The Effect of Parental Interventions on Food Buying Behaviour of Children Subjected to Social Media Food Advertising

A Thesis Submitted for the Degree of Doctor of Philosophy

By

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Abstract

Children are considered important targets by companies. Advertisers are constantly searching for new and innovative ways to encourage children to purchase. However, children are particularly vulnerable to the effects of advertising, including the negative effects of unhealthy food advertising that may have severe consequences on children's overall health (Harris and Kalnova, 2018). In addition, commercials are evolving with the introduction of social media. Current social media food commercials are fully integrated with the content of the platform used, highly engaging and viewed repeatedly by children. This poses an additional challenge when it comes to protecting children from the negative effects of advertising. This thesis addresses the effect of social media unhealthy food advertising on children's buying behaviour, raises the question regarding the effectiveness of current interventions and proposes alternative measures to lessen the effect of social media food advertising . Additionally, this thesis discusses the need to consider a dual-step dual process model when suggesting interventions to mitigate the effects of these advertisements. The suggested interventions in this thesis are those exercised by parents at the two steps of advertising effects process (during advertising exposure and during purchase decision stages) and utilizing the two systems of information processing (implicit and explicit processes).

The conceptual model was developed and validated using online and hard copy surveys randomly targeting parents of children between the ages of 8 and 12 years old that are exposed to social media advertising. Based on 622 responses, the findings of this research suggest that children are affected negatively by unhealthy food advertising displayed on social media, which ultimately influence their purchase decisions. The

study found five out of six suggested parental interventions are effective in mitigating the negative effects of these advertisements. The research offers multiple theoretical contributions and policy implications. From theoretical point of view, this study is a unique addition to the body of literature especially with the consideration of social media advertising and the dual-step dual process when proposing interventions. Also, it is sheds the light on the current status of parental interventions and children's buying behaviour when it comes to social media food advertising in the Gulf Cooperation Council (GCC) region. From a policy perspective, this study provides an overview of the alarming status of children in the GCC region, voicing concerns to policymakers in the marketing industry to impose laws and provide support to protect children from unhealthy food advertising on social media platforms.

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Chapter 1 : Introduction

1.1 Introduction

This opening chapter provides an overview of the research covering the rationale and motivations for conducting it, identifies the gap, aim and objectives. This research contributes to the body of knowledge and presents implications for practitioners and policymakers . A quantitative research methodology is used for the research along with adopting a survey that was distributed randomly to parents with children between the ages of 8 and 12 across the GCC. Structural Equation Modeling (SEM) was selected as a multivariate technique and path analysis was conducted on the empirical data collected.

This chapter is structured as follows. Sections 1.2 and 1.3 provide a background of the study and highlight the research problem and gap. This is followed by the research aim and objectives in section 1.4. Then, in section 1.5, the research methodology selected for this research is presented. The thesis structure is described in section 1.6 and finally, section 1.7, summarizes the overall chapter.

1.2 Background of the Study

The World Health Organization (WHO) has indicated that advertising of unhealthy food to children is one of the main reasons of childhood obesity (World Health Organization, 2006). Additionally, public health specialists stated that an environment

characterized by strong and effective food advertising that encourages consumption of unhealthy products is a major contributor to obesity epidemic (Mazur et al., 2018; Brownell and Horgen, 2004; Kraak, Gootman and McGinnis, 2006). In the European Region 21.3% of boys and 23.3% of girls between the ages of five and nine years are overweight, and in the Americas these percentages are 23.4% boys and 22.6% of girls (Boyland and Whalen, 2015). Research found that these numbers have more than doubled in the last 40 years. For children, having all this excess weight is associated with so many health and psychosocial costs. Early interventions are critical as highlighted through this thesis.

Overweight children become overweight adults who raise the probability of suffering from heart diseases, diabetes, cancers, anxiety, depression, social stigma, and premature death (Reilly et al., 2002.). Food marketing has a significant role in the increase of children obesity because of the fact that children are a favourable target by marketers (Linn, 2004; Jordan and Chernin, 2010). This is due to their effect on sales in 3 aspects: in many cases, they are independent consumers with pocket money or allowance spent often on snacks that are considered unhealthy; they have substantial impact over family purchases and they can pester their parents; and they are also future consumers when they become adults with brand loyalty established at a young age which can be lucrative for the organization over the lifespan (Story and French, 2004).

It is important to note that food and beverage marketers spend $15 billion each year targeting the US children market alone (Eggerton, 2007), and thus it is not surprising that children are exposed to advertisements through multiple channels including sponsorship of events, magazines, outdoor advertising and at point of sale in shops

(Linn and Novosat, 2008). However, research in this regard has been focused on conventional media (mainly television) and, recently, new media channels (mainly the Internet and social media) have been the most important in terms of impact and reach (Hudders et al., 2017).

Food commercials are now much more than just 'spot ads' on TV. New media channels (which refer to technologies that are digital in nature including the internet and social media) are expanding and changing (Kelly et al., 2015). Recent years witnessed children becoming increasingly capable and consistent users of the Internet, social media (Rideout, Foehr and Roberts, 2010) and food marketers jumped on trend to target children. Companies that promote food target children via so many venues such as websites, third party advertising (i.e., banner placement on other websites), online video sites (i.e., YouTube), social media, and advergames (commercials embedded within an online game) (Faber, Lee and Nan, 2004). In a recent study, Freeman and colleagues (Freeman et al., 2014) analysed the marketing tactics utilized by most food and beverage brands on Facebook in Australia. It was found that many were unique in that they could potentially increase user's engagement and interaction, with young people seemingly the most interested in this type of content.

In another research, a content analysis was performed of websites that had been shown and advertised on Cartoon Network and Nickelodeon (Culp, Bell and Cassady, 2010). Researchers looked at 290 pages across 19 websites and found that games (showing on 81% of websites), were the major promotion tactic used and all games had a minimum of one brand reference (e.g., a logo). Also, the content analysis showed that children would be exposed to an average of just one healthy commercial for every 45 exposures

to brand reference (Culp, Bell and Cassady, 2010). Another study revealed that out of 24 websites that had been judgmentally sampled (these websites were sponsored by 10 companies that market products to children), more than 80% targeted children under the age of 12 (Brady et al., 2010).

Research acknowledges that social media marketing differs from conventional marketing in many ways (Kelly et al., 2015). Past research illustrated that new media advertising enables peer pressure, and establishes personal relationships with food brands (Mangold and Faulds, 2009). These characteristics of new media are very effective at establishing and growing brand awareness that eventually lead to product purchases (Sprott, Czellar and Spangenberg, 2009). In addition, young people have generally been found to have much lower cognitive skills that aid in ad recognition and more so on new media than adults do (Ali et al., 2009).

1.3 Research Problem and Gap

There have been recurring questions for consumer policymakers as well as other concerned parties on how to lessen the negative influence of advertising on children and how to increase children's abilities and skills as consumers to make better food purchase decisions (e.g., Kline 2010; Graff, Kunkel, and Mermin, 2012). Due to that, it is crucial to understand the processes that control how commercials affect views, judgments, and behaviour of children. Knowledge about these processes can facilitate proper instruments to shield children from the influence of these commercials and to reinforce their consumer abilities and skills.

Previous research suggested that advertising literacy can be used as a defence mechanism which is, basically, educating and training young people on how to detect and react to advertisements (Rozendaal et al., 2011; Rozendaal, Buijzen and Valkenburg, 2011). In a study done by Roberts et al. (1980), it was found that children were more doubtful about commercials after explaining or describing some advertising tactics. However, research suggests that a specific cognitive skills have to be established in order to resist the influence of commercials and that advertising literacy could aid in lessening the effects of advertising at or shortly afterwards exposure. Nevertheless, research that focuses on limited capabilities of children when it comes to processing of information and self-control as well as research involving implicit processes questions these assumptions (Buijzen, Van Reijmersdal, and Owen, 2010; Livingstone and Helsper, 2006). Research has indicated that certain level of cognition and understanding must be present in order for a child to activate his/her advertising literacy training. This leads to the assumption that advertising literacy might not be as effective for younger children as they are yet to develop such cognitive skills (Piaget 1952; John, 1999). Interventions should include the implicit processes in order for these interventions to be effective; as children can learn implicitly at a very young age (Janacsek, Fiser and Nemeth, 2012). This was identified as a gap investigated in this thesis.

In addition, there is an increasing concern that children nowadays are exposed more and more to unhealthy food products. This is a part of a much broader debate regarding the growing use of digital media. The use of the Internet by children is increasing as a result of children gaining access to smartphones, tablets and other internet-enabled devices.

There are implications for the growing use of digital media by children according to Ofcom (2017). Outcomes from Ofcom's yearly survey, published in November 2017 (Ofcom, 2017), show that 39% of children between the ages of 8 and 11 have their own smartphone and 52% of them own a tablet. The use of a smartphone or a tablet to access the internet is increasing among children. Around 42% of children from the same age group (8 to 11 years old) use tablets and 22% use smartphones. Children aged 8-11 now spend on average 13.5 hours online per week. Communicating, gaming and watching videos are the most common activities carried out by children. Children in this age group utilize social media (around 23%) as seen in Figure 1.1 (Ofcom, 2017). These numbers are increasing when compared to previous years as presented in Figure 1.2.

The above-mentioned statistics have increased concerns regarding children's use of digital media. The implications of the effects that these technologies may have on children are physiological, social, emotional and cognition development is questioned (Choudhury and McKinney, 2013). In addition, there is a growing concern that excessive digital media use by children can lead to some sort of addiction. There is some research indicating that a small percentage of children show pathological signs regarding digital media use (Smahel and Blinka, 2012). Despite all of these risks that children are facing online, there has been some research showing that digital media actually might have positive effects on the social development of children (Valkenburg and Peter, 2009; Livingstone et al., 2011; Livingstone, Ólafsson and Staksrud, 2011; Pea et al., 2012).

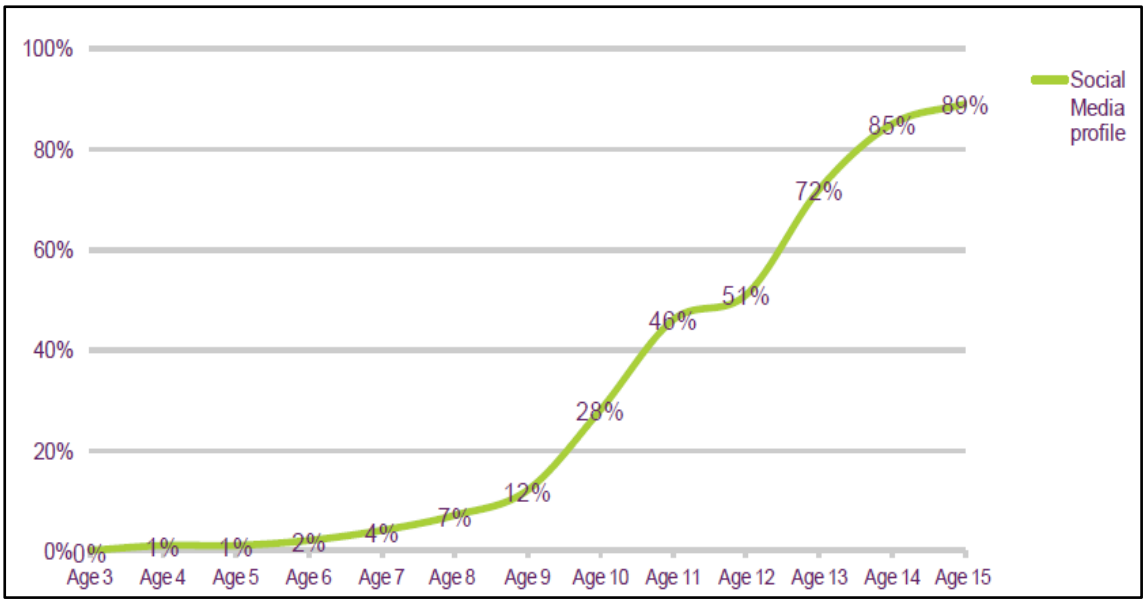

Figure 1.1 Percentage of children having social media profile by age in 2017

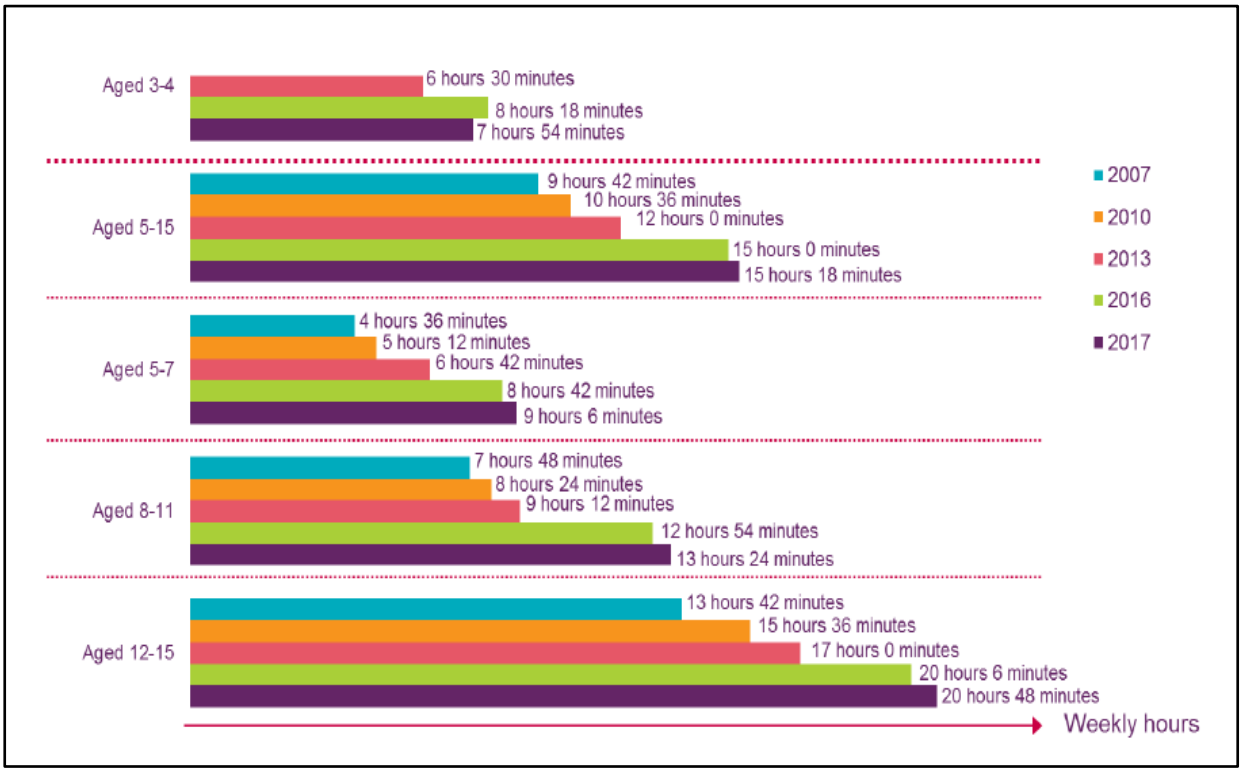

Figure 1.2 Estimated weekly hours of internet communication by age (source: ofcom, 2017)

Due to these alarming statistics, researchers argue that parents can play a significant role in the development of children's food purchase behaviour, as a big portion of media use by children takes place at home (Büttner, Florack and Serfas, 2014; Buijzen 2007). In particular, parents have the power to restrict media use by children, monitor what they watch over social media as well as use effective communications to discuss advertising content (Shin, Huh, and Faber, 2012). Additionally, parents should function as role models to be imitated in consumption situations. Parents can also set goals for their children to attain as well as training them implicitly to use if-then heuristic strategies in consumption environments even when the parents are not present (Büttner et al., 2014). This research examines the role of parental interventions in mitigating the effect of social media food advertising on children.

