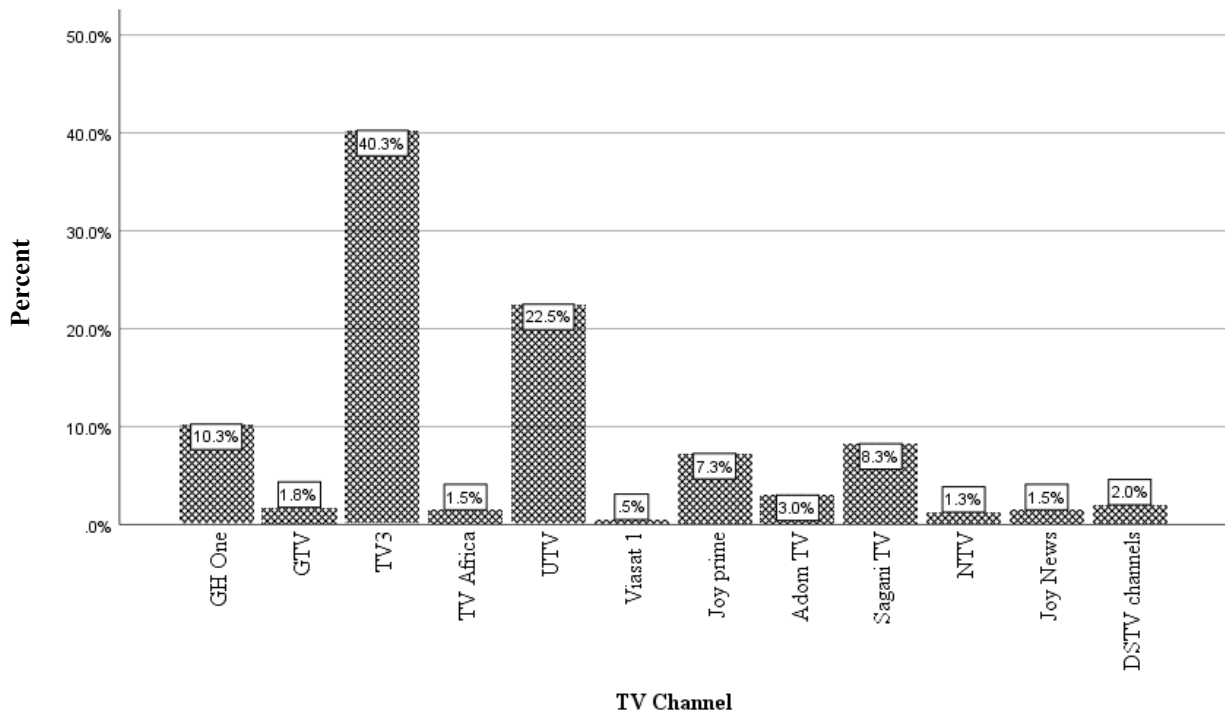


Figure 4.5: TV channel rating (most watched) by respondents



**Table 4.7: Distribution of TV programs per school type, gender and wealth index**

TV program category	School Type		Sex		Wealth Index (WI)	
	Public	Private	Boys	Girls	Low WI	High WI
	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)
Cartoons	36 (51.4)	34 (48.6)	37 (52.9)	33 (47.1)	28 (40.0)	42 (60.0)
Movies	110 (47.8)	120 (52.2)	117 (50.9)	113 (49.1)	83 (36.1)	147 (63.9)
News	23 (45.1)	28 (54.9)	20 (39.2)	31 (60.8)	28 (54.9)	23 (45.1)
Sports	9 (75.0)	3 (25.0)	5 (41.7)	7 (58.3)	3 (25.0)	9 (75.0)
Talk shows	22 (59.5)	15 (40.5)	21 (56.8)	16 (43.2)	17 (45.9)	20 (54.1)

The sample population spent an average (SD) of 16.5 (8.3) hours per week watching TV giving an average (SD) TV viewing time of 2.4 (1.2) hours daily with no significant difference in sex (boys = 2.4 (1.2), girls = 2.3 (1.2):  $p=0.726$ ). However, private school children spent significantly more hours 11.4 (6.9) watching TV during weekdays compared to children in public schools 9.7 (5.3) ( $p<0.05$ ). TV viewing was also more intense during weekend 3.0 (1.8) compared to weekdays 2.1 (1.2) ( $p<0.05$ ). Children from household with high wealth index spent significantly more time per day 2.5 (1.3) watching TV than children from households with low wealth index 2.1 (0.95) ( $p<0.05$ ).



#### 4.7 Food choice of participating children

Among the 400 children that participated in the survey, the mean (SD) score for the variable “sum of healthy food choice” was 1.53 (1.29) with 23.5% having a minimum score of 0 and 2% having a maximum score of 5. Even though mean (SD) scores for boys 1.58 (1.37) was slightly higher than girls 1.48 (1.21), this was not statistically significant ( $p = 0.462$ ) (Table 4.8). In addition, mean scores for children in public schools (1.60) were slightly higher than mean scores of children in private schools (1.46) but the difference was not significant ( $p = 0.296$ ). There was also no significant difference ( $p = 0.820$ ) between the scores of children from household with low wealth index 1.51 (1.24) and household with high wealth index 1.54 (1.32). Private school children showed a higher score for the sum of healthy food choice than public school children with regards to sugar, noodles and milk intake. In contrast, public school children performed significantly better than private school children with regards to healthier food choice in fruits and rice intake. These findings are summarized in Table 4.8.