1.4 Research Aim and Objectives

The aim of this research is to investigate the impact of parental interventions on food buying behaviour of children between the ages of 8 to 12 that have been subjected to social media advertising.

The above aim is achieved by pursuing the following objectives:

a. Exploring the recent literature related advertising targeting children and examining the relationship between advertising effects and unhealthy eating habits.

b. Examining the current literature and reviewing the models and theories that aid in understanding concepts related to social media advertising, children's buying behaviour and parental interventions, as well as suggesting hypotheses supporting the proposed conceptual model.

c. Outlining the framework for the methodology utilized throughout the research for testing the proposed hypotheses.

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d. Analyzing the outcomes and emphasizing the significant relationships between the constructs proposed in the hypothesized model.

e. Discussing the outcomes and findings and linking them to the literature, drawing the major theoretical and practical implications of the study and offering directions for future research.

1.5 Research Methodology

A quantitative research methodology has been adopted. This research investigates the influence of parental interventions on children's food buying behaviour from parent's perspectives, which is a phenomenon that is examined in this research through testing current theories, validating the developed conceptual model and proposed hypotheses. Hence, the philosophy adopted in this research deemed to be positivism within which parents perceptions are gathered to validate the proposed research model and associated constructs and hypotheses. Since the target audience of this research are parents of

children between the age 8 and 12 that are exposed to social media food advertising in the GCC region, a quantitative methodology is appropriate to capture a large portion of the parents' general perception on the proposed hypotheses. The use of a quantitative methodology in this research is used with similar studies conducted previously in advertising research (Buijzen et al., 2010; Livingstone and Helsper, 2006; Büttner, Florack and Serfas, 2014). This was carried out by online and hard copy questionnaires, for the purposes of capturing the views of a large number of parents from different places in the GCC as well as variety of backgrounds. Following the data collection, SEM was chosen as a multivariate technique for this research to validate the fitness of the conceptual model and test the hypotheses through performing path analysis.

1.7 Research Outline

This thesis includes seven chapters which are arranged as follows:

Chapter 1 is the opening chapter of the thesis introduced the research background in order to scope the study and outline the research problems which the study will address.

Chapter 2 reviews the relevant concepts and focal theories in literature, to improve the understanding of advertising to children management. The reviewed literature in this chapter helped to inform the theoretical framework and methodology guiding this study.

Chapter 3 which is built upon Chapter 2, it provides the introduction of the concepts that led to the development of the theoretical and conceptual framework.

Chapter 4 outlines the research design and methodology guiding this study. This research adopted a quantitative methodology. Questionnaires were used to collect data.

Chapter 5 presents the data analysis including different tests performed and findings and path analysis. The roles of the mediator and the moderators in the conceptual model are clarified as well as the direct and indirect effects of all paths. SEM is chosen as a multivariate technique for this research to validate the fitness of the conceptual model and test the hypotheses. Before performing path analysis, a number of tests were conducted to prepare a clean data for the SEM, which included factor reduction, reliability and validity of the research instrument as well as normality of the data distribution and correlation.

Chapter 6 discusses the findings of the data analysis as well as maps the findings to the gap identified for this research. In this chapter, the results of the 8 hypotheses are thoroughly discussed, justified, explained and linked to practical outcomes.

Chapter 7 identifies a number of research contributions as well as practical implications to parents, policymakers and practitioners. The research limitations and suggestions for future research are presented and discussed. Finally, the aim and objectives of the research are revisited.

1.8 Chapter Summary

This chapter provided an overview of this thesis including the significance and motivations for starting the research, presented several key literatures to support the

research gap and outlined the aim and objectives of the study. The key gap found in the literature is the need for better interventions to mitigate the unintended effects of food advertising on children, especially with the introduction of embedded formats of advertising via social media platforms.

Therefore, this research aims to investigate the role of parental interventions in reducing the unwanted social media food advertising effects on children by means of explicit and implicit strategies that bolster self- control in children.

This research and its outcomes synthesize and enrich the marketing literature and in particular the areas of children consumer behaviour, social media advertising. A number of theoretical and practical contributions were illustrated, which will be expanded in the remaining chapters.

Chapter 2 Literature Review

2.1 Introduction

Much of the current literature in the advertising discipline pays particular attention to the aggregate effects of commercials on children's eating habits. As noted throughout the literature, commercials for food that are high in sugar and calories are the main products pushed to children. A considerable amount of literature has documented that these commercials are effective in persuading children into requesting or buying such harmful products (Galst & White, 1976; Goldberg, Gorn, & Gibson, 1978; Borzekowski and Robinson, 2001). In a study of advertising effects on children's eating habits, Gorn and Goldberg (1982) reported that commercials shown to children between the ages of 5 and 8 during a two week camp can influence their preferences. In the study, the children were split into two groups: one was shown ads for fruit and fruit juice while the other group viewed ads for a sugary drink, Kool-Aid. The children's actual food and drink preferences were influenced remarkably by the ads they saw.

Critics of unhealthy food advertising face a difficult task in that many parents, and paediatricians find the use of such high sugary food and fast food occasionally is not harmful. However, these non-nutritious foods may replace or be consumed more frequently than nutritional food in a child's diet. (Barcus, 1980; Kunkel and Gantz, 1993; Atkin and Heald, 1977).

Taken together, these studies suggest that these acquired eating habits during childhood most probably will continue throughout a child's life. This accentuates the serious consequences of the advertising of unhealthy food (Jacobson and Maxwell, 1994). Scholars have connected the dramatic escalation in the prevalence of childhood obesity to the targeted advertising of unhealthy foods to children (Troiano and Flegal, 1998; Horgen, Choate, and Brownell, 2001).

2.2 Public Health Literature: A Review of Factors Affecting Children's Food Preferences, Consumption and Unhealthy Eating Habits

There are several models and theories discussing the learning process of children when it comes to food and nutrition in the public health discipline. Social Cognitive Theory (SCT) has been employed to assess acquisition of behavioural patterns and social norms by individuals (Bandura, 1986)

SCT suggests that individual's behaviour encompasses inherited and learned behavioural patterns. Human behaviour is mostly learnt by observational means as the environment an individual is immersed in forms and controls the individual's behaviour (Bandura, 1986). According to this, children learn about various aspects from their observations as well as models presented to them in their social environment, varying from parents to mass media (Bandura, 2002)

The SCT also gives an explanation of how individuals validate their thoughts and actions. This is done by comparing those thoughts and actions with those presented in the social environment (other individuals and the media) (Bandura, 2002)

Biased and distorted mass media concepts can mess with the behaviour of individuals, meaning that communicating false claims or distorted massages about a specific brand or a product might result in changes in values (Hawkins and Pingree, 1982). In the context of the current research, the SCT theory has been utilized to suggest that food advertising targeting children may have a negative impact on their values and behaviours by leading them to think that eating unhealthy food and excessive eating is socially acceptable (Harris and Graff, 2012).

Ecological Systems Theory (EST) is another theory utilized to explore factors contributing to children's learning process about food (Bronfenbrenner, 1979). EST was employed previously in research of the eating behaviour of children and childhood obesity (Story, Neumark-Sztainer, and French, 2002; Jones et al., 2009). This theory highlights that an individual's development consists of a hierarchy of factors in one's environment. However, different to SCT, EST suggests that these factors influence the individual via environmental sublevels consisting of the microsystem (the immediate environment), mesosystem (parents, peers, school) and the exosystem (indirect effects such as social and demographic characteristics) as shown in Figure 2.1 (Davidson and Brich, 2001)

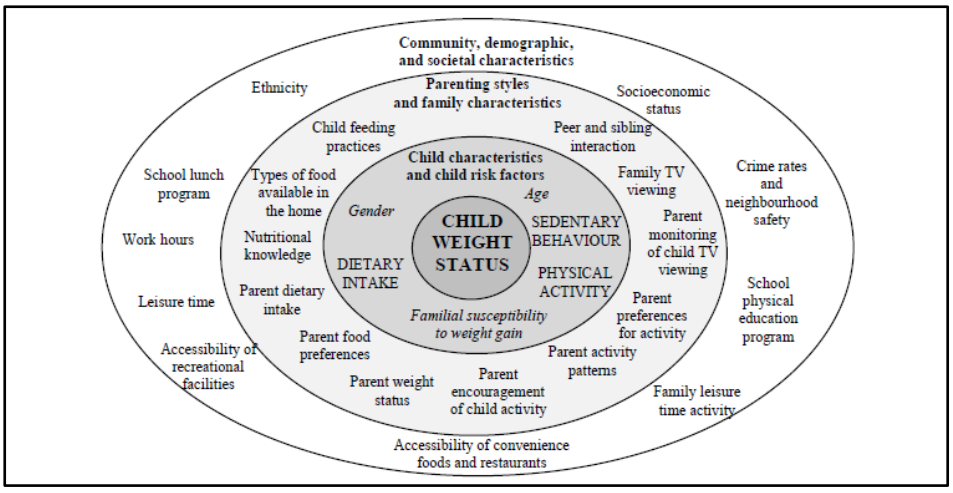

Figure 2.1 Ecological Framework of Factors Influencing Childhood Overweight (Davison and Birch 2001, p. 161)

Comparable to the theories discussed, a framework to explore food preferences and health implications and outcomes was developed by Livingstone and Helsper (2004). This framework introduces the direct as well as the indirect effects of food advertising and the influence of parents. It also outlined the impact of advertising literacy (children's understanding of persuasive messages and content) and the interactions between factors operating in various levels (Livingstone and Helsper, 2004).

Research has indicated that children acquire information and learn naturally on daily basis and parents play an important role in that (Bandura 1977). Thus, parents possess an important influence the preferences and the purchase behavior of young children (Martin and Bush, 2000). Parents provide the first experiences with food that can be the determinant factor in their lives later on (Ferreira et al., 2007; Story et al., 2002). Furthermore, parents lay the value foundation in children through their own behaviour and association, choices, and attitudes (Jacobs and Eccles 2000). Early childhood overweight is now considered a risk element for as children progress from childhood to

being adults (Singh et al., 2008). Till recently, parents are often not necessarily involved in current interventions that targets children eating behaviour, while it is known better overall eating behaviour can be attained when interventions utilize parental participation as stated by previous research (Hingle et al, 2010; Stice et al., 2006; Niemeier et al, 2012). The comprehension of the 'why' and 'what' determines parents influence on children's eating behaviour can help guide interventions.

2.3 Marketing Literature: Advertising and Consumer Behaviour Theories and Models

2.3.1 Children's Consumer Socialization Theories and Models

The Era of the 1970s witnessed a large interest in the research of consumer socialization of children as stated by John (1999). The term consumer socialization refers to the method by which young people obtain knowledge, skills and behaviours in the context of their upcoming role as a consumer in the market (Ward, 1974). The socialization concept is drawn from SCT (social component) and Piaget's theory of cognitive development (cognitive and psychological component) as stated by Moschis and Churchill (1978). Piaget's theory (1952) was utilized to explain the process by which children develop and acquire their skills as consumers.

PIAGET THEORY OF COGNITIVE DEVELOPMENT CHART		
Stages	**Age Range**	**Description**
Sensorimotor	From birth to 2 years	- Identifies object performance, the object still exists when out of sight - Recognition of ability to control object and acts intentionally
Preoperational	2 to 7 years	- Begins to use language - Egocentric thinking difficulty seeing things from other viewpoints - Classified objects by single feature i.e. color
Concrete Operational	7 to 11 years	- Logical thinking - Recognizes conservation of numbers, mass and weight - Classifies objects by several features and can place them in order
Formal Operational	11 years and onward	- Logical thinking about abstract propositions - Concerned with the hypothetical and the future - Create hypotheses and test

Figure 2.2 Piaget theory of cognitive development chart

Other theories were considered in the context of marketing to understand how children develop as consumers. Selman (1980) developed the social perspective approach which suggests that biological age is linked to the overall social development (the ability to take into account other's perspective).

Another theory related to biological age is information processing theory (IPT). This theory discusses how children of different age stages store and retrieve information, thus explaining how children process information given to them by mass media or parents. IPT suggests three classifications based on age to analyse consumer development of children. Children under the age of 8 have limited processing abilities which means that they face difficulties in storing and retrieving information. Children between the age of 8 to 12 years old are called cued processors as they can strategically store and retrieve information. However, they need to be motivated or "cued" to process information stored. Finally, children over 13 years old are strategic processors meaning

they use multiple strategies for information storage, retrial and processing (Roedder, 1981).

The concept of consumer socialization of children was re-considered and three stages were introduced to explain children's consumer development (John, 1999). Age was used as a proxy to distinguish between the various stages (Figure 2.3) In the first stage (perceptual stage, age around 3 to 7 years old), children focus on only one attribute, Children are aware of brands but do not fully comprehend them. Their decision is based on limited data and their own conception and perception. The second stage (analytical stage, age around 7 to 11 years old), children are able to process more information and this results in a complex understanding of brands and advertising and more than one attribute is considered when making a decision or taking an action and built upon the child's own experience. The third stage (reflective stage, age around 11 to 16 years old), children become more and more complex and they can reflect and reason their behaviours with conclusions based on adaptations and conceptualization of own and others' experiences (John, 1999).

Characteristics	Perceptual stage, 3–7 years	Analytical stage, 7–11 years	Reflective stage, 11–16 years
Knowledge structures:			
Orientation	Concrete	Abstract	Abstract
Focus	Perceptual features	Functional/underlying features	Functional/underlying Features
Complexity	Unidimensional	Two or more dimensions	Multidimensional
	Simple	Contingent ("if–then")	Contingent ("if–then")
Perspective	Egocentric (own perspective)	Dual perspectives (own + others)	Dual perspectives in social context
Decision-making and influence strategies:			
Orientation	Expedient	Thoughtful	Strategic
Focus	Perceptual features	Functional/underlying features	Functional/underlying features
	Salient features	Relevant features	Relevant features
Complexity	Single attributes	Two or more attributes	Multiple attributes
	Limited repertoire of strategies	Expanded repertoire of strategies	Complete repertoire of strategies
Adaptivity	Emerging	Moderate	Fully developed
Perspective	Egocentric	Dual perspectives	Dual perspectives in social context

Figure 2.3Consumer Socialization stages (source: John, 1999)

By combining social and cognitive development, the socialization approach discussed highlights that children develop and acquire skills with time. John (1999) emphasized that the socialization process evolves in the context of family, mass media and other various marketing institutions.

2.3.2 Advertising Models and Dual Process Models in Consumer Psychology

There are many theories within the advertising field and external marketing communication that have been impactful on the academic and professional realms (Hackley, 2005). According to Kitchen (1994) advertising are made to progress individuals through three stages (Figure 2.4) before they buy the products: (1) The cognitive stage (the exposure to advertising stage where individuals are made aware of the product /brand), (2) The affective stage (the stage where preferences and attitudes are formed towards the product/ brand) and (3) The behavioural stage (where individuals turn those preferences to action) (Mackay, 2005).