**Table 4.8: Mean scores of healthy food choice items by sex and school type**

Food choice variable	Mean (SD)		<i>p</i> -value
	Boys	Girls	
Sugar score	0.37 (0.48)	0.33 (0.47)	0.464
Milk score	0.28 (0.45)	0.29 (0.46)	0.659
Fruit score	0.51 (0.5)	0.45 (0.5)	0.231
Noodle score	0.21 (0.41)	0.26 (0.44)	0.239
Rice score	0.21 (0.41)	0.14 (0.35)	0.089
ΣHealthy food choice score	1.58 (1.37)	1.48 (1.21)	0.462
	Public	Private	
Sugar score	0.33 (0.33)	0.37 (0.48)	0.464
Milk score	0.27 (0.27)	0.3 (0.46)	0.508
Fruit score	0.56 (0.56)	0.41 (0.49)	0.005
Noodle score	0.23 (0.23)	0.24 (0.43)	0.638
Rice score	0.22 (0.22)	0.13 (0.34)	0.026
ΣHealthy food choice score	1.59 (1.59)	1.46 (1.28)	0.296



#### 4.8 Children's food preferences

The Cronbach's alpha, calculated for 29 food items for the entire sample of children was 0.84. This exceeded the threshold for acceptability set at 0.70. The three most highly preferred food items were fan yogo, indomie instant noodles and cowbell milk. While the three least preferred food items were club beer, kasapreko alomo bitters and adonko bitters (Table 4.9).

**Table 4.9: Preference scores of advertised food items in questionnaire**

Food items	Median	Mean	Food items	Median	Mean
Fan yogo	5	4.45	Malta guinness	4	3.90
Indomie noodles	5	4.43	Sultana rice	4	3.90
Cowbell milk	5	4.39	Lacasera drink	4	3.89
Fan dango	5	4.38	Run energy drink	4	3.21
Ideal milk	5	4.37	Rush energy drink	4	3.11
Kalipo drink	5	4.31	Five star energy	4	3.05
Coca cola	5	4.30	Storm energy drink	3	2.94
This way drink	5	4.30	Rox energy drink	3	2.90
Fanice	5	4.21	Blue jeans	2	2.66
Frutelli drink	5	4.20	Star drink	1	1.70
Beta malt	4	4.17	Guinness drink	1	1.68
Giant malt	4	4.15	Club beer	1	1.48
Tampico drink	4	4.13	Kasapreku Alomo	1	1.43
Milo drink	4	4.05	Adonko bitters	1	1.39
Alvaro drink	4	3.98			



Food items on the preference questionnaire were categorized into different food groups in order to explore the pattern of children’s food preferences. Each participant food group score was determined by calculating the mean of the liking scores of the food items in each group. These groups were sugar-sweetened beverages (11 items;  $\alpha = 0.70$ ), energy drinks (6 items;  $\alpha = 0.88$ ), Ice cream (3 items;  $\alpha = 0.54$ ), dairy products (2 items;  $\alpha = 0.65$ ), alcoholic beverages (5 items;  $\alpha = 0.89$ ) and starchy food (2 item;  $\alpha = 0.18$ ). The Cronbach’s alpha for 3 of the food groups were below the acceptable set value (0.70). However this was still acceptable because Lorio (2015) established the fact that for constructs with fewer items, 0.70 should not be the only standard to assess reliability since lower values actually demonstrate high inter-relatedness among items (Lorio, 2005).

**Table 4.10: Grouping of preference food items and Crobach’s alpha**

Food groups	Food items in group	Mean
Sugar sweetened beverages	Kalipo drink, Coca cola, This way drink, frutelli, Beta malt, Giant malt, Tampico drink, Milo, Alvaro, Malta guiness, Lacasera drink	4.12
Energy drinks	Run energy drink, Rush energy drink, five star energy drink, storm energy drink, Rox energy drink, Blue jean energy drink	2.98
Ice cream	Fanyogo, Fandango, Fanice	4.34
Dairy products	Cowbell milk, Ideal milk	4.38
Alcoholic beverages	Star drink, Guinness drink, Club beer, Kasapreku alomo bitters, Adonko bitters	1.54
Starchy foods	Indomie instant noodles, Sultana rice	4.16



Dairy products and ice cream were the most liked followed by starchy foods and sugar sweetened beverages. The least preferred food type was alcoholic beverages. There were no gender differences in liking for any of the category items except for energy drinks. Liking for energy drinks was significantly higher for boys than girls ( $p < 0.05$ ) (Table 4.11). In addition, liking for energy drink was significantly higher for children in private schools than public ( $p < 0.001$ ). Again, liking for energy drinks, starchy foods and alcoholic beverage were significantly higher for children from households with low wealth index than children from households with high wealth index. There was no significant difference in liking for any of the food groups with respect to how long a child watches TV (Table 4.12).

**Table 4.11: Mean liking for each food group per school type**

Food groups	Mean (SD)	Mean (SD)	<i>p</i> -value
	Boys	Girls	
Sugar sweetened drinks	4.1(0.59)	4.1(0.54)	0.562
Energy drinks	3.1(1.18)	2.8(1.28)	0.033
Ice cream	4.3(0.69)	4.3(0.73)	0.907
Dairy products	4.4(0.72)	4.3(0.86)	0.312
Alcoholic beverage	1.5(0.8)	1.6(0.94)	0.177
Starchy foods	4.2(0.83)	4.1(0.85)	0.512



**Table 4.12: Mean liking for each food group per gender and wealth index**

Food groups	Mean (SD)		<i>p</i> -value
	Public	Private	
Sugar sweetened drinks	4.1(0.56)	4.1(0.57)	0.711
Energy drinks	3.3(1.1)	2.6(1.27)	0.000
Ice cream	4.3(0.74)	4.4(0.69)	0.727
Dairy products	4.4(0.80)	4.3(0.78)	0.411
Alcoholic beverage	1.6(0.9)	1.4(0.83)	0.014
Starchy foods	4.1(0.89)	4.2(0.78)	0.311
	<b>Low wealth index</b>	<b>High wealth index</b>	
Sugar sweetened drinks	4.2(0.55)	4.1(0.57)	0.340
Energy drinks	3.4(1.14)	2.7(1.23)	0.000
Ice cream	4.4(0.75)	4.3(0.69)	0.745
Dairy products	4.5(0.78)	4.3(0.79)	0.054
Alcoholic beverage	1.7(1.07)	1.4(0.70)	0.002
Starchy foods	4.3(0.84)	4.1(0.83)	0.007
	<b>Low TV exposure</b>	<b>High TV exposure</b>	
Sugar sweetened drinks	4.1(0.57)	4.1(0.56)	0.727
Energy drinks	3.0(1.22)	3.0(1.25)	0.741
Ice cream	4.3(0.77)	4.3(0.67)	0.882
Dairy products	4.4(0.81)	4.4(0.77)	0.975
Alcoholic beverage	1.6(0.93)	1.5(0.82)	0.634
Starchy foods	4.1(0.90)	4.2(0.77)	0.487