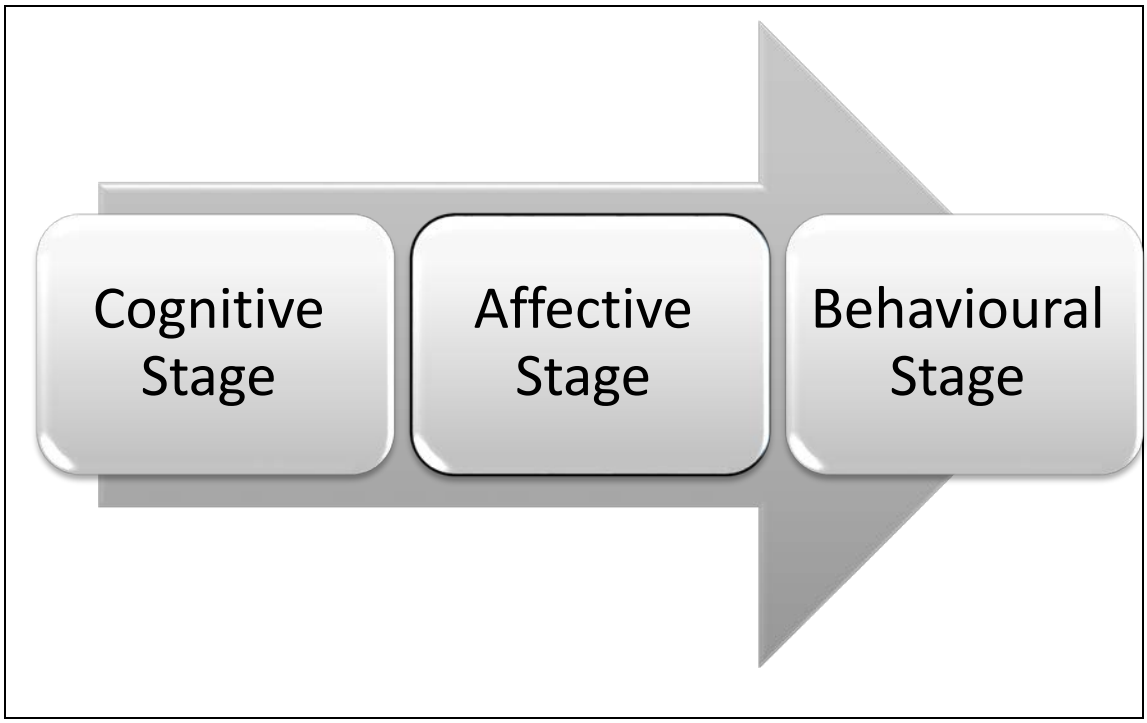

Figure 2.4 The Advertising Process

Many models have been suggested on what happens in each stage of the advertising process. One of these models is AIDA which stands for: A: Attention, I: Interest, D: Desire, A: Action. The AIDA model suggests that marketers must draw the attention of a potential customer to get him/her intrigued or interested by showing its favourable characteristics, advantages and components. Interest is trailed by the desire to have the product. It is marketers' obligation to make a yearning in a consumer to purchase a particular item. Every one of the four stages of AIDA will help to motivate the activity towards buying an item (Hanlon, 2013).

Another model with the name DAGMAR has been more used than the AIDA model due to its comprehensiveness compared with AIDA. DAGMAR stages are more defined and a bit easier to relate to. According to Hanlon (2013), the term DAGMAR

stands for Defining Advertising Goals for Measured Advertising Results. DAGMAR model states that an advertisement must carry a potential customer through four steps: (1) Awareness, Which is basically transforming the customer from not being aware of the brand or the product into knowing them, (2) Comprehension, Which refers to transforming the awareness of the products into a better understanding of the brand or the product and their benefits, (3) Conviction, which means that marketers must convince customer by telling them the benefits of the brand or the product and (4) Action, which is not controlled by marketers. If marketers have been able to convince the customer and have answered them satisfactorily then the action of buying will occur. The Hierarchy of Effects Model was originated by Robert J. Lavidge and Gary A. Steiner in 1961which is another model with similar outcomes of the AIDA and DAGMAR. This model of marketing advertising model suggests that individuals go through several steps before purchasing a product (Barry and Howard, 1990). This model consists of 6 steps that can be mapped to the three stages of the advertising process as well as other models (Table 2.1). It is important to state that individuals has to pass through these stages in a linear way, but an individual can moved up several steps simultaneously (Lavidge and Steiner, 1961, p. 60), which is in line with Munoz (2002) research which suggests that individuals do not switch immediately from being uninterested to fully convinced buyers. Lavidge and Steiner (1961) admit that this order do not apply to impulse buying but rather to higher economical products which is true to AIDA and DAGMAR as well. This is due to the existence of dual processes of thinking in each of the abovementioned stages of advertising process.

	AIDA	Hierarchy of Effects	DAGMAR
Cognitive Stage	Attention	Awareness Knowledge	Awareness Comprehension
Affective Stage	Interest Desire	Liking Preference Convection	Convection
Behavioural Stage	Action	Purchase	Action

Table 2.1 Comparison between advertising Models in each stage of the advertising process

These two thinking systems have been recognized by psychologists have recognized with different capabilities and processes (Smith and DeCoster, 2000; Kahneman and Egan, 2011; Kahneman and Frederick, 2002; Evans, 2003; Metcalfe and Mischel, 1999; Strack and Deutsch, 2004). These systems are called System 1 (S1) (also referred to as the implicit system) and System 2 (S2) (so referred to as the explicit system) (Stanovich and West, 2000). S1 comprises high-capacity instinctual thoughts, relies on links that are developed through experience, and processes information automatically and quickly. On the other hand, S2 comprises low-capacity reflective thinking, relies on guidelines that are learnt through formal learning or culture, and processes information in a rather controlled and slow manner. The dual system standpoint has gained popularity since Kahneman's and Egan's book, Thinking, Fast and Slow, was published in 2011 and this popularity spread even outside the academic word (Kahneman and Egan, 2011).

The S2 or the explicit system has some shortcoming that are specifically linked to its restricted capability. The Explicit thinking process is restricted to a single thought at a specific time, since resources are required to exercise cognitive processes. However, In the S1 or the implicit system, the association process facilitates learning , links and probabilities and needs numerous experiences. Therefore, the implicit system learns in a slow manner. Still, the implicit system is built on parallel unconscious processing, with a large capability to handle large amount of data at a time. One of the main differences between the two systems is that the explicit or S2 processes encompass higher-order formations located in the brain's prefrontal cortex, as opposed to implicit or S1 processing (Casey, Galvan and Hare, 2005). Also, a main difference is that explicit or S2 processes are based on a memory structure that is involving neurons from the hippocampus (episodic memory), while implicit or S1 processes relies on the stimulation of neurons in the basal ganglia (associative memory) (Frank, O'Reilly and Curran, 2006). The differences between the two systems can be explained with an example of a child confronted with two brands of potato chips. The explicit system gives the child information regarding prior consumption or advertising encounter of the brand. On the other hand, the implicit system supplies behavioural impulses while not providing an understanding into the root of the impulses. Therefore, if the child was subjected to advertisement for one of the potato chips brands, and the implicit system created links of this brand with consumption and taste, later on, the child follows the automatic impulse to the brand without being aware of the prior exposure to the commercial (the origin of the impulse).

Explicit system is considered more new and distinctive to humans from an evolutionary stance point. On the other hand, the implicit system is older and humans have it in common with animals (Reber, 1989; Barrouillet, 2011). In addition, these two systems exist and mature at different ages. The explicit system evolves and matures throughout childhood, while the implicit system is presumed to function from early childhood and on (Reber, 1989; Barrouillet, 2011). Even though the human brain is fully developed in general structure and size (Giedd et al., 1996), white and grey matter keep on evolving (Nagy, Westerberg and Klingberg, 2004). Areas that are related to cognitive control (e.g., delivering cognitive tasks, working memory), which are integral parts of explicit processing; evolve moderately late (Sowell et al., 2004). Additionally, a big part of explicit processing is not only the maturation of the brain in size and structure, but the development of links and connections between different regions of the brain (Edin et al., 2007). These stated differences in the working of the human brain give an explanation to the more efficient and faster processing of information by the explicit system of adults compared to the processing abilities of those of children (Gaillard et al., 2011), as well as giving a reason to children's' explicit system reaching its limits much faster than adults do (Posner and Rothbart, 2000).

In order to further explain how children process advertisements and commercialized messages, Buijzen, Van Reijmersdal, and Owen (2010) developed a model called the processing of commercialized media content (PCMC). This model highlights three categories of processing that children have: systematic (which entails high elaboration), heuristic (which entails moderate elaboration), and automatic (which entails low elaboration). The PCMC model explains that the level of elaboration is connected to the ratio between required resources and allocated resources to process an ad, a

commercial or a persuasive message. The systematic processes which involve high elaboration will take place if and only if the allocated resources as well as the required resources to processes persuasive messages are both high, otherwise, heuristic or automatic processing will take place. Heuristic processing suggests that children are affected by less complicated decision rules (like high price leads to high quality) (Gigerenzer, 2008). When automatic processing takes place, children are not processing and elaborating the message features but are swayed by peripheral cues. Under these circumstances, persuasion occurs in an implicit and automatic manner via affect-based learning methods, such as mere exposure, if-then conditioning, and emotional associations conveyed by media context that is entertaining and fun (De Houwer, Thomas, and Baeyens, 2001; Dijksterhuis et al., 2005; Chartrand, 2005; Evans and Park, 2015). Additionally, Lang's (2000) limited capacity model states that resources available are limited when it comes to processing a message and these resources and have to be divided and allocated to three underlying processes: message encoding, message storing, and retention. Therefore, the occurrences in which a child will process the persuasive message or the media content in an explicit and systematic way is limited. This raises the concerns as to social media being so integrated and consuming to young children (as discussed in chapter 1) leaving them more impressionable and vulnerable to falling for advertisements claims.

2.4 Digital Marketing Targeting Children

The main issue with marketing to children using digital media is that the advertising and marketing materials are designed to be integrated and highly interactive thus concealing the boundaries between marketing and entertainment. Rideout (2014)

argues that new advertising formats such as banners, integrated games and videos, branded content, product placement, giveaways and links to social media sites are regularly used by companies to get more exposure and engagement with their brand on websites which children visit. Websites use immersive and entertaining content to encourage positive attitudes towards their brands rather than a specific product or a product line, therefore increasing the probability of children recalling and requesting the brand as opposed to the competing brands (Staiano and Calvert, 2012).

Children often find it hard to recognize an attempt at persuasion or an advertisement when these are integrated into the overall content, as was found when Australian magazine websites targeted at children were reviewed. These websites used a mixture of banner ads, and commercial messages that were included in an editorial content, like sponsored games or recipes (Kervin, Jones and Mantei, 2012). Another study which was conducted to review "children-friendly" websites showed that increased use of animations, cartoon figures, YouTube videos, giveaways and competitions built around a food brand or a product is a common method to persuade children and increase consumption (British Heart Foundation, 2011). Also, a study of the use of cartoon figures to market products online that are aimed at children argued that there is a development of emotional attachment to these cartoon characters which in turn creates the opportunity to interact with the cartoon figures through games and competitions (Bucy, Kim and Parks, 2011). This type of engagement being non-linear (when compared to television) can cause a much deeper and longer association with the brand.

2.5 Social Media Advertising: Definitions and Impact on Children

Social media platforms are dramatically changing how people communicate (Obeidat et al., 2016). Social media networking sites promote the idea of the creation of personal relations as well as business leads and contacts that can break boundaries allowing messages to circle the world. These social media networking platforms facilitate feedback, comments, discussion, and self-expression, voting and sharing of various information with others. There are many examples of such platforms such as: Instagram, Twitter, Snapchat, Wiki, LinkedIn, Facebook, Blogs and YouTube. Technological development paved the way for these platforms to become an integral part of people's daily lives (Al-Ghafri and Al-Badi, 2016; Alenezi et al., 2017; Mangold and Faulds, 2009). Nevertheless, social media is a broad term and scholars have several definitions for it (Yadav Sharma and Tarhini, 2016; Kaplan and Haenlein, 2010). A widely recognized definition can be difficult to find especially with the existence of other terms and concepts that came along with social media such as User Generated Content (UGC) and Web 2.0. These terms are closely related, however, not exactly the same (Morgado, 2011; Nusair, Bilgihan and Okumus, 2013; Al-Badi and Al-Qayoudhi, 2014). According to Kaplan and Haenlein (2010), the understanding of the concepts of UGC and Web 2.0 is fundamental to grasp the concept of social media. These researchers define social media as internet-based applications that use Web 2.0 as their conceptual and technological platform by which users can create and share User-Generated Content. Ranjha (2010) stated that social media users, regardless of boundaries, religion or culture, are connected. This entails social media being the new normal way for the new generations to connect, comment, interact and share information (Tussyadiah and Zach, 2013). Adding to that, social media are now

considered the most used platform to share interests and personal day to day activities (Al-Mukhaini, Al-Qayoudhi and Al-Badi, 2014; Al-Harrasi and Al-Badi, 2014).

Due to the increase in popularity of social media, there is a consensus among researchers in the marketing field that children are subjected to advertising and commercialized content on social media and social networking sites (O'Keeffe and Clarke-Peatson, 2011; Wilking et al., 2013; Dietz, 2013). These persuasion attempts can be in the form of sponsored messages, product placement, banners that are integrated into the overall content or that pop-up in the user's feed, which raises the concerns of researchers as they see the huge presence of children-oriented brands on social media (Rideout, 2014; Gottlieb et al., 2013). The British Heart Foundation (2011) conducted a content analysis that showed the majority of food companies in the review had some sort of presence on social media.

Harris, Schwartz and Munsell (2013) reviewed social media food marketing in the US and found that fast- food restaurants placed 19% of their online advertising on Facebook. The review also indicated that other brands such as McDonald’s, Starbucks, Subway and Pepsi had a major presence on social media platforms such as Twitter, YouTube and Facebook, with millions of followers. Authors also pointed out the rise in publishing content on these platforms, giving more opportunities to users to interact and engage with these brands. Engagement strategies included competitions, giveaways, posting images or videos, or posting links to company or third-party other social media platforms or websites.

Advertising methods that are criticized include access to personal data, location of user or requesting users to press the ‘like’ button before gaining access to the content (Wilking et al., 2013).

Other concerns were raised over behavioural and demographic targeted advertising, (Wilking et al., 2013; Dietz, 2013), and it is expected that children will have difficulties recognizing these as persuasive attempts (O'Keeffe and Clarke-Peatson, 2011).

It should be noted that most social media platforms have an age limit of 13. However, children often bypass these age limits (lie about their age) to open an account and set up profile on social media (Hargittai, Schultz and Palfrey, 2011; Clarke, 2009).

A survey was conducted by the British Advertising Standards Authority (ASA) to test the compliance of advertisers on social media. It was found that advertisers, for the most part, complied with the regulations for advertising using social media platforms (ASA, 2013). It was, nevertheless, noted that those children who lied about their age on those platforms will be subjected to commercials which may not be appropriate nor intended for their age, and the ASA argues that this poses a real challenge for advertisers, companies, social media providers, caretakers, parents, and policymakers (ASA, 2013).

According to Lupianez-Villanueva et al. (2016) deciding which party is held responsible in the event of a child viewing something he or she was not meant to is

considered to be far more complex compared to print media or broadcasts. The authors also argued that a better understanding of the degree to which children are in fact subjected to advertisement meant to older viewers and its implications is needed to effectively impose policies.

Another aspect of social media is video sharing, the most popular platform with children being YouTube (Ofcom, 2017) and, consequently, a likely platform in which to be exposed to advertising. Martinez, Jarlbro and Sandberg (2013) stated the 9 and 10 years olds included in their study were mostly familiar with and usually annoyed by the commercials they see on YouTube. They were frequently subjected to the same commercials repeatedly which they stated to be irritating. In addition, almost all fast-food companies included in a review done by the Yale Rudd Center for Food Policy and Obesity were found to have a YouTube presence (Harris, Schwartz and Munsell, 2013). These Fast- Food companies argue that because of children's extensive use of YouTube, it is considered to be a crucial area for them to occupy.

2.6 Children's Understanding of Social Media Advertising

It is crucial to consider children's understanding of marketing and persuasive messages when online and social media food advertising is studied. As mentioned before, children are considered to be vulnerable to advertising due to their underdeveloped understanding of advertising and its persuasive intent. Brian Young (1990) has stated that children must acquire advertising literacy (e.g. children's understanding of advertising's tactics and intent) in order to defend themselves cognitively against

advertising negative effects (Livingstone and Helsper, 2006). The acquiring of advertising literacy depends on both consumer socialization and cognitive development often influenced by parents, media or peers (De la Ville and Tartas 2010; John, 1999). Despite the fact that the process of acquiring advertising literacy is a gradual one (Gunter, Oates and Blades, 2004; Kunkel et al., 2004), there has been an on-going debate on the age at which children possess mature levels of advertising literacy, mostly since the growth of social media marketing. Previous research stated that children can recognize television advertisements around the age of 7 or 8, as an indicator of children acquiring advertising literacy (Donohue, Henke and Donohue, 1980; Macklin, 1987).

Researchers since then pointed out the difference between advertisement recognition and advertising understanding (advertisement role, persuasive nature and communication style) (Andronikidis and Lambrianidou, 2010). Research on newer marketing formats such as social media advertising, advergames, endorsements, product placements, and viral marketing, has shown that children will acquire mature levels of understanding of persuasion tactics when they are older, usually during adolescence (Rozendaal et al., 2011; Oates, Blades and Gunter, 2002; Owen et al., 2007; Oates, Blades and Gunter, 2003; An, Jin and Park, 2014; Kunkel, 2010; Oates, Li and Blades, 2014). It has also been argued that possessing advertising literacy does not necessarily lead to children being able to identify advertising, especially when the persuasive message is embedded or if the child is distracted by the entertaining or engaging nature of the content (Waiguny, Nelson and Terlutter, 2014).

According to Van Reijmersdal et al. (2017), there is insufficient research on children-targeted advertising online. The researchers conducted an experimental study examining the relationship between brand recall and targeted advertising, purchase intention and brand attitude. Results showed that there is a positive relationship between brand attitude and purchase decision with targeted advertising but not with brand recall. Although research with adults being the participants has shown a negative effect of recognizing a targeted attempt at advertising, these results were not replicated in the case of research with children. The results show that children may process targeted commercials in a different manner than adults. Due to the limited capacity of children to process messages in a systematic way, as mentioned before, it is more likely for them to process targeted commercials using low levels of elaboration, depending more on the emotional and more implicit system to assess advertising.

Part of the concern regarding social media marketing is due to the belief that it is essentially different than traditional marketing. Social Media marketing is deemed to offer a more integrated or immersive environment (Montgomery and Chester, 2009) where children are subjected to brands or products through a range of formats and platforms which enable children to engage with brands. Cheyne et al. (2013) performed a content analysis of 17 websites targeted at children and they argued that there was a positive relationship between the popularity and engagement of these websites with immersive environments. Researchers stated that websites with higher levels of multimedia content, engagement and personalization had higher visits and more interaction time. The highly interactive content is believed to make engagement of children with marketing material more significant, personal and entertaining (Wilking et al., 2013; Bucy, Kim and Parks, 2011). Other studies have also found that interactive

commercialized content can create positive brand associations (Waiguny, Nelson and Terlutter, 2012; Rideout, 2014; Sandberg, Gidlöf and Holmberg, 2010; Cheyne et al., 2013). The two-way communication that happens when children interact with the advertising content will lead to an increase in brand engagement causing more positive attitudes towards those brands (Hang and Auty, 2011). It is also believed that the two way communication facilitates data collection, which in turn enables marketers to better target their audience as well as to measure the effectiveness of their advertising activities (Wilking et al., 2013). Researchers also suggested that the internet enabled marketers engage in cross-media promotions due to the increase in use of smartphones (Cheyne et al., 2013). For instance, social media is used to increase awareness of a brand's other marketing channels (Wilking et al., 2013).

Social media marketing is thought to be global and, because much social media marketing for children mainly depends on visuals such as cartoon characters, images, videos and games and less on text, it can be translated easily into other languages, possibly making it challenging to regulate (Flowers, Lustyik and Gulyás, 2010). However, there is little reliable proof from literature to demonstrate the mechanism by which social media marketing is understood by children, as their critical processing of persuasive messages will be complicated by both the nature of social media advertising and the widely-believed notion that advertising literacy develops according to age. Additionally, in order for children to activate their advertising literacy, they must be able to recognize the persuasive intent of the message, which is challenging considering the embedded nature of the social media advertising (Van Reijmersdal et al., 2017). It is also argued that social media marketing will gradually evoke unconscious and emotional choices (Montgomery et al., 2011), and therefore research must take into

account the implicit effects of this type of marketing on children's food choices (Calvert, 2008).

2.7 Summary

Chapter 2 offers a broad and in-depth review of the literature, and is dedicated to reviewing the previous models and theories employed by researchers in the field of children's consumer behaviour and social media food advertising targeting children. More studies are needed to elaborate the process by which children process embedded advertising in social media platforms. Past literature emphasized the need for methods to further protect children from the negative effects of advertising (unhealthy food advertising included). In addition, it remains uncertain what steps should be taken to help children in order to protect them when confronted with these embedded formats.

Chapter 3 : Conceptual Model

3.1 Introduction

Recently, big companies were fined for illegally tracking websites that consider children as their targeted audience (Hudders et al., 2017). In addition, Martijn and Tokmetzis (2016) conducted an analysis on 72 children's websites, and the findings showed that more than 179 data agents track and analyse children's behaviour, which in turn aids advertisers to target children more efficiently and effectively. This shows the extent to which marketers are willing to go to influence children's purchase behaviour.

3.2 Children's Vulnerability Towards Advertisements: Call For Interventions

Research on the effects of advertising on children in recent years has considered the implicit effects of advertising. However, these studies have some shortcomings. First, commercial messages usually influence behaviour even in a setting where the commercial message is not there. Advertising-based memory and behaviours mainly influence buyer decisions in settings (in the market) that are different from the settings of exposure to the commercial message (when browsing through social media). This suggests that children as consumers can fail or succeed in protecting themselves against commercial messages in two different situations: at the time of exposure to the commercial messages and at the time of making the purchase decision and consumption. Researchers pointed out that even when children judge a commercial message correctly, they might act against that judgment upon entering the market place

(Moses and Baldwin, 2005). Therefore, results of research for a link between advertising exposure and actual decision making and consumption are not surprisingly mixed (Livingstone and Helsper, 2006; Hastings et al., 2003). Accordingly, Young (2010) challenges the validity of studies in which children are required to select a product/brand right after being subjected to some sort of content that includes a commercial for one of the products/brands. Adding to that, interventions aimed at shielding children against the negative effects of advertising, such as advertising literacy, target settings in which advertising-based memory structures affect the purchase behaviour of children. Considering this, interventions in the proposed model target both situations (at the time of exposure to advertisement and at the time of consumption) since advertising effects are usually unconscious (Fang, Singh and Ahluwalia, 2007; Gibson, 2008) and children may not remember the origin of the commercial messages while still being affected by the commercial itself (Kumkale and Albarracin, 2004; Florack et al., 2002; Pratkanis et al., 1988; Hovland and Weiss, 1951; Gillig and Greenwald, 1974).

Second, as stated by Strack and Deutsch (2006), the existence of explicit and implicit processes has to be considered both for advertising understanding and reception as well as for buying decisions . Buijzen, Reijmersdal and Owen (2010) suggest that behaviours based on implicit (S1) processing lead to impulsive and automated buying decisions, whereas behaviours based on explicit (S2) processing lead to measured and systematic buying decisions (Florack, Friese and Scarabis, 2010; Scarabis, Florack and Gosejohann, 2006).

Third, current models emphasize mostly explicit processes as a method to guard children against persuasion, and suggest that resistance to these persuasion attempts by advertisement entails the capability and motivation to process information in a systematic more explicit way and to show self-control (Moses and Baldwin, 2005; Harris, Brownell and Bargh, 2009). Rozendaal, Buijzen and Valkenburg (2010) argue that automatic and implicit negative attitudes towards advertisements can act as a defence against commercials. However, this defence mechanism will work only at the exposure stage and not during decision making and consumption stage.

Fourth, existing models mainly focus on television advertising. The introduction of digital media and its different nature makes the reception and the reaction to such commercials different. The problem as mentioned in the previous chapter is that children may not resist nor process advertising systematically due to the lack of cognitive abilities and consumer socialization maturation as well as the highly integrated and engaging nature of the social media platforms used to deliver those commercials.

The above-mentioned gaps led to proposing the model in this thesis as the researcher elaborates suggested interventions to protect children from social media food advertising, taking into consideration the gaps in the existing literature.

3.3 Children's exposure to food advertising on social media

Past research examined the relationship between exposure to unhealthy food advertising and increased consumption leading to increased obesity levels (Charry and Demoulin 2012; Charry, 2014; Hota, Cáceres, and Cousin, 2010). Folkvord et al. (2016) suggested a model that highlights that this relationship is influenced by biological and psychological responses that ultimately lead to a relationship with food (i.e. cognitive development and consumer socialization processes). Additionally, previous research showed evidence for the effect of food advertising on food preferences, buying behaviour and consumption among children and also showed that most food advertising which children are subjected to is that which promotes unhealthy and sugary food (Livingstone and Helsper, 2004; Hastings et al., 2003).

According to Büttner, Florack, and Serfas (2014), advertising affects behaviour in two steps. In the first step, advertising generates memory structures (e.g., knowledge about the brand, attitude towards the product or the brand) which are mapped to the progress from the cognitive stage to the affective stage of the advertising process. In the second step, these advertising-based memory structures affect buying decisions later on which is mapped to the progression from the affective stage to the behavioural stage of the advertising process (Figure 3.1).

In both steps, implicit (and S1) and explicit (S2) processes are important. Children build memory that is advertising- based through implicit and explicit learning. Impulses from the implicit system with the help and consultation with the explicit system affect the

buying and consumption decisions (Munakata, Snyder and Chatham, 2012; Garon, Bryson and Smith, 2008; Welsh and Pennington, 1988).

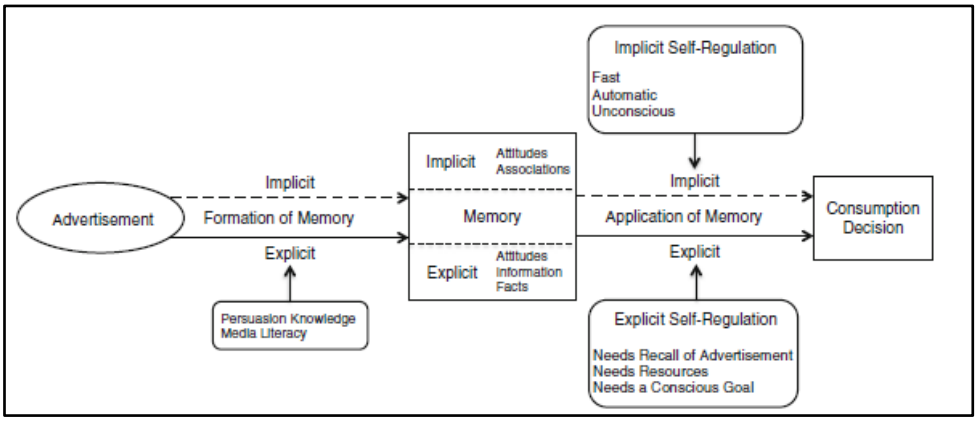

Figure 3.1 Dual-step and dual-process model of advertising effects

Figure 3.1 suggests that interventions in the two stages act as moderators that affect the relationship between advertisement exposure, memory formation and the final consumption decision (memory application).

3.3.1 Dual Processes at the Exposure Stage

The advancement of explicit processing can be mapped to children's processing of advertising in the model proposed by John (1999) as discussed in the previous chapter. The model suggests that children between the age of 3 and 7 years are considered to be "limited processors" who process commercials on a perceptual level. Children between the age of 7 and 11 are considered to be "cued" processors. They are capable of processing advertising messages systematically and critically, but still need assistance in doing so until adolescence. Children from the age of 12 years and above are considered to be "strategic processors" who have the ability to process commercials effectively.

The implicit system, in contrast, is highly competent for information processing from early childhood. Reber (2013), states that the implicit system is independent from the operative of higher-order structures of the brain; therefore, it is independent from the evolving paths of these structures. Research on the implicit system and learning support the suggestion that the implicit system's functionality is independent from age (Vinter and Perruchet, 2000; Vinter and Perruchet, 2002; Meulemans, Van der Linden and Perruchet, 1998; Saffran et al., 1997). Research showed that, via implicit processes, 6 and 7 year-old children demonstrated the same ability as adults in the learning of an artificial language. More research indicated children's high efficiency in learning implicitly compared with adults (Janacsek, Fiser and Nemeth, 2012).

Commercials influence buying and consumption behaviour through learning. Exposing children to advertising leads to a learning process due to implicit processing consisting of different memory structures. Conditioning evaluation and learning by association (Shimp, Stuart and Engle, 1991), as well as memory activation via mere exposure (Zajonc 1968; Baker, 1999) are the learning processes that are relevant for the effects of advertising on children. Most of these studies have been applied to adults. However, the work done by Janacsek, Fiser and Nemeth (2012) suggests that children will be influenced more by implicit learning than adults. For example, Sullivan et al. (1991) have found that conditioning evaluation can be detected in children from birth on.

Mere exposure effects are based on previous activations, not on associations (Grimes and Kitchen, 2007). For instance, a child who is exposed to a brand logo creates traces to implicit memory that are connected to the logo features and its related semantic

content. Memory traces will probably be activated when the child views the logo at a later point of time. This will lead to perceptual fluency that probably will guide the attention to the brand, create a positive affect and give the child a sense of familiarity resulting in considering the brand and finally affecting choice.

A study of the effect of mere exposure on children was conducted by presenting children with scenes from the movie Home Alone with a soft drinks logo appearing or not appearing. The study showed that when children were exposed to the soft drinks logo they were more inclined to choose the soft drink than when they were not exposed to the logo (Auty and Lewis, 2004).

The discussion above leads to the suggestion that interventions that target implicit processes at the exposure stage (stage 1) can be more effective than those targeting explicit processes (such as advertising literacy which is known to be an intervention targeting explicit processes).

3.3.2 Dual Processes and Consumption Decisions

Researchers indicated that many unwanted buying and consumption decisions include some conflict with self-control and self- control goals (Hoch and Loewenstein, 1991). Children might get the impulse to buy an unhealthy snack or pester their parents to do so. However, children may also have goals that assist in controlling those impulses. For example, children might have an internal goal that can interfere to curb an impulse like saving money to buy a bike, or children may have external goals imposed by parents

(e.g. parents' state that they do not like the pestering or the fact that is not acceptable to eat unhealthy food).