#### 4.9 TV exposure and food preferences

In order to establish an association, a chi-square test of independence was calculated comparing the frequency of food preference (healthy and less healthy) against the children's age, gender, type of school, wealth index, duration of TV exposure and sum of healthy food choice scores. The results revealed that the association between preference for food advertised (either healthy or less healthy) on TV and school type, age, gender and duration of TV exposure was not statistical significant (Table 4.13 and 4.14). However, a significant association was found between preference for food advertised on TV and household wealth index of the children. Children from households with low wealth index were more likely to prefer healthy (78.6%) foods advertised on TV than children from household with high wealth index. On the other side, children from household with high wealth index were more likely not to prefer less healthy (93.8%) foods advertised on TV than children from household with low wealth index. Children in public schools were more likely to prefer advertised foods (41.5%) than children in private schools (26%). A strong association was also found between preference for healthy food advertised on TV and sum of healthy food choice score. Children with low scores were more likely to prefer healthy (74.8%) food advertised on TV than children with high healthy food choice score. In addition, a significant association was found between preference for healthy food advertised on TV and family size of respondents. Children from large family size (77%) were more likely to prefer healthy food advertised on TV than children from small family size (67.3%) (Table 4.13).



**Table 4.13: Bivariate analysis of healthy food preference by school type, age, gender, family size, wealth index, TV exposure and healthy food choice score**

Variables	Healthy food preference, n		n = 400		
	(%)		df	Test statistic	
	Not prefer	Prefer		$\chi^2$	p-value
<b>School type</b>					
Public	53 (26.5)	147 (73.5)	1	0.785	0.376
Private	61 (30.5)	139 (69.5)			
<b>Age (years)</b>					
9	31 (30.1)	72 (69.9)	2	0.251	0.882
10	43 (28.7)	107 (71.3)			
11	40 (27.2)	107 (72.8)			
<b>Gender</b>					
Boys	54 (27.0)	146 (73.0)	1	0.442	0.506
Girls	60 (30.0)	140 (70.0)			
<b>Wealth index (WI)</b>					
Low WI	34 (21.4)	125 (78.6)	1	6.558	0.010
High WI	80 (33.2)	161 (66.8)			
<b>TV exposure</b>					
Low (<2hrs/day)	56 (29.5)	134 (70.5)	1	0.168	0.682
High ( $\geq$ 2hrs/day)	58 (27.6)	152 (72.4)			
<b><math>\Sigma</math>Healthy food choice</b>					
Low score (<3)	79 (25.2)	235 (74.8)	1	7.999	0.005
High score ( $\geq$ 3)	35 (40.7)	51 (59.3)			
<b>Family size</b>					
Small size (<7)	74 (32.7)	152 (67.3)	1	4.591	0.032
Large size ( $\geq$ 7)	40 (23.0)	134 (77.0)			



**Table 4.14: Bivariate analysis of less healthy food preference by school type, age, gender, family size, wealth index, TV exposure and healthy food choice score**

Variables	Less healthy Food preference, n (%)		df	Test statistic	
	Not prefer	Prefer		$\chi^2$	<i>p</i> -value
<b>School type</b>					
Public	181 (90.5)	19 (9.5)	1	0.030	0.863
Private	182 (91.0)	18 (9.0)			
<b>Age (years)</b>					
9	93 (90.3)	10 (9.7)	2	0.333	0.847
10	135 (90.0)	15 (10.0)			
11	135 (91.8)	12 (8.2)			
<b>Gender</b>					
Boys	184 (92.0)	16 (8.0)	1	0.745	0.388
Girls	179 (89.5)	21 (10.5)			
<b>Wealth index (WI)</b>					
Low WI	137 (86.2)	22 (13.8)	1	6.613	0.010
High WI	226 (93.8)	15 (6.2)			
<b>TV exposure</b>					
Low (<2hrs/day)	171 (90.0)	19 (10.0)	1	0.243	0.622
High ( $\geq$ 2hrs/day)	192 (91.4)	18 (8.6)			
<b><math>\Sigma</math>Healthy food choice</b>					
Low score (<3)	282 (89.8)	32 (10.2)	1	1.541	0.214
High score ( $\geq$ 3)	81 (94.2)	5 (5.8)			
<b>Family size</b>					
Small size (<7)	210 (92.9)	16 (7.1)	1	2.915	0.088
Large size ( $\geq$ 7)	153 (87.9)	21 (12.1)			



## CHAPTER FIVE

### DISCUSSION

This chapter discusses the major findings of the survey on the nature and content of TV food advertising and children's food preferences. The results are discussed with references to each objective.

#### 5.1 Summary of Key Results

The purpose of the study was to explore the nature and content of television food advertising and children's food preferences. A number of research questions were formulated. The first two research questions were to find out the frequency and content of food-related TV advertising targeted at children in Ghana. The third was to determine which marketing strategies were used by the food-related TV advertisers to influence children. While the last one explored was if there was an association between duration of TV exposure and preferences for the advertised product.

Overall, 4,551 advertisements were recorded of which 16.7% were for food. This gave an overall rate of 14 advertisements per hour whilst the rate of food-related advertising was 2 food advertisements per hour.

The findings for the content of foods advertised revealed that the most frequently advertised food content category was non-core foods (high in fat, salt and sugar), constituting 53.7% of all food advertisements.

With regard to the third research question, the results revealed that only 3.9% of food advertisements used promotional characters as a marketing strategy and this was used



significantly during non-peak period (when less children are watching TV). No food advertisement used premium offer as a persuasive strategy.

To explore the association between duration of TV exposure and preference for the advertised product, a Pearson's chi-square test of independence was calculated. The results revealed that the association between duration of TV exposure and preference for the advertised product was not of statistical significance.