Researchers indicated that reflective–impulsive model suggest that the self- control conflict happens between the implicit and explicit processes. In the model, impulse behaviour (implicit processes) can be overridden by the explicit processes if the person has the capacity to do so (Strack and Deutsch, 2006; Strack and Deutsch, 2004). Research has indicated 3 factors contributing to self-control being dominant in a self-control conflict (Muraven and Baumeister 2000; Hofmann, Friese and Strack, 2009; Fazio and Towles-Schwen, 1999): (1) the strength of the impulse, (2) the presence of self-control goals, and (3) the self-control capacity. Exposure to advertising is the main influence for the impulse strength (stage 1 in the buying and consumption process). When children form a memory structure which positively associates with the brand or the product, the impulse becomes stronger. Self-control goals can either be selected by the child or set by parents or caretakers. The self-control capacity refers to children's ability to successfully address the self-control conflict and to follow the self-control goal during the buying decision.

Based on the above, the following hypotheses were formulated:

H1: Social Media Unhealthy food Advertisement Exposure has a negative effect on advertising- based defensive memory formation.

H3: Advertising-based defensive memory formation has a positive effect on advertising-based defensive memory application.

3.4 The Moderating Effect of Parental Interventions in Mitigating the Effect of Social Media Food Advertising

Previous studies highlighted the crucial role of parents and their interactions with children in influencing children's advertisement processing and how these advertisements affect them (Buijzen and Valkenburg, 2003). Also, previous studies explored the different parental intervention strategies as well as how children impact their parents' decisions due to advertising exposure (Bijmolt, Claassen, and Brus, 1998; Wilson and Wood, 2004).

Parental interventions can be introduced during the first stage of the advertising effects process (during exposure) and the second stage (at the purchase and consumption stage). Additionally, research showed that implicit processes are active in early stages of childhood (Janacsek, Fiser and Nemeth, 2012); it is assumed that self-control mechanisms can apply to younger children. Hence, it is important to establish interventions that promote self-control on an implicit level during at least one of the two stages of the advertising process.

For first stage interventions, the literature identifies three types of parental interventions which rely on explicit processing: (a) restrictive or rules of use (which refers to forming parental rules that regulate the use of social media in terms of time,

content and platform), (b) instructive or parent- child communication (which refers to discussing the content and its commercial messages), and (c) Co-viewing (which refers to the act of parents monitoring social media with their children) (Warren, 2005).

Rules of Use: Parents are more likely to dictated what not to watch on their children as well as the span of time spent watching specific programs or on specific media. Children have reported that parents often use television time as a reward or punishment scheme (Chan and McNeal, 2003) . Previous research showed that parent exert control over viewing time as well as the viewed content on different online platforms (Cornish, 2014). The main reason for this parental control over viewing time as well as platform was to minimize the chance of children being distracted or manipulated by advertisements or other malicious content (Bin, 1996).

Parents can play a vital role in the children's advertising exposure leading to memory formation and memory application (buying decisions and consumption). This is mainly because a big part of media use by children takes place at home (Buijzen, 2007). In particular, parents have the authority to restrict social media use by children and regulate the time spent on such media which is basically referred to as rules of use (Shin, Huh and Faber, 2012).

Parent- Child Communication: Previous research demonstrate parental communications can have an impact on children with regards to advertising effects. Discussing commercials and their content allow parents to increase their children's

immunity towards advertising and lessen the advertising-induced side effects (Moschis & Churchill, 1978).

Parents are usually concerned about children's exposure to media stems from personal and cultural differences in the extent to which they allow external influences on their kids (including mass media) (Rose, Bush and Kahle,1998). Parent- child communication provide a way of evaluating the dynamics between parents, children, and advertisements (Carlson, Grossbart and Stuenkel, 1992) and advertising practices (Carlson, Grossbart and Walsh, 1990).

When parents use interventions that consist of high involvement with their children (where parents discuss social media content), children will be less inclined to surrender to social media seductive allures (Miyazaki, Stanaland, and Lwin, 2009).

Co- viewing: Past research showed the benefits of Co-viewing in mitigating advertising effects. Parents can monitor and make comments during commercials to promote choosing healthier food or reducing their preferences for unhealthy snacks (Galst and White, 1976); however, similar studies on the effects of Co-viewing were mainly done on traditional media formats (i.e. television). Spiteri Cornish (2014) stated that parents are the gatekeepers for social media advertising targeting children.

Other studies highlighted the media platform in which parents usually monitor and discuss content with their children. For instance, a study found that parents mainly intervene to counter food commercials conveyed through traditional advertising formats (Newman and Oates, 2014). This may be due to the fact that parents are not familiar or aware of other advertising formats (such as brand placement or sponsored contents). This gives an indication that parents may not possess the proper advertising literacy for these other formats (Evans, Carlson, and Grubbs Hoy, 2013; Spiteri Cornish, 2014). Similarly, research by Newman and Oates (2014) shows that non-traditional media such as social media are not usually identified by parents as channels of food advertising.

For second stage interventions , Büttner, Florack and Serfas (2014) stated that there are 3 techniques which are appropriate to promote implicit self-control in children in the second stage of advertising effects process: (a) Goal setting, (b) imitation of parents and (c) forming if, then heuristic (or as referred to as implementation intentions).

Goals Setting: Parents are the primary source for self-control goals and how to exercise self-control (Vazsonyi and Huang, 2010), and they are most likely to escort children during shopping. Therefore, successful self-control interventions can be imposed by parents.

Goals which are set as an intervention for self-control are initially explicit. In an experiment done with children, they were placed in a room with marshmallows on the table and were instructed to wait until the conductor of the experiment returned to have the marshmallows (Mischel, Ebbesen and Raskoff Zeiss, 1972). The goal was set through an explicit instruction. This is similar to a situation in which parents instruct their children during shopping to; for example, refrain from selecting unhealthy snacks from the shelves. Parents can first set the goal in an explicit way; however, the actual activation of the goal can become automatic as time passes. In addition, parents can stimulate alternative goals, for example to find a specific product. Children pursuing a specific goal while shopping with their parents might be less likely to think and reach for other products (such as unhealthy food). This is due to the fact that focal goals hinder the activation of alternative goals as stated by Shah, Friedman and Kruglanski (2002), and restrict the attention (Fujita, Gollwitzer and Oettingen, 2007). Goal setting can be inverted as well, for instance, when parents fail to set correct goals with regards to eating healthier options and engage in the repeated action of choosing healthy snacks, children will fail to follow the correct implicit self- control goal.

Imitation of Parents: Imitation in children is a natural behaviour that is performed from birth on, specifically in imitation of parents (Bandura, 1977; Bandura and Walters, 1963). Individuals gain skills as well as tactics to manage tasks by observing behaviour (Bandura, 1997). Martin and Bush (2000) state that parents play an integral part in influencing buying and consumption intentions and behaviour. Therefore, parents can enhance self-control in children by engaging themselves in self-control actions, such as ignoring the temptation of eating unhealthy food and choosing a healthier option. In addition, parents form beliefs and values in children via behaviour and involving in

tasks and selections, and expressed attitudes. For example, if children recognize a brand preference by their parents, they might imitate the behaviour and create positive associations toward the brand (Jacobs and Eccles, 2000).

Thus, it is important to understand that implicit processes of self-control develop by repeated instances. additionally, children have to implement self-control on their own in order for the behaviour to be automatic and successful.

If, then Heuristic : It is possible for parents to apply interventions as a promising technique to form children's reactions towards brands alongside being a role model for children or giving them tasks to set goals and/or develop goal shielding. Previous research showed that if, then heuristic interventions are very effective mechanisms in automatizing self-control (Gollwitzer and Oettingen, 2011; Gollwitzer, 1999). Basically, these interventions are done by specifying a condition (if) under which they plan to exhibit a specific behaviour (then). A simple example of if, then heuristic is: “If I see a soft drink, I buy water". If, then heuristic is an intervention that delegate control to the implicit system. If, then heuristic techniques are formed by the explicit system through thinking and planning, but the implementation operates in an implicit, automatic way (Gollwitzer and Sheeran, 2009). Two mechanisms support the influence of if-then heuristics . First, the “if” part is constantly accessible in memory; meaning, individuals are quick to detect the circumstances that call for the execution of the “then” part (Gollwitzer and Sheeran, 2009; Aarts, Dijksterhuis and Midden, 1999). Second, developing a heuristic intention forms a strong association in the memory between the “if” and the “then” element (Webb and Sheeran, 2007). As a result, triggering the “if”

element (seeing a soft drink) should automatically activate the “then” part (buying water). Researchers found that the simple technique of forming if, then heuristic strategies means that they are highly effective mechanisms to ensure successful goal achievement. Gollwitzer and Sheeran (2006) used 94 studies to perform a meta-analysis that looked at the effectiveness of if, then heuristic techniques and found an overall medium-to-large effect. If, then heuristic techniques were successful through a wide range of self-control fields, such as engaging in a low-fat diet, athletics and academic performance (Achtziger, Gollwitzer and Sheeran, 2008; Armitage, 2004; Bayer and Gollwitzer, 2007). In addition, if, then heuristic techniques have also been found to be effective with children. If-then heuristics help children to disregard attractive distractions (Wieber et al., 2011), improve the capacity to delay gratification (Gawrilow, Gollwitzer and Oettingen, 2011), and simplify flowing between tasks .If, then heuristic techniques, interestingly, assisted self-control in children diagnosed with ADHD (Attention deficit Hyperactivity Disorder), a disorder that is associated with excessive impulsive behaviour (Gawrilow, Gollwitzer and Oettingen, 2011; Gawrilow and Gollwitzer, 2008).Other researchers argue that specifically younger children will benefit from if, then heuristic techniques because they are less likely to develop plans by themselves and have less self-control skills compared to older children (Wieber et al., 2011). This means that children need to be supported by their parents to develop if, then heuristic strategies. For example, a child might have a higher goal of saving up to buy sports gear from his or her pocket money as suggested by parents instead of spending it on unhealthy food.

Based on the above, the following hypotheses were formulated:

H2a: Parent-child communication moderates the relationship between Social Media Unhealthy food Advertisement Exposure and advertising-based defensive memory formation, such that the effect of social media unhealthy food advertisement exposure will be weaker (stronger) for parents that use (do not use) the parent-child communication intervention on advertising-based defensive memory formation.

H2b: Rules of use moderates the relationship between Social Media Unhealthy food Advertisement Exposure and advertising-based defensive memory formation, such that the effect of social media unhealthy food advertisement exposure will be weaker (stronger) for parents that use (do not use) the rules of use intervention on advertising-based defensive memory formation.

H2c: Co-viewing moderates the relationship between Social Media Unhealthy food Advertisement Exposure and advertising-based defensive memory formation, such that the effect of social media unhealthy food advertisement exposure will be weaker (stronger) for parents that use (do not use) the co-viewing intervention on advertising-based defensive memory formation.

H4a: If, then heuristic strategy moderates the relationship between advertising-based defensive memory formation and advertising based memory application, such that the effect of advertising-based defensive memory formation will be stronger (weaker) for

parents that use (do not use) the if, then heuristic intervention on the advertising-based defensive memory application.

H4b: Goal setting moderates the relationship between advertising-based defensive memory formation and advertising based memory application, such that the effect of advertising-based defensive memory formation will be stronger (weaker) for parents that use (do not use) the goal setting intervention on the advertising-based defensive memory application.

H4c: Imitation of parents moderates the relationship between advertising-based defensive memory formation and advertising based memory application, such that the effect of advertising-based defensive memory formation will be stronger (weaker) for parents that use (do not use) the imitation of parents intervention on the advertising-based defensive memory application.

The resulting conceptual model based on the above hypotheses is presented in Figure 3.2.

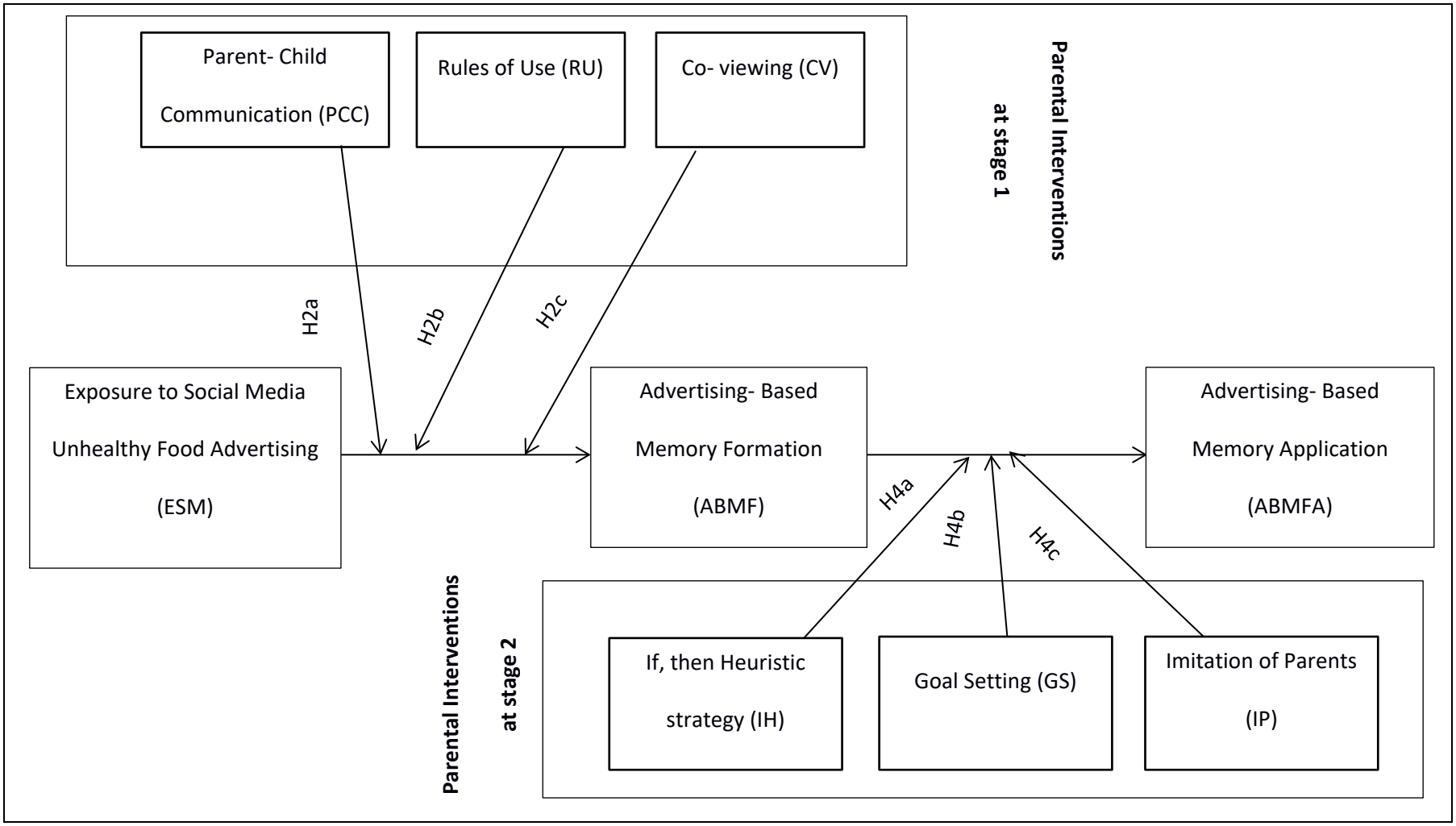

Figure 3.2 Suggested Conceptual Model

3.5 Summary

The review of research showed that implicit as well as explicit processes effect the buying behaviour of children and that advertising literacy techniques are not enough to prevent or mitigate unintended advertising effects. Even if children are aware of the effects of advertising during exposure, many implicit advertising influences can affect their memory formation and hence memory formation. In this regard, strong protocols for advertising targeting children seem to be necessary (Calvert, 2008; Mitchell, 1998). Yet, it is evident that regulation alone will not solve the problem. Therefore, this thesis suggested parental interventions to mitigate unintended advertising effects on children by targeting implicit, automatic processes that promote self-control in both stages of advertising effects process. This research bridges the above-mentioned gap by proposing a conceptual model to investigate the moderating effect of parental interventions on children's food buying behaviour when exposed to social media food advertisements. The next chapter will present the methodology followed to investigate this conceptual model.

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Chapter 4 : Research Methodology

4.1 Introduction

The importance of scientific research is characterized by its relentless pursuit of developing and enriching knowledge and methods of acquiring it. Thus, scientific research as a whole represents the thinking and perception, and this is through study, investigation, and the right and moral reasoning, so it should always link scientific research with methodology that it is based on. Scientific research is based on a fixed and specific approach, governed by steps, which forms rules and principles that must be observed by the researcher. The research methodology is only organized steps followed by the researcher in addressing the topics that are studied until it reaches a certain result. The research methodology is the way that researchers adopt to achieve their desired goal. It seeks to explore the principles that regulate the social, educational and human phenomena in general and lead to their occurrence so that they can be interpreted and controlled. Scientific research just describes the problem or the phenomenon of the subject of the research which it understood and interpreted, by identifying its place in the overall framework of the organizational relations to which it belongs, and formulating the generalizations that explain the different phenomena. It is one of the most important goals of science, especially those that reach a degree of comprehension and raise them to the rank of scientific laws and theories. In addition to that, the research methodology is the path that researchers take in their research, that is, the path to it, as it is always based on the question and the answer that is finally obtained. The research methodology depends on the method used by researchers in how to put science and facts as well as how to formulate them in the right form in order to access

the information, which then enables readers to verify their validity through the method that was followed from the beginning.

In any relevant study, the researcher as the process to achieve intended objectives of the investigation implements the research methodology, and the structured departmental design of research is provided in order to make informed decisions. Furthermore, there are many things that should be taken into account when undertaking research has been detailed to comprise the research methodology.

The objective of research is behavioural ends obtained as a result of the specific activities directed towards this, which are a scientific formulation and a link between the procedural concept of the independent variable and the dependent variable. This research aims to investigate how parental interventions with regards to social media food advertising influence children's food buying behaviour as well as to analyse the outcomes and emphasizing the significant relationships between the constructs proposed in the hypothesized model. The answer to questions or the realization of hypotheses that researchers pose in their research requires the collection of data obtained from the field of study, then researchers analyse these data and draw conclusions that may confirm or refute the validity of these hypotheses. In fact, the data needed by the researcher are respondents' answers to questions that are directed in order to reveal their values and attitudes towards specific issues and situations. Thus, this chapter comes to explore such procedures; it comprises introduction, research philosophy, research design, data collection procedure, sampling and population, reliability and validity, data analysis procedures, ethical issues, summary.

4.2 Research Philosophy

This section delineates the philosophical viewpoint of research and the researcher's orientation (Schadewitz and Jachna, 2007). Research philosophy is divided into three main branches: ontology (subjectivism, objectivism, and pragmatism), epistemology (Positivism, Interpretivism, and Realism), and axiology. Scientific research depends on the different philosophical approaches according to the research subject, as it is the conscious intellectual knowledge applied in different sciences. According to Saunders, Lewis and Thornhill (2009), there are two major research philosophies that are positivism and interpretivism.

The concept of phenomenology is believed to be socially formulated and its meaning is derived from the people themselves (Bashir, Tanveer and Azeem, 2008). In addition, phenomenology directs the activities of study toward understanding how people comprehend the world, using a variety of different approaches in the late nineteenth century; the natural scientific approach of positivism was adapted for theory by social scientists (Englander, 2012).

Positivism	**Interpretivism**
Explanation and strong prediction	Understanding and weak prediction
Quantitative Data	Qualitative Data
Researcher and reality are separate	Researcher and reality are inseparable
Absolute laws	Relative meaning
Objective meaning	Subjective meaning.

Table 4.1 Positivism vs. Interpretivism (Source: Collis and Hussey, 2009)

The inductive approach installs all the variables that affect the search problem except for one variable that is selected for study. This change in reality is called experimentation. It is one way that can be used for scientific observation of phenomena, which can collect data on those phenomena to understand and predict. In addition, the inductive approach is based on the process of deriving laws from facts, while the process of conclusion is based on the thought transmission from principles to results in a purely mental manner (Atta, Ayaz and Nawaz, 2015). The inductive approach derives its certainty from the return to experience, that is, the researcher must return to the sensory perception in order to verify the validity of the experiment. The inductive approach aims to reveal all that is new, because it does not summarize the introductions only (Saunders, Lewis and Thornhill, 2009). It progresses gradually in generalization until it reaches a general rule. In this approach, the researcher is committed to conducting an in-depth analytical study of each of the parts of research. This requires that researchers put aside their own point of view when doing the necessary analysis. The inductive approach is divided into two parts: full induction and incomplete. According to Yin (2009), the application of the inductive approach is based on three main steps:

1- Observations are all information and data collected, analysed, categorized, and summarized by the researcher.
2- Hypotheses are a set of ideas to reach a particular interpretation. This interpretation may actually accept the application or reject its application. The researcher is keen to present a set of hypotheses and compare them to the appropriate ones for application within the scope of research.

3- Experiments are a test conducted by researchers that help them determine the success of applying the method in scope allocated. This experiment may be scientific related to chemical reactions, or depend on the applications of mathematics related to the numbers and their equivalents, or written to identify the success of the text in communicating ideas.

On the other hand, the deductive approach is a form of logic, as it starts with a general statement or hypothesis. Thus, the deductive approach will not be valid and correct unless the hypothesis presented by the researcher is correct. If the researchers make the wrong hypothesis, it means that they will reach the wrong results. The researcher then studies the possibility of reaching a certain result (Collis and Hussey, 2009). This method uses the idea of observing the evidence in order to ascertain the validity of the theories. Through this approach, the researcher develops a theory, and then predicts the results of this theory, in case the observations on which this theory was built sound and correct. In this approach, which applies to any member of the group, it will certainly apply to the rest of its members. The deduction function is intended to derive results from the study and examination of introductions and available data on a particular phenomenon (Atta, Ayaz and Nawaz, 2015). Using the Induction Statistics method it is possible to forecast the rate of increase in production and the amount of change in absentee ratio. In this case, the accuracy of the prediction depends on many factors such as the appropriateness of the statistical instruments used, the size of the sample, and the statistical procedures taken at the time of selection (Bashir, Afzal and Azeem, 2008). Due to the large amount of data, that research produces, the positivist research philosophy, as well as the deductive approach for the present study, quantitative research methods is selected and it would be most appropriate.

4.3 Research Design

Research design can be considered as strategy adopted by the researchers in aim to find answers of their research questions and achieve their research goals and purposes. On the other hand, the research design of every study must be common sense, clear, and achievable and must have the capability to challenge the research problem in the correct technique without producing any type of confusion. There are many types of research design, and every single type has a certain group of aims, for instance, meta-analytic, experimental, descriptive and correlational (Richard, 2013). The experimental design can be defined as a scientific approach to research, where researcher improvements the control of the study settings and features to check the results and the way that they are influenced by those aspects. However, the researcher in descriptive approach, looking for collecting data related to the study's case to explain it as it is (it's also named static research). The approach that is looking for determining the correlation among two kinds of variables is called correlational approach (Kumar, 2005). The researcher in this study used quantitative methods, aiming to make data capable of being gathered and analysed, using highly suitable, strong, and accurate data. Sometimes using single-methods approach, it can be defined as the research designs which employ several methodologies with the aim of gathering a combination of qualitative and quantitative data (Fisher and Stenner, 2011). Therefore, this research uses only questionnaires in order to gather data.

The main goal of quantitative research is offering correct and descriptive explanations of a specific phenomenon. As major goals of collecting data lie completely in the outline key data relating to a citizen population at a particular part of time, which means that the major purpose of quantitative research lies in outlining and formulating a plan

of the environment regarding a specific phenomenon (Berg, Lune and Lune, 2004). Quantitative research and its evaluations contribute in creating beneficial and useful visions, and lead to hypothesis-formation. Certainly, quantitative research is mainly used to describe variables as an alternative of analysis predictable associations between variables. The mixed method also gives more precision to the study, as qualitative data can support the results generated through the questionnaire with deeper and more detailed information (Kumar, 2005). Explain whether you started with interviews and then designed the questionnaire or vice versa.

Quantitative research aims to assess in the gathering of accurate data and by offering a clear, full details of phenomena in the study. For present research, the quantitative research is completely fitting, as its realistic and precise description is essential to clarify the examination of the research subject. Different stuffs are exemplifying the considering the descriptions of descriptive research (Creswell et al., 2003). Firstly, quantitative research is restricted by collecting data instead of looking for justify why fact offers itself in a certain form. Secondly, objectively consider as a new feature of quantitative research, objectively involved that quantitative research explains in what way the reality is, that directly mean that the question of study must concern with of what way the reality should be (Marshall and Rossman, 2014). The third point, and the final one, quantitative research is offering customary records, which consist of a clearest procedure, where the explaining consider as the reader or other corrections responsibility. Then again, sliding scale is connected among pure description and analysis, and among the explanation and assessment which are considered as the main application to the objective-subjective aspect itself. It worthy mention that evaluation

and explanation of the data usually totally objective since humans usually have a level of bias to their studies (Creswell and Creswell, 2017).

The design will be used through this study will be quantitative; moreover the researcher will use the questionnaire in aim to solve the study problem and realising the major goals of research. This method is adopted for the following reasons as explained here. This method contributes to an understanding of the experiences and situations of research participants (parents), and contributes when research is confirmatory rather than exploratory i.e. this is a frequently researched subject, and numerical data from previous research is available. Also, this research is trying to measurement a trend and orientation (almost impossible with qualitative research) and there is no opacity about the idea and variables that measured, and there is only one way to measure each idea and variable, so the idea and variable are measured by a ratio or ordinal scale (Sekaran and Bougie, 2016). In this research, the quantitative design was used to examine whether there are a theoretical relations between co-viewing (CV), rules of use (RU), parent-child communication (PCC), imitation of parents (IP), goal setting(GS), heuristic strategy (IH), social media unhealthy food advertisement exposure (ESM), advertising-based defensive memory formation (ABMF), and advertising defensive memory application (ABMA). And since the target audiences for this research are parents of children between 8 and 12 years old in the GCC, the suitable methodology for capturing a large proportion of the target population is the quantitative method. The use of quantitative methodology in this research is in line with similar studies conducted previously in advertising and consumer behaviour research (e.g. Tarabashkin, 2014; Hudders, Cauberghe and Panic, 2016; Reisch, 2013; Tarabashkina, Quester and Crouch, 2016; Folkvord, 2016)

There is a lack of research concerning the building of decisional models to investigate how parental interventions with regards to social media food advertising influence children's food buying behaviour The researcher believes the quantitative approach will provide more substantial facts about the phenomena under study, as it involves statistical analysis (Veal, 2005). This method also helps in comprehending the experiences of research participants, and contributes most effectively. People in general do not have the time for interviews, thus, rather than aiming for long interviews, they will be asked to answer a questionnaire that expresses the main concept of study, as well as their point of view (Ioannidis et al., 2014). Figure 4.1 shows the procedure for the research methodology.

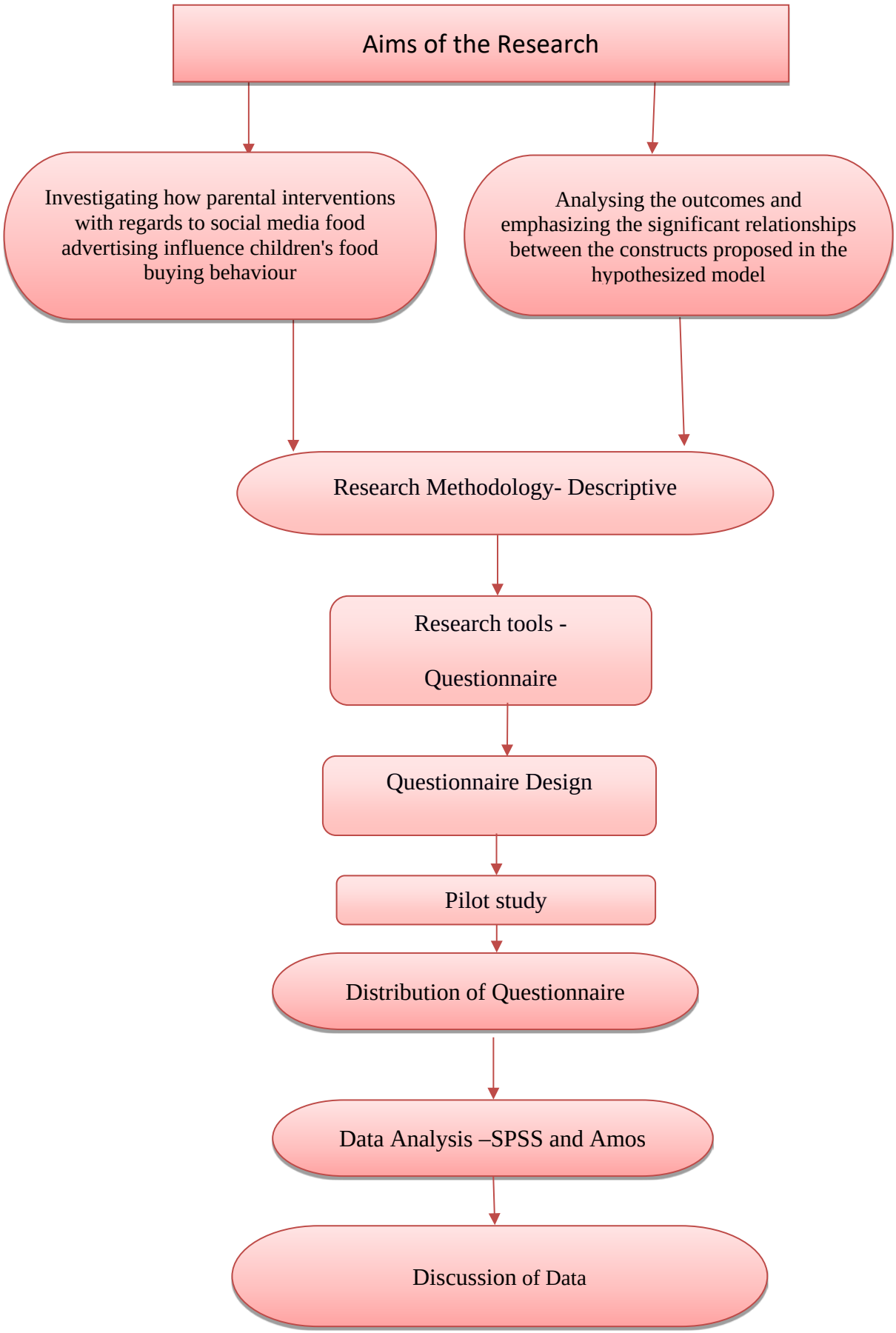

Figure 4.1 The Procedure for the Research Methodology

4.4 Operationalization of Variables

Variables can also be categorized into a number of classifications according to purpose as follows:

1. Quantitative variables and qualitative variables:

Quantitative variables can be categorized into connected quantitative variables which reflect a connected quantity of property or attribute, as the individual may have any degree in the correct or fractional property such as weight, height, age as well as separate quantitative variables whose values are only valid values such as the number of pupils and number of family members (Bernard, 2017). On the other hand, qualitative variables cannot be statistically treated unless they are distinguished from one another by using the numbers, for instance, the female variable number 1 and male variable 2 or vice versa. Furthermore, the number in this case does not mean more than it is a tool for the distinction between qualitative variables to facilitate the discharge of data collected from the field of study in order to be treated statistically, which do not have a numerical value in it (Richard, 2013).