## **5.2 Frequency of food-related TV advertising targeted at children**

Analysis of the results revealed that children watch on average 2.4 hours of television per day. This observation is in line with a survey conducted in 9 European countries (Austria, Belgium, Denmark, Iceland, Netherlands, Norway, Portugal, Spain and Sweden) to explore exposure to food commercials on TV. Most of the respondents in the European study were primary school children of mean age 11 years. The survey reported a similar average duration (2.3 hours) of TV exposure per day (Klepp et al., 2007). The results in the current study is also consistent with another study conducted to measure children's exposure to food advertising on TV. The children in the study were between the ages of 6-11 years. The results indicated that children spend 2.4 hours per day watching TV (Andreyeva et al., 2011). The observed similarity suggest that on the average children who are exposed to TV are most likely to watch more than the recommended duration advised by the American Academy of Pediatrics. Due to potential negative health effects of television viewing on young people including aggressive behaviour, decreased school performance and obesity, the Academy recommended that children should watch no more than 2 hours of television per day (American Academy of Pediatrics, 2001).

In the current study, analysis of the results indicated that children who watch TV3, GH One and UTV are exposed to approximately 4,551 advertisements per week of which 16.7% were



for food-related advertisement. The observed figure in the current study is relatively lower compared to previous studies. In one of such studies conducted in China by six independent research teams to measure children's exposure to TV food advertising, TV data was recorded for 4 days (two weekdays and two weekend days). The results indicated that 37,789 advertisement were identified from 5 different TV channels of which 27% were food-related (Kelly et al., 2016). In another similar study measuring children's exposure to the use of persuasive marketing technique in Australia, TV data was recorded from dedicated children's channel. The results indicated that over a quarter of the total advertisement seen by children were food related (Kelly, Hattersley, King, & Flood, 2008a). This observed proportional difference between the current study and previous studies above might be due to the fact that the current study recorded TV data from channels that were not dedicated to children. In Ghana there are no free-to-air dedicated children channels. The few that are available are on paid satellite TV. In addition China and Australia are considered developed countries and probably have more food manufacturing companies that can afford to advertise on TV than Ghana has. Nevertheless the observed potential high volume of unhealthy food advertisements in the current study could have irreversible impact if policy makers do not act in time.

The ultimate aim of food advertising regulations should be to minimize the impact of the promotion of less healthy food on children, whereby 'impact' refers to both the extent (rate) of exposure and the power (marketing techniques) of advertising (WHO, 2012). Evidence from other studies (Hoffmann, 2014) highlight the positive impact that meaningful government regulations can have on reducing children's exposure to unhealthy food marketing. Hence, the need for government of Ghana to introduce restrictions to control unhealthy food marketing before their irreversible impacts are felt.



### 5.3 Content of food-related TV advertising targeted at children in Ghana

In the current study the rate of advertisement of non-core foods/beverages was highest during children's non-peak viewing times for all channels. This observation in the current study contradicts the findings of Klepp et al, (2007) and Kelly et al.(2008). Both studies reported high frequency of non-core foods advertising during children's peak viewing times. This observed difference of high rate of advertisements shown during children's non-peak viewing periods could suggest that advertisers on the three TV channels probably do not have information about TV viewing behaviours of children in Ghana. However, if such information is available, then advertisers on the three TV channels are probably targeting children indirectly through their parents. The observed difference could also be due to the fact that placing advertisement at children's peak viewing period which happens to be prime time for the 3 TV stations is expensive. Most advertisers might not be able to afford to place their advertisement their advertisement during that period.

The analysis of the results also revealed that a child watching television may be exposed to one unhealthy food or beverage advertisement every 9 minutes on TV3, 5 minutes on GH One and 3 minutes on UTV. This compares with children seeing one healthy food or beverage advertisement every 10 minutes on TV3, 28 minutes on GH One and 25 minutes on UTV. This suggest that TV3 at the time of the study was a relatively good TV channel for children since it showed less of unhealthy but more of healthy foods and beverages advertisements. The most frequently advertised food type across all channels was sugar-sweetened drinks. Previous research have implicated the consumption of high levels of sugar drinks as a probable causal factor in weight gain and obesity in children (Armstrong et al., 1998; Proctor et al., 2003; Walker, Gregory, Bradnock, & Al., 2000; WHO, 2003). In one of such studies conducted in



Sudan, primary school children of mean age of 11.7 years were studied prospectively for 19 months. The findings showed that for each additional serving of sugar-sweetened drink consumed, both body mass index and frequency of obesity increased (Ludwig, Peterson, & Gortmaker, 2001).

#### **5.4 Marketing strategies used by food-related TV advertisers to influence children**

None of the food related advertisements on the three TV channels used premium offer as a marketing strategy. The use of promotional character was mainly used but this was most prevalent during non-peak viewing times. This observation with regards to the use of promotional character is in line with previous studies. In one such study to measure children's exposure to the use of persuasive marketing within television food advertisements, the results indicated that 21.9% of food advertisements used promotional characters as against 5.9% for premium offers (Kelly, Hattersley, King, & Flood, 2008b). In another study involving 13 research groups, they compared television food advertising to children in several countries (Australia, Asia, Western Europe and North and South America). The collaborative study reported a higher use of promotional characters (23%) against premium offers (12%) (Kelly et al., 2010a). This observed similarity of the heavy use of promotional characters by advertisers is informed by consumer research studies. The endorsement of food products by promotional characters are used to attract children's attention and persuade them to request or buy an advertised product. The use of characters in television advertisements, particularly cartoons, attracts children's attention, creates positive attitudes toward products, and improves children's product recall (Shuja et al., 2016). Even though behavioural outcomes, such as purchasing requests, have been shown to be modified by premium offers, the economic implication on the manufacturer mostly poses the challenge to use premium offers as a long standing marketing





strategy (McGinnis et al., 2006). This is probably the reason why none of the advertisement recorded in the current study did not use premium offer as a marketing strategy. The observed similarity contributes to support evidence for managerial implication. Advertisers who have children as their primary target should employ promotional or animated characters in their commercials to achieve marketing objectives such as brand liking, recognition and preference.