2. Dependent, independent and intermediate variables: the variables can be classified according to their role in the occurrence of the phenomenon under study as follows:

A- Dependent Variables: are those variables that try to explain, know the reasons for their occurrence and the extent to which they can be predicted.

B- Independent Variables: are those variables that have played a direct role in the occurrence of dependent variables, as it is used to support interpretation and

understanding of the changes that occurred in these variables as well as to predict the situation that will follow (Ragin, 2014).

C- Intermediate Variables: are those variables which the effect of independent variables on dependent variables passes through. Intermediate variables are very important in interpreting the occurrence of social phenomena as they may be overlooked by researchers or may be seen as independent variables for their direct association with dependent variables (Bernard, 2017).

4.5 Data Collection Procedures

The most important stage in the statistical process is the data collection stage. Any error in the data collection process will result in false statistics. Thus, data sources must be correct and accurate. It may be no different that the results of the study depend largely on how the data are collected as well as the methodological tools used for this purpose (Sekaran, 2006). Data collection tools are an essential means of obtaining information relevant to the underlying phenomenon. In order for researchers to obtain the information that serves their research, they must choose the tools that are appropriate to the nature of the subject. There are two types of data sources:

4.5.1 Primary Sources

The primary source data used in this study were collected using questionnaires, which were designed with the goals and objectives of research in mind. A detailed description of the questionnaires will be given later, which will include presenting their contents, the factors behind choosing them, and additional details.

4.5.2 Secondary Sources

To provide the theoretical framework for the subject, the following resources were used: Journal articles, published papers, and referred preceding studies from different countries that studied the same regarding Co-viewing (CV), Rules of use (RU), Parent-Child Communication (PCC), Imitation of parents (IP), Goal setting(GS), heuristic strategy (IH), Social Media Unhealthy Food Advertisement Exposure (ESM), Advertising-based Defensive Memory Formation (ABMF), and Advertising Defensive Memory Application (ABMA). Also books and available cited electronic versions of academic and professional papers were used.

4.5.3 Questionnaire

A questionnaire method is a tool consisting of a list of question to collect information about the specific subject. A well-designed questionnaire plays a considerable rule to collect valid, reliable and unbiased data. A questionnaire can be identified either by researcher or by software (Waure et al., 2015). It is an effective way to survey the views of a large number of people to know the facts, practices, opinions and tendencies of individuals. It facilitates access to individuals in different locations at reasonable cost. In this research, the questionnaire is a means of collecting the necessary data to verify the hypotheses of the problem under study or to answer the research questions. There are three types of questionnaires: open ended, closed ended, and mixed. When designing the questionnaire, certain conditions must be observed to ensure the accuracy and validity of the results (Phellas, Bloch and Seale, 2011).

The questionnaire is an access tool, which is a set of questions and/or written statements with answers and/or potential opinions or a blank answer. The questionnaire is used to obtain information, data and facts that are only known to the individuals concerned and

cannot be obtained by another tool. Questionnaire is the means used to gather data from the field about a particular problem or phenomenon. It also means a set of written questions (or statements) written by the respondent, which is an appropriate tool for collecting data on the views or attitudes of the respondents on a given topic. A form designed by the researcher in the light of theoretical frameworks relevant to the problem of research, according to the basis of science, which includes the questionnaire preliminary data on the respondents and questions or statements of the report on the problem of research (Waure et al., 2015). The design of the questionnaire includes the development and preparation of the initial form of the questionnaire. The questionnaire consists of several elements, such as: the cover of the questionnaire, the speech addressed to the interviewer, the initial data, and the questions that revolve around the research objectives. Also, researchers use one or more methods in distributing copies of their study questionnaire. The process of selecting the distribution method affects the researcher's circumstances, and the time period for collection of field data.

Advantages	Disadvantages
- Information from a large number of individuals can be obtained geographically dispersed by means of questionnaire in the shortest possible time as compared with alternative data collection methods.	- The existence of unanswered questions by respondents; this may be due to the type of questions or personal reasons of the respondent.
- Questions are uniform for all sample members, while they may change the format of some questions when asked in the interview.	- Some copies may be lost while they are mailed or in some other way or by some respondents.
- Questionnaire design and the questions' module facilitate the process of compiling information, thus interpreting it and reaching appropriate conclusions.	- Answers to all the questions may not be complete because the answer to that question is neglected inadvertently or deliberately.
- The questionnaire gives the respondent sufficient time to answer.	- The person answering the questions may consider some questions not worth giving part of their time
- Many researchers consider the information available on the questionnaire to be more objective than interview answers or other data collection methods, since most questionnaires do not carry the name of the respondent, which motivates them to provide reliable and correct information.	- The researcher cannot observe and record respondents' reactions due to loss of personal contact with them. These emotions may be important information for the subject of the research.

- The questionnaire is one of the least means of collecting information, both in the effort and the money. The implementation and management of the questionnaire does not require a large number of trained researchers, because the answer to the questions and their writing is left to the same respondent.	- The language may be incomprehensible and the method is unclear, which bears multiple interpretations. This may cause confusion among respondents, leading to inaccurate answers.

Table 4.2Advantages and Disadvantages of Questionnaire (Source: Phellas, Bloch and Seale, 2011)

4.5.3.1 Design of the Questionnaire

In order for current research to be conducted correctly, a questionnaire has been incorporated according to set goals (depending on reviewing previous research on this field). It is a tool used to collect required data. It includes a set of questions, the questions must be clear and easy to understand short so that the answer is easy and does not dull the person in question (Greasley, 2008). In this Research, the Questionnaire consists of two sections:

- **First Section:** related to personal demographic data including, the gender and age of participants and their children, age, educational level, nationality, and the monthly income). In addition to general questions such as how many hours per day did your child spend on social media? And which of the social media were most commonly used by your child?
-
- **Second Section:** related to specific questions specific to the subject of study, and divided into: Co-viewing (CV), Rules of use (RU), Parent-Child

Communication (PCC), Imitation of parents (IP), Goal setting (GS), heuristic strategy (IH), Social Media Unhealthy Food Advertisement Exposure (ESM), Advertising-based Defensive Memory Formation (ABMF), and Advertising Defensive Memory Application (ABMA). Furthermore, the questionnaire presented display to the number of arbitrators before it applied, and its validity test through Cronbach's alpha test. In addition, Questionnaire including 35 questions was oriented for all dimensions of the study as presented in table 4.3. When writing questions, the researcher takes into account many things such as to be short so that it does not exceed twenty words, to be unclassified in the past, do not express a fact or be interpreted as a fact, to contain one simple unassembled idea, to be written in easy and clear language, to be an aesthetic, emotional, emotional, according to the subject to be measured, and to reflect the direction to be measured including sub-components.

-

Adopted From	**Measuring Items (See the appendix)**	**Construct**
Buijzen, Schuurman and Bomhof (2008); Halford et al. (2004); Andreyeva, Kelly and Harris (2011)	ESM Q1-Q3	Exposure to Social Media Unhealthy Food Advertising (ESM)
Buijzen, Schuurman and Bomhof (2008); Halford et al. (2004)	ABMF Q1-Q4	Advertising- Based Memory Formation (ABMF)

Caruana and Vassallo (2003); Chan and McNeal (2003)	PCC Q1-Q4	Parent- Child Communication (PCC)
Savage, Fisher and Birch (2007); Chan and McNeal (2003)	RU Q1-Q4	Rules of Use (RU)
Lwin, Stanaland and Miyazaki (2008)	CV Q1-Q4	Co- viewing (CV)
Buijzen, Schuurman and Bomhof (2008); Halford et al. (2004)	ABMA Q1-Q4	Advertising- Based Memory Application (ABMA)
Büttner, Florack and Serfas (2014)	IH Q1-Q4	If, then Heuristic strategy (IH)
Büttner, Florack and Serfas (2014)	GS Q1-Q4	Goal Setting (GS)
Grier et al. (2007); Lwin, Stanaland and Miyazaki (2008)	IP Q1-Q4	Imitation of Parents (IP)

Table 4.3 Research Questions and Evidence from the Literature

4.5.3.2 Scale of Questionnaire

The Likert scale is a sum of responses collected on questionnaire paragraphs. It consists of two parts: the stem, which defines behaviour, and the ladder, which a measure used to determine the degree of approval. The Likert Scale is one of the methods used in the measurement of scientific trends and educational research, psychological and social, to shorten time and effort. The Likert Scale is characterized by its ease of design, application, correction, the high degree of stability and reliability (Joshi et al., 2015). There are some conditions that should be taken into consideration when designing and

designing trend measures in the Likert Scale, including balance between positive and negative paragraphs of the scale as they are distributed randomly, and analyzing the stems of the scale in the appropriate statistical methods, especially with regard to validity and reliability.

The person who takes the test chooses one box that is similar to what he/she is convinced with. The middle box is the neutral box. Research has shown that it is best to use 5 or 7 options. Drawings can also be used to determine the level of approval. This scale is based on bipolar measurement which measures the either positive or negative response. In some cases, the neutral box is deleted to induce a clear position "with or against". After respondents finish answering all the questions, each question can be analysed individually. Also, the answers to a set of questions can be collected to obtain a collective result for each group. The importance of questionnaire preparation to initiate the definition of the stages, which will be tested to extract the results, was elaborated by Sekaran (2006). In fact, the final results depend on the interdependence of all stages, so every stage needs to be carefully designed.

Firstly, through a geographically extended questionnaire it is possible for the necessary data to be obtained from a large number of individuals, which leads to the shortest possible time with alternative means of data collection. Secondly, other strategies produce more cost and effort in comparison to the utilization of questionnaires for gathering information, as installing and managing a questionnaire does not require a great amount of trained researchers. Thirdly, in comparison to the interview or other data collection methods, questionnaires stimulate more objective, reliable and correct

information, as most surveys are not formulated with respondent's name. Fourthly, the value of the questionnaire is increased through its nature of rationing the order and record of questions and answers, which is not available by through other strategies. Fifthly, the pressure to scrutinize the information is reduced, as enough thought time in the answers is provided by the questionnaires. Sixthly, contrary to many tests and interviews, the questionnaire provides the participant with ample time to think without psychological pressure. Finally, the questionnaire aids in obtaining information that could have been deemed too embarrassing or sensitive by the participants in the interview. Therefore, there are various valid reasons for the questionnaire strategy to be chosen, which makes it the most appropriate for data collecting strategy for this research (Sekaran, 2006).

4.6 Population and Sampling

A population can denote the overall groups of explanations (measures) about which one would like to draw conclusions. In addition, the population is a group of elements or individuals that are interested in a particular study. In other words, it is all the elements to which the research problem relates (Bamberger, 2013). While the sample is a subset of the community, as it is studied to identify the characteristics of the community from which this sample was drawn. The sample must be representative of the society correctly. The population indicates that the specific interests of the detective determine the set of observations, which constitutes the population (Al-Hosis, Mersal and Keshk, 2013). The sample size is the number of its items and usually the study is conducted on the sample. Moreover, the investigation can make conclusive macro-observations in relation to the entire target population if the sampling is conducted correctly. The

researcher's time and expense is spared by extracting a small sample from a large target population. In empirical research, the main use of statistical inference is to obtain knowledge from the determinant of a big remit of people, or other statistical units, from a smaller amount of similar components. According to (Bamberger, 2013), there are many conditions for sample selection that are:

1. The sample chosen should not be biased or favouritism in the sense that it should be taken from among the members of the original society at random.

2. The phenomenon to be a studied is prevalent and widespread in the original society and is not a rare occurrence.

3. The sample must be representative of all categories of the original society.

4. The homogeneity of the original society members should be assumed. If this is not possible in some heterogeneous societies, the researcher will divide it into small homogeneous communities.

5. The need to make a prior requisite for all the original community members to be discussed with the division of this community to sampling units. For example, when studying a population, the sampling unit is either the family as a unit of analysis, the individual or the community and may be the community for large communities.

6. The choice of the size and type of the sample should be consistent with the primary objective of the researcher; the nature of the community, the type of problem studied and so on.

It is clear that the benefit of a research sample is to shorten the time and effort required to complete the research and thus save a lot of money. Full and accurate responses can also be easily obtained if the researchers use a part of the overall community. It also facilitates the tracking of non-respondents in the case of the research sample, while this is difficult in the case of a comprehensive population. In addition, more data can be obtained from sample members, allowing for rapid analysis and discussion. Sampling research also helps the researcher to determine the accuracy of a comprehensive population. The best way is to select a sample, study it carefully and compare its results with general results found in literature.

4.6.1 Target Population

The target audiences of this research are parents who have at least one child between 8 and 12 that are exposed to social media food advertising in the GCC region.

4.6.2 Sample Size

The sample consists of parents (either a father or a mother) who have children between 8 and 12 years, as the children use social media making them vulnerable to food ads. This group of people were contacted via a questionnaire designed according to research conducted in the past. It was distributed to a representative sample consisting of 972, and 622 were recovered and analysed (response rate is 0.64). The survey method will be adopted because it provides a basis for establishing generalizability; it also has statistical power and allows the results to be replicated. To achieve the objective of the

study that aims to investigate, a suitable sample must be taken. Sampling population can be referred to a unit of analysis. Selection of sample size depends on objectives and research questions and the sample size is inversely proportional with error. The sample size is selected in random sample technique according to the Slovin formula.

Many statisticians agree that the size of the sample depends on a set of factors that are limited to: the purpose of research, the size of the original society, the degree of variation of the different phenomena in the sectors of society, the degree of accuracy required in the research, the available data that can be used in generalizing the results and the material possibilities (Al-Hosis, Mersal and Keshk, 2013).

4.6.3 Sampling Technique

There are different methods for selecting samples, but the type of sample and the procedures of withdrawing from the statistical community vary from position to position. The fundamental consideration that the researcher takes into account is to obtain a suitable sample. In fact, the basic criterion for the fact that the sample is appropriate is that the sample be satisfied with the researcher's satisfaction (Adams and Cox, 2008). Some researchers refer to their friends, neighbours, relatives and colleagues and consider them as individuals in the sample. An appropriate sample is selected to identify specific characteristics or specifications or to draw conclusions from communities. Researchers and statisticians typically distinguish between two types of sampling, which are probability (random) and non-probability. In the case of probability sampling, the selection of the sample items is random according to the probability laws, so that the probability of any sample appearing in the sample is known before the actual sample withdrawal. There are many types of probability sampling

such as simple random sampling, stratified random sampling, systematic sampling, cluster random sampling, and multi-stage random sampling. On the other hand, in the case of non-probabilistic samples, the method of selection of the sample does not depend on the random method because the field of its applications depends on the selection of a specific segment or sector in a deliberate manner. There are many types of non-probability sampling such as quota sampling, convenience sampling, snowball sampling, self-selection sampling, and purposive sampling. Regarding the sampling of this research, it was based on the objectives, aims, questions, and structure of research, the sampling is categorized into non-possibility and possibility sampling (Phellas, Bloch and Seale, 2011).