### **5.5 Association between children's exposure to TV food-related advertisement and food preferences**

Grouping the 29 food items on the preference questionnaire into 7 categories provided a more detailed picture of differences in school type, gender, wealth index and duration of TV exposure in relationship with preference for healthy or less healthy foods advertised on TV. Cronbach's alpha for most of the categories were high, indicating that reliability was consistent within categories. Fatty and sugary food category were the most liked. This is largely consistent with previous findings (Kelly et al., 2010a; Skinner, Carruth, Bounds, & Ziegler, 2002) where fatty and sugary foods were most preferred among children. Among such studies is a study conducted in 2004 to examine the developmental pattern of food preference among British school children aged from 4 to 16 years. The study reported that the ten most highly rated food items were all sugary foods (Cooke & Wardle, 2005). In the current study sex differences in preferences for food was observed for only two categories (energy drink and alcoholic beverages). Boys showed a greater liking for energy drinks and dairy products than girls. Previous research has documented healthier food choices among girls when compared with their male peers (Armelle, 2001; Lien, Lytle, & Klepp, 2001; Robinson & Thomas, 2004). In one of such research conducted in 1999 to examine the pattern of child and adolescent consumption of fruit and vegetables it was reported that girls had a greater liking for fruit and



vegetables than boys, and boys gave higher ratings to fatty & sugary foods, meat, processed meat and eggs than girls (Reynolds et al., 1999). This observed pattern was probably well explained by Wardle and his friends when they report that the greater liking for energy dense foods among boys than girls may be serving an adaptive purpose since boys energy requirements are greater than girls (Wardle et al., 2004). It therefore appears that boys have less healthful food preferences than girls and interventions should be mindful of the need to target messages appropriately.

The current study showed no significant association between duration of TV exposure and preference for either healthy or less healthy foods advertised on TV. This finding however is not supported by previous studies that have reported significant association between levels of TV watching and preference for the advertised product. Using an experimental design, 133 children between the ages of 5 to 11 were studied to elicit the effects of food marketing on children's preferences. The results indicated that exposure to food commercials increased children's preferences for the advertised product (Chernin, 2008). In another study conducted in UK, 37 children between the ages of 11 to 13 were studied to find the effect of television food advertisements on food preference. It was concluded that more exposure to TV commercials does not only affect food preference but increases the demand for advertised products among the children (Halford et al., 2008). The observed difference in significance of association in the current study compare to the previous studies above could be probably attributed to the study design used. Both earlier studies used somewhat of an experimental design which gave more control than the current survey. In addition, while the current study was trying to measure preference for 29 food items the previous studies measured 1 to 10 food items advertised in their experimental group. The characteristic nature of the study participants



could also be a probably reason for the observed differences. In the first experimental study, the children were Kindergarteners to fourth-graders (4 to 10 years). Piaget classify children in this age bracket to be in the preoperational stage and finds it difficult to see another person's point of view (Gunter et al., 2004). Children at this age lack knowledge of persuasive intent and are inherently more perusable than older children (Oates, Blades, Gunter, & Don, 2016). However, same cannot be said for the second study that dealt with children in the same age group as the current study. This probably kicks in the possibility of the structure of the food market surrounding the respondents. Food items in the UK are mostly sold in grocery store and supermarkets. The advertised products on TV are seen the same way in the grocery stores and supermarket making identification and demand an easy choice. The current study is conducted in Northern Ghana and grocery stores and supermarkets are not common. Most of the product advertised on TV are sometimes repacked by retailer. For example Milo is repackage by retailer by tiring them in small sizes in a rubber. This does not reinforce the concentration of advertisement as the product is not seen as it was advertised.

On the other hand, the results in the current study is consistent with few studies that found such association to be inconsistent or statistically not significant. In one of such studies conducted in California, 588 children were studied to examine the relationship between children's television viewing and physical fitness. Additional measures included preference and the results indicated that children's TV viewing was weakly and inconsistently related to various components of physical fitness (Armstrong et al., 1998). In another study to explore the relationship among television watching, physical activity and body composition of young people, the results showed an association that was statistically not significant between



television watching and preference for the advertised product (DuRant, Baranowski, Johnson, & Thompson, 1994).

### 5.6 Secondary findings

The findings in this current research did not establish a significant association between healthy food choice score and preference for healthy or less healthy foods advertised on TV. This finding provide additional evidence to support the many empirical studies that have indeed shown that providing information and education alone (the major policy strategy of recent decades), fails to successfully decrease the effects of advertising on children (Brownell & Cohen, 1995; Kennedy, 2000b). Hence the conscious need to go beyond informational approaches. A more promising policy approach is probably prescribed in the behavioural economics literature “Nudging” (Thaler & Sunstein, 2008). The strategy is for parents and caretakers to be aware of their decisive role as “choice architects” and as ‘artisans’ who guide their children’s selections by regularly offering healthful and attractive food and limiting their exposure to television and other sedentary behaviours. Hence, the old WHO motto “making the healthy choice the easy choice” should be reassessed and taken more seriously by everyone responsible for children’s diet (WHO, 2012).



The results from the study reveals that a strong association exist between wealth index and preference for healthy or less healthy food advertised on TV. This explains an important influence of socio-economic and parents’ or care providers’ income level in children’s food preference. Children with high wealth index had significant preference for less healthy food advertised on TV. This observation is in line with previous reports identifying children with high household wealth index at greatest risk of becoming obese because of their dietary choices

and high preference for less healthy advertised food. One of such studies which explored the influence of the home environment on the development of obesity in children reported a significant interaction between socioeconomic factors and obesity (Strauss & Knight, 1999).

### 5.7 Limitations

The current study was a cross-sectional study, in which the nature and content of TV food advertising and children's food preference were evaluated simultaneously. It certainly cannot be concluded that the association found in the current study shows causality.

Children characteristics and preference responses were collected using a questionnaire administered by trained research assistants. Reactivity of children has been a concern with observational and assisted survey methods. The children could have changed their preference behaviour because of the presence of the researcher. Therefore little time was allowed for the research assistants to interact with the children in the classroom environment and assured them it was not an examination. This however, does not eliminate the limitation of reactivity completely.

Duration of TV exposure was measured by asking the children their regular TV watching behaviour. This information could potentially be affected by recall bias. TV data was recorded on laptops at 25 frames per second and duration of each advertisement was determined using Adobe premiere pro. This process could potentially result in one or more frames (25 frames per second) missed during the cutting process thereby affecting total duration of exposed content. A recut on another timeline in premiere pro by another editor and time duration compared is the best way to overcome this problem. However, due to limited time, a recut could not be done since the first cut took 6 weeks to complete.



## 5.8 Conclusion

This aim of the study was to determine the nature and content of TV food advertising and children's food preferences. The following conclusions were drawn in line with the specific objectives of the research:

- Free-to-air TV channels are showing potentially high volumes of less healthy food advertisements.
- Most of the content of the foods advertised were sugar containing non-core foods (less healthy) particularly sugar.
- The significant use of promotional characters coupled with high rate of advertisements during children's non-peak viewing periods could suggest that advertisers on the three TV channels in Ghana are probably targeting children (potential consumers) indirectly through their parents.
- The study could not establish a significant association between duration of TV exposure and preference for advertised food products (healthy or less healthy)

## 5.9 Recommendation

- Regarding the observed potential high volume of unhealthy food advertisements, there is the need for government to introduce restrictions to control unhealthy food marketing before their irreversible impacts are felt.
- Regarding the observed significant association between family size, wealth index and preference for advertised food on TV, there is the need for policy-makers and researcher to ensure that strategies targeted at increasing healthy food choices among children should have high impact on children at the school level, family size and economic status of their care providers.



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## APPENDIX

### APPENDIX I: Child Assent Form

#### THE NATURE AND CONTENT OF TELEVISION FOOD ADVERTISEMENT AND CHILDREN'S FOOD PREFERENCES

#### CHILD ASSENT FORM

(To be read aloud to the child)

My name is Leonard Atawugeh Kubaloe. I am also a student. Right now, I am trying to learn more about how television food advertising influence children's food preferences.

If you agree, you will be asked questions concerning which television channels you watch most often, at which time, your preference for certain foods etc.

Even though you may not directly benefit from the study but your participation will help us learn more about the impact of TV food advertisement on the food preference of children.

The study will take place in your school. If you agree to help us, you should know that your teacher and classmates won't know what you have said. You should also know that if you decide to help us or if you decide to say "no," your choice will not affect your grades at school.

There are no right or wrong answers. Please talk this over with your parents before you decide if you want to be in my study or not. I will also ask your parents to give their permission for you to be in this study, but even if your parents say "yes," you can still say "no" and decide not to be in the study.

If you don't want to be in my study, you don't have to be in it. Remember, being in the study is up to you and no one will be upset if you don't want to be in the study or if you decide to stop after we begin, that's okay, too.

You can ask any questions that you have about the study. If you have a question later that you didn't think of now, you can call me on 0244845511 or call the Chairman of NHRCIRB through the IRB Administrator on 024-471-2474 during working hours, Monday to Friday.

Would you like to take part in the study?    Yes                       No



## APPENDIX II: Parent Consent Form

### THE NATURE AND CONTENT OF TELEVISION FOOD ADVERTISEMENT AND CHILDREN'S FOOD PREFERENCES

Children (9-11 years)

#### PARENT CONSENT FORM

Dear Parent or Caregiver,

#### Introduction/Purpose of Study

Leonard Atawugeh Kubaloe (MPhil student) and Abizari Abdul-Razak, PhD (Supervisor) both of the Department of Nutritional Sciences - UDS are conducting a study on **the nature and content of Television food advertisement and Children's food preferences** to explore the nature of Television (TV) food advertisement and its effect on children's food preferences.

#### Study Procedure

Participation in the study involves a one to one interview session with your ward on basic demographic questions, preference for certain foods and how much time they spend watching TV. The interviews which is expected to last for approximately 20-30 minutes, will be conducted by three trained research assistants for children between the ages of 9-11 years.

#### Benefits

Even though no direct benefit is intended for your ward, their participation will help the researchers learn more about the impact of TV food advertisement on the food preference of children.

#### Potential Risk

Apart from possible emotional feelings of boredom when asked questions during the interview, there are no known risks associated with your ward's participation in the study.

#### Confidentiality

You are assured that the information gathered during this study will remain confidential in secure premises and only the researchers will have access to the study data and information collected. Personally identifying information will not be collected on the surveys and the results may be published in the form of a research paper, a professional journal or presented at professional meetings. The knowledge obtained from this study will be of great value in guiding policy formulation regarding TV food advertisement vis-à-vis child nutritional health status.

#### Withdrawal from Study

Participation in the study is voluntary; refusal to participate will involve no penalty nor affect your ward in any way. You are free to withdraw consent and discontinue your wards participation during



the study at any time without prejudice or penalty. Your ward is also free to refuse to answer any question we might ask. Do you agree for your ward to participate?

**Further Questions and Follow-Up**

You are welcome to ask the researchers any questions pertaining to the survey or interview. If you have further questions once the survey is completed, you are encouraged to contact the researchers using the contact information given below.

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Also available for contact is the  
The NHRCIRB Chairman  
Through  
The IRB Administrator  
on [irb@navrongo-hrc.org](mailto:irb@navrongo-hrc.org),  
[cletus.tindana@navrongo-hrc.org](mailto:cletus.tindana@navrongo-hrc.org)  
or on phone 024-471-2474 during working hours, Monday to Friday.

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\_\_\_\_\_  
Parent's or Caregiver's Signature

\_\_\_\_\_  
Date

**"I have read or have had someone read all of the above, asked questions, received answers concerning areas I did not understand, and am willing to give consent for me, my child/ward to participate in this study. I will not have waived any of my rights by signing this consent form. Upon signing this consent form, I will receive a copy for my personal records."**



Name: _____	
Signature/thumbprint of participant/his/her Legal representative	<div style="border: 1px solid black; width: 150px; height: 80px;"></div>

---

Witness to Consent Procedures (**Anybody who is not affiliated with the study**)

Name:

Signature:

---

Investigator or attending Health Care Professional's Affidavit

**“I certify that I have explained to the above individual(s) the nature and purpose of the study, potential benefits and possible risks associated with the participation in this research project. I have answered any questions that have been raised and have witnessed the above signature on the date indicated below”**

Name: \_\_\_\_\_

Signature:

Date:



**APPENDIX III: Questionnaire**

Serial No.:		Type of School	Public	Private
Date(d/m/y):			<input type="radio"/>	<input type="radio"/>

**QUESTIONNAIRE**

FOR EACH QUESTION, SHADE IN THE CIRCLE THAT CORRESPONDS TO YOUR ANSWER WITH THE PENCIL PROVIDED. ERASE SHADINGS COMPLETELY TO MAKE A CHANGE.

**SECTION 1: SOCIO-DEMOGRAPHIC**

1. Age

9	10	11
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

2. Gender

Male	Female
<input type="radio"/>	<input type="radio"/>

3. Religion

Christian	Muslim	Others (specify)
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

4. Which of these do you have at home?

Radio	<input type="radio"/>
CRT Television	<input type="radio"/>
LCD/LED/OLED Television	<input type="radio"/>
Satellite TV	<input type="radio"/>
Sewing machine	<input type="radio"/>
Electric fan	<input type="radio"/>
Mobile phone	<input type="radio"/>
Bicycle	<input type="radio"/>
Motor cycle/Tricycle	<input type="radio"/>
Car/Truck	<input type="radio"/>
Mattress	<input type="radio"/>
Refrigerator	<input type="radio"/>
Computer	<input type="radio"/>
LPG stove	<input type="radio"/>
Electricity	<input type="radio"/>
Toilet (WC)	<input type="radio"/>

5. Family size

2	3	4	5	6	7	8	9	10	>10
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



**SECTION 2: TELEVISION EXPOSURE**

6. Which Television channel do you watch the **most**?

GH One	GTV	TV3	TV Africa	UTV	VIASAT 1	Others (specify)
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	

7. During week days (Monday-Friday) which TV programs do you **mostly** watch?

Sn	TV Program	TV Channel
1		
2		
3		
4		
5		
6		

8. During weekdays (Monday-Friday) which time do you **mostly** watch Television?

**MORNING**

6am	7am	8am	9am	10am	11am
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

**AFTERNOON**

12pm	1pm	2pm	3pm	4pm	5pm
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

**EVENING**

6pm	7pm	8pm	9pm	10pm
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



9. Which **time** do you watch Television on **Saturday**?

**MORNING**

6am	7am	8am	9am	10am	11am
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

**AFTERNOON**

12pm	1pm	2pm	3pm	4pm	5pm
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

**EVENING**

6pm	7pm	8pm	9pm	10pm
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

10. Which **time** do you watch Television on **Sundays**?

**MORNING**

6am	7am	8am	9am	10am	11am
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

**AFTERNOON**

12pm	1pm	2pm	3pm	4pm	5pm
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>






**EVENING**

6pm	7pm	8pm	9pm	10pm
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



**SECTION 4: FOOD PREFERENCE**

For each food or beverage item, indicate how willing you are to eat or drink it by filling in the appropriate circle with the pencil provided.

	Extremely unwilling 	Unwilling 	Neutral Neither willing nor unwilling 	Willing 	Extremely willing 
Alvaro Drink	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Beta Malt	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Blue Jeans Energy drink	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Coca Cola	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
FanIce	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
FanDango	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
FanYogo	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Frutelli	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Giant Malt	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Kalipo	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Lacasera	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Malta Guinness	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Milo	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Rox Energy Drink	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Rush Energy Drink	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5 Star Energy Drink	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Storm Energy Drink	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Run Energy Drink	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Tampico	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
This Way Chocolate Drink	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ideal Milk	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Cow bell Milk	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Indomie Instant Noodles	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>







	Extremely unwilling 	Unwilling 	Neutral Neither willing nor unwilling 	Willing 	Extremely willing 
Lipton tea	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Yumvita	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Kasapreku Alomo bitters	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Club Beer	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Adonko bitters	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Guinness	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Star	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Sultana Rice	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Tea and Bread	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Waakye	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Jollof	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Koko	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Kenkey	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Banku	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Tuo Zaafi	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Fufu	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Fried Yam	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Red-red	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Kelewele	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Rice balls	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Fried Rice	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Chicken	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Nkatia Borger Groundnut	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ice Cream	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

THANK YOU FOR YOUR TIME AND ATTENTION.

## APPENDIX IV: Protocol Submission Form



NAVRONGO HEALTH RESEARCH CENTRE  
INSTITUTIONAL REVIEW BOARD  
P.O BOX 114  
NAVRONGO U/E REGION, GHANA  
irb@navrongo-hrc.org  
Tel: (233) (0) 20-166-0158



### PROTOCOL SUBMISSION REQUIREMENTS

A new protocol must be submitted to the IRB at least two months before the proposed commencement date of the research and must include copies of the following:

1. Protocol Application form (This form is available at the IRB office)
2. Cover letter from head of the Navrongo Health Research Centre indicating that the protocol has gone through a scientific review and has been approved. (Addition for student protocols, cover letter from school).
3. Summary of protocol
4. Full Protocol (Version controlled with an effective date)
5. Consent forms (PIs could submit a previously approved consent form. Also see checklist of consent form available at the IRB office. Final English versions should be translated into the dominant local language(s) of the study area and back translated into English and submitted for review)
6. Field guide i.e. questionnaire, enrolment forms, Case Report Forms (Version controlled with effective dates)
7. Curriculum vitae of both the principal investigator and co-investigators (CV must not be more than one year since last updated)

*Note: The Navrongo Health Research Centre Institutional Review Board meets every second Saturday of the month.*

#### Submit 2, 4 or 14 Copies of your Application to:

The IRB Administrator  
Institutional Review Board Office  
Navrongo Health Research Centre  
Ghana Health Service  
P.O.Box 114  
Navrongo  
Ghana





NAVRONGO HEALTH RESEARCH  
CENTRE INSTITUTIONAL REVIEW  
BOARD  
P.O BOX 114  
NAVRONGO U/E REGION, GHANA  
irb@navrongo.mimcom.org  
Tel: (233) (0) 3821 22348, Fax: (233) (0)  
3821 22348



Date Received

Protocol Number

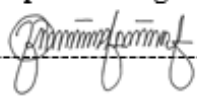
UNIVERSITY FOR DEVELOPMENT STUDIES



NEW PROTOCOL SUBMISSION FORM	
1. Project Title	The Nature And Content Of Television Food Advertisement And Children's Food Preferences.
2. Protocol version No. and Date	Version 2 26 <sup>th</sup> February, 2018
3. Proposed Date of commencement	January, 2018
4. Principal Investigator	Leonard Atawugeh Kubaloe
5. Address of PI	Department of Nutritional Sciences, School of Allied Health Sciences, University for Development Studies, P. O. Box 1883, Tamale, Ghana.
6. Co-Investigator(s)/Student Investigator(s)  a. If student Investigator, indicate status and level of involvement in Research	Status <input type="checkbox"/> Undergraduate <input checked="" type="checkbox"/> <b>Masters level</b> ✓ <input type="checkbox"/> Doctoral Level  Level of involvement <input checked="" type="checkbox"/> <b>Thesis</b> ✓ <input type="checkbox"/> Dissertation <input type="checkbox"/> Assisting faculty <input type="checkbox"/> Other
7. Collaborating institution (if applicable)	Not applicable
8. Proposed Project Duration	From: <b>01/11/17</b> To: <b>01/06/18</b>
9. Are Other IRBs involved in this protocol?	No



	<p>If yes, name of IRB _____</p> <p>Status. <input type="checkbox"/> Under review <input type="checkbox"/> Approved <input type="checkbox"/> Disapproved</p>
10. Funding Status of protocol?	<input type="checkbox"/> Funding pending <input checked="" type="checkbox"/> <b>Funded</b> ✓ <input type="checkbox"/> Not funded
11. Source of funding	Self-financing
12. Proposed Population (Circle all that apply)	a. Males/Females b. Adolescents (12-17 yrs of age) <input checked="" type="checkbox"/> <b>Children (under 12 yrs of age)</b> ✓ d. Pregnant women e. Elderly f. Prisoners g. Other _____
13. Proposed sample size	_____ <b>a. 400 children</b> _____ <b>b. 200 males</b> _____ <b>c. 200 females</b> _____
14. Research Site (s)	<b>Sagnarigu District, Northern Region</b>
15. Is equipment available at this site to treat any life threatening adverse events? (Describe)	<b>The study participants in the survey are children in primary schools. Even though no life threatening adverse effects are anticipated, the schools have their own protocol in handling life threatening adverse events.</b>
16. Type of Study (Circle all that apply)	<input checked="" type="checkbox"/> <b>Survey</b> b. Case control c. Secondary data analysis d. Clinical trial e. Community based trial f. Longitudinal study g. Other _____
17. Consent Process (Circle all that apply)	<input checked="" type="checkbox"/> <b>Written</b> b. Oral <input checked="" type="checkbox"/> <b>English</b>

	d. Local dialect e. Other _____
18. Do you consider this research (circle one)  Note: Minimal risk is defined as “a risk where the probability and magnitude of harm or discomfort anticipated in the proposed research are not greater in and of themselves than those ordinarily encountered in daily life.	a. Greater than minimal risk <input checked="" type="radio"/> <b>b. Minimal risk</b> c. No risk
Name of person completing the form: <b>Leonard Atawugeh Kubaloe</b>  Role on the study: <b>Principal Investigator (PI)</b>  Signature: _____   Date 20/12/17	

For all student projects:

**Leonard Atawugeh Kubaloe**    20/12/2017    \_\_\_\_\_    20/12/2017  
 Student Investigator                      Date                      \*Mentor's Signature                      Date  
*\*Please note that letter from mentor is also required.*

**Please do not fill below this line (For IRB office use only)**

Reviewed By:
Date reviewed:
Comments:
Action:



## APPENDIX V: Ethics Approval

*In case of reply the number and date of this letter should be quoted*

*My Ref. AppTVfoodAd/03/2018  
Your Ref:*



Navrongo Health Research Centre  
**Institutional Review Board**  
Ghana Health Service  
P. O. Box 114  
Navrongo, Ghana  
Tel: +233-20 166 0158  
Email: [irb@navrongo-hrc.org](mailto:irb@navrongo-hrc.org)

**15<sup>th</sup> March, 2018**

Mr. Leonard Atawuegh Kubaloe  
Department of Nutritional Sciences  
School of Allied Health Sciences  
University for Development Studies  
P.O. Box 1883  
Tamale

**ETHICS APPROVAL ID: NHRCIRB298**

Dear Mr. Kubaloe,

**Approval of protocol titled 'The Nature And Content Of Television Food Advertisement And Children's Food Preferences'**

I write to inform you that the Navrongo Health Research Centre Institutional Review Board (NHRC IRB) having reviewed the above named protocol, find the study relevant considering the aims and objectives as stated in the protocol. The Board is also satisfied with the responses given by the investigator on the few issues raised and therefore grants you approval.

The following documents were reviewed and approved;

- Completed New Protocol submission form
- Summary of the Protocol
- Protocol Version 2.0, dated 26<sup>th</sup> February, 2018
- Information sheet and Consent forms
- Current CV of principal investigator

Please, you are kindly reminded that any amendment to the approved documents must receive prior NHRCIRB approval before implementation.



The Board would expect a report on your study, annually or at the close of same, whichever comes first. Should you require a renewal of your approval, a progress report should be submitted two (2) months before the expiration date.

This approval expires on the **14<sup>th</sup> March, 2019.**

The Board wishes you all the best in the study.

Sincerely,



Dr. (Mrs) Nana Akosua Ansah  
(Vice Chair, NHRCIRB)

Cc: The Director  
NHRC, Navrongo



**APPENDIX VI: TV Data Recording Set-up**



From left to right: Laptop recording TV3, GH One and UTV