The goal of sampling is to have adequate size, thus allowing that the researcher avoids possible sources of error and bias in that. Random sampling was difficult to apply here because of the inability to reach out to the entire population given the constraints on resources and time frame of the research and also given the cultural environment of the study which does not allow a female researcher to reach out to different respondents. In this current research, uncontrolled quota sampling was used that utilizes convenience method in a way that the researcher is free to choose sample group members.. Due to the size of the population, simple random sampling and stratified sampling were difficult to apply in this study. Thus, using quota method and selecting the ampling was more convenient in this case.

4.6.4 Sources of Error in Survey Research

It is noted that the results obtained from the sample may not be exactly the same as the results obtained from the comprehensive population because samples are subject to two types of error, which are: the error of chance (random error) and the error of bias.

1. The error of chance (random error): This error is due to random selection, where sample results may differ from community outcomes. The random error depends on the size of the sample, the variation of the community, and the method of selection of the sample, as the larger the sample the less the random error, which leads to increased confidence in the result. On the contrary, if the society items are different, it would increase the possibility of random errors. In general, if the sample was selected in a sound random way, this type of error could be estimated from the sample itself. The value of this error can be controlled and evaluated in statistical ways, although it is very difficult to avoid it. It should also be noted that this type of error affects the sample alone, while, the comprehensive population is not affected as an important source of data collection (Ponto, 2015).

2. The error of bias: this error does not depend on the random chance. It usually occurs in one direction, that is, only by increase or decrease, as its seriousness is that it cannot be limited or set limits. This type of error is not limited to samples, but may be subject to the comprehensive population due to inaccurate measurement, inefficiency of researchers, the ambiguity of questionnaires, giving incorrect data by respondents, not collecting data on some community samples or collecting data more than once. Samples are subject to bias error for

several reasons such as lack of access to some sample items, which calls for replacing these units with other and this may lead to bias. In addition, bias may arise as a result of not following the proper methods of calculating estimates. This type of error is usually biased towards one side either by increasing or decreasing. This type of error becomes more important as the size of the sample increases. Furthermore, errors of bias are due to misjudgement and lack of accuracy by the researcher when conducting population operations, as the researcher may lose sufficient accuracy in calculating the variables, incompatibility of the researcher in the formulation of correct hypotheses as well as formulating vague and unclear questions for respondents (Ponto, 2015).

4.7 Data Analysis Procedure

Data analysis is the process of extracting data carried out by the researcher from several sources, and then analysis of these sources in order to obtain important information to help in the development of scientific research (Graneheim and Lundman, 2004). It is clear that statistics provides a set of methods and technical tools used by the researcher in each step of research from the preliminary stage of research, which includes the selection of study sample and data collection from the field, passing through classification, summarization, presentation and analysis of that data, until it reaches the stage of drawing conclusions from the study. According to Sekaran and Bougie (2016), the function of statistics is centred on two important points. First, it is to summarize available data and present it in the simplest and the most appropriate form possible. The researchers usually find themselves in front of a large set of raw data that does not disclose anything while being asked to derive clear scientific facts from those data, whether comprehensive social survey data or by the sample, the researcher can then

change the form of the data after classification, organization and summarization using the descriptive aspect of statistics, where it can apply here a set of statistical measures that do not exceed the description limit such as central tendency measurements, regression, etc. (Johanson and Brooks, 2010). Therefore, it is clear that the first function of statistics is the characterization of available data and their exit by a set of indicators and statistical rate. Secondly, it is summed up by the deduction, in the field of social research; the sample is usually used to represent the society from which it was drawn. The use of samples in social research is due to several reasons, the most important of which is the saving of time, effort, and possibilities that make it sometimes impossible to study society as a whole. The sample is simply a part or a segment of the society that is chosen based on a statistical basis to represent the society that is part of it. Moreover, the role of statistics lies in reaching estimates and inferences about the society as a whole through the available information on the sample that has been withdrawn from this society, since most of the researcher's interest is not just the sample used in the study, but rather the society as a whole. In short, the inferential aspect of statistics is concerned with the assessment of population parameters in relation to the phenomenon under study using the data and information available on the sample, which is called sample statistics about the same phenomenon in an attempt to access the generalizations that represents the study community (Sekaran and Bougie, 2016).

Moreover, the advantages derived from statistical methods can be summed up as follows:

1. Statistics help the researcher to give descriptions with a great deal of practical precision.

2. Statistics help to summarize results in an appropriate and understandable manner. The data collected by the researcher do not give a clear picture unless they are summarized in a coefficient, a number or illustration such as graphs.

3. Statistics help the researcher to derive general results from partial results. Such results can be drawn only according to statistical rules. The researcher can also determine the degree to which the generalization is correct.

4. Statistics enable the researcher to predict the results likely to be obtained in special circumstances.

In this research, the SPSS program was used to analyse data. SPSS is a statistical program that has been widely used by researchers to perform statistical analysis. The program is used in many scientific fields, including, for example, administrative, social, engineering and agricultural sciences. SPSS is an abbreviation for the full name of the program, "Statistical Package for Social Sciences". The data collected by the current study were interpreted and analysed through various steps and stages. To achieve study objectives, the researcher used the following statistical tests:

- Frequency distributions and percentages.

- The mean and standard deviations in order to answer the questions of the study and to determine the relative importance.

- Factor Analysis: is applied when a researcher needs to discover the number of

factors influencing variables and to analyse which variables ‘go together’, to reveal complicated patterns by exploring the dataset and analysis predictions. It is applied throughout this study to measure the suitability of the sample and factors before starting analysis.

- Regression: to assess the influence of parental interventions on children's food buying behaviour from parent's perspectives, in addition to the other hypothesis of the effect. This is used for dealing with the general regression problem with a large number of variables, two or more explanatory variables. In this study, it was used to assess the mediating variable effect on the relationship between dependent and independent factors through testing the combination of three variables together.

- ANOVA: This test is used to assess differences made by moderating variables, One-way analysis of variance (ANOVA) and Pairwise Comparisons using Schaffer's Test are the most common and was used throughout this study to assess the difference made by moderating variable value on the relationship between study variables.

- Cronbach Alpha: used to confirm the degree of reliability and internal consistency of the tools used in data collection.

- Finally, the result will be listed and discussed with more details and in comparison with previous studies’ results, before suitable recommendations are

highlighted. According to the goals of research, this facilitates obtaining meaningful results. Finally, the result will be listed and discussed in more detail and in comparison with the results of previous studies, before suitable recommendations are drawn out.

4.8 Reliability and Validity

Validity and reliability in statistical analysis are the most important things that help researchers to verify the validity of their findings, thus the possibility of generalizing the results to the study community. The validity and reliability are related to the tools used by the researcher in scientific research, and the extent of the great ability of these tools to measure the meanings and information obtained by the researcher through scientific research. Validity means measurement of an instrument which was used to conduct research, as it does not prove the validity of the measuring instrument, but provides evidence regarding the validity of the measuring instrument for the purpose used. Validity denotes the significance, usefulness and appropriateness of specific results and assumptions resulting from test marks. Also, it is possible defining it as if an instrument takes measurements of what it is planned to measure. In current research, validity will be confirmed by distributing the questionnaire to a group of academic instructors to judge its contents (Heale and Twycross, 2015). On the other hand, the reliability of the measuring instrument is to produce the same results if the questionnaire is reapplied on the same sample in the same conditions. Therefore, in literary accounts, a source's reputation is vital, thus, the reliability of this study was measured and guaranteed through calculating the Cronbach alpha value, which was assessed to reflect the considerable consistency of the questionnaire (Sekaran, 2006). On a separate note,

numeric data does not necessarily need to be dependable, and the source, even if they are official statistics, may not be totally impartially formulated. For instance: populations could be undercounted, samples used could lack sufficiency or random selection, confidence limits or “margin of error” may be disregarded, there may be a disguise in the rate of non-responses to questionnaires, or replies might have been obtained which were less than truthful. In current research, Cronbach alpha was used to confirm reliability. The relationship between the validity of the test and its reliability should be highly correlated (Heale and Twycross, 2015).

To verify the reliability of the study instrument, Cronbach alpha coefficient was calculated to ensure that the measuring instrument was stable. In fact, the questionnaire measures the factors to be measured and verified its validity. This is due to the nature of the Cronbach alpha coefficient in its measurement of the internal consistency of the measurement paragraphs, which means the strength of the correlation between the measurement paragraphs. In addition, the Alpha coefficient is given with a good estimate of reliability. To verify the reliability of the study instrument in this way, the Cronbach alpha equation was applied. Although there are no standards for the appropriate alpha values, in practice, alpha that is greater than or equal to 0.60 is considered acceptable as shown in the table.

Scale	**Item Number**	**Cronbach's Alpha (%)**
Co-viewing (CV)	4	0.969
Rules of use (RU)	4	0.960
Parent-Child Communication (PCC)	4	0.972
Imitation of parents (IP)	4	0.974
Goal setting(GS)	4	0.965
If, then heuristic strategy (IH)	4	0.976
Social Media Unhealthy Food Advertisement Exposure (ESM)	3	0.930
Advertising-based Defensive Memory Formation (ABMF)	4	0.959
Advertising Defensive Memory Application (ABMA	4	0.967
Entire Questionnaire	**35**	**0.885**

Table 4.4 Cronbach's Alpha for Questionnaire

The above table shows that Cronbach alpha coefficient to all dimensions of the questionnaire was (0.885). For the sub-dimensions, it was shown that the highest Cronbach alpha coefficient was 0.976% for heuristic strategy (IH) dimension. While the lowest Cronbach alpha coefficient was 0.930% to Social Media Unhealthy Food Advertisement Exposure (ESM) dimension. This means that the values of Cronbach alpha indicate a high consistency and correlation between the paragraphs of the questionnaire.

In this study, Cronbach's alpha was utilized to measure the reliability. Also, the questionnaire was spread amongst a number of academic instructors and professors to judge its contents before distributing the final version. Those contacted confirmed the validity of the questionnaire. In addition to the pilot study, this will be given in detail in the coming section.

4.9 Pilot study

A pilot study is a step taken by researchers before embarking on their basic research procedures, as it is an important and necessary step, especially in field research (applied). The pilot study allows the researcher to identify and view the field in which the basic study will be conducted (Zohrabi, 2013). This preliminary study also reveals the magnitude of the difficulties that may face during the initial study, and gives the researcher an opportunity to identify the quality of individuals to whom the tools will be applied, and their willingness and satisfaction with the special procedures that will be followed. Furthermore, the pilot study is of great importance in the completion of scientific research, a step that is often overlooked by researchers in their research on the pretext of lack of time and material resources, which has become a forgotten step in the methodology of scientific research (Sekaran and Bougie, 2016).

The pilot study is conducted for the purpose of testing the reliability and validity of the questionnaire (psychometric properties of information collection tools) and ensuring the adequacy of the data collected to derive the expected results from research. The chosen dimensions of the questionnaire were based on previous studies. According to Zohrabi (2013), the main aims of the questionnaire piloting are to check the linguistic

integrity of the means of measurement allowing for good understanding of these terms as they pass through the basic sample, identify the initial response to the sample which allows the researcher to monitor the most important observations such as the expected difficulties and estimate the default time to answer the study tools and thus identify the total time of the field study as well as gives the researcher an opportunity to review the hypotheses of research, and the extent to which they can be tested in the field (Sekaran and Bougie, 2016).

The importance of pilot study is that it contributes to providing a degree of knowledge on various topics of research, especially those that have not been studied. It provides many hypotheses and sets out the quality of facilities available to conduct research. In many cases, the pilot study is the entrance to an in-depth study of the topic covered. This is the starting point for new research. As well, the pilot study increases the researcher's familiarity with the phenomenon. According to Johanson and Brooks (2010), the objectives of the pilot study can be defined as follows:

1. Crystallize the research topic or the subject matter of research selected by the researcher and formulate it in a more compact way in order to study it further in the future.

2. Identify the basic concepts related to the subject chosen by the researcher to study or research.

3. Develop hypotheses by crystallizing the problem of research or formulating it in the form of scientific hypotheses or questions.

4. Find a foundation and a degree of knowledge from which the researchers start their research.

5. Identify the different aspects of the subject of research or study.

6. Define deficiencies in the procedures for applying data collection tools. The instructions of these tools may be modified in light of the results of the survey.

7. Practice applying tests and identifying difficulties and trying to solve them.

8. The duration of the field study can be determined.

9. Train the researchers on the programs used in the current study so that they can apply them more skilfully to the basic study groups, and to know some important points that may be observed when applying the programs to the pilot samples, taking them into consideration when conducting the basic study. It can also check the validity of the software for the application.

Perhaps before starting the pilot study, it is necessary to look at the circumstances and procedures in which this field research will be carried out. The pilot study paves the way for researchers, which is considered as the basis for field research due to its importance in helping the researcher to apply research tools. The sample is one of the fundamentals of applied scientific research. It is the primary source for collecting information related to research. Therefore, it should be chosen with precision and according to scientific data that guarantees the most trust and credibility. The sample

size of the pilot study does not differ in terms of type and number from the basic research sample. Its size is directly proportional to the number of members of the research community available to give an appropriate representation. According to (Resnik, 2011), the major characteristics of the pilot sample carry all the characteristics of the basic sample (sample study), all its members belong to the study community, its size is appropriate for the number of members of the community from which it was taken, and its type serves subject variables and is consistent with the composition of the study population.

In this research, the sample of 42 parents were chosen to fill the questionnaire, after that presence of unclear statements was observed, repetitive statements, and a need to add more tasks appeared, also some of these statements was re-formulate, and some of it was deleted. Only 30 questionnaires were returned. The results were taken into consideration such as the ambiguity of some questions. Some of the statements (in the Arabic version) were rewritten in a sense that it does not affect the main meaning emerging out of it. Add to that, there was also an important modification that should take place on the scale words used, which affect the results and require more effort from the researcher to code it in the right way. Therefore, this was avoided by the researcher in the questionnaire that was distributed among the actual population of the study.

The pilot study is developed in order to test a variety of sections (Veal, 2005):

- Questionnaire layout.
- Question sequencing.
- The questionnaire wording.
- Fieldwork arrangements, when and if required.

- Analysis procedures.

Based on the pre-test groups' comments, changes were made to the questionnaire, especially the cover page of the questionnaire and the demographic section that were added after the pilot study. In addition to the demographics section which is a vital part of the questionnaire, which should not be neglected when implementing the questionnaire and this could be attributed to the great contribution that gained through the demographic information in the outcomes' analysis. Therefore, demographic variables have been taken into account by the researcher in the questionnaire. Finally, the pilot study has focused on the attention onto key factors that contributed to shape the final version of the questionnaire which also has contributed to gain the necessary data to answer the research questions afterward (Resnik, 2011).

4.10 Ethical Issues

The relationship between ethics and scientific research is old and close. A search in the field of scientific research ethics necessarily leads to research in other areas such as the ethics of scientific publishing, intellectual property, and the analysis of the ethical charters of scientific research in order to come up with a comprehensive general charter. Although there are general controls on the ethics of scientific research, there must be more precise controls and detailed scientific research (Denzin and Lincoln, 2009). There are some considerations for ethical conduct, including truthfulness, expertise, safety, trust, consent, withdrawal, feedback, vulnerability, and anonymity. Scientific Secretariat is one of the most important values of research ethics, as the researcher is keen to respect the intellectual property of others. In addition, the researcher pointed to the sources from which derived the information that used in this research according to

systematic origins with mention the name of the author. The researcher also collects data carefully, accurately and without bias. This research is free of scientific fraud such as fabrication, falsification and plagiarism. Therefore, ethics conveys moral grace, which conforms to the principles of correct universal behaviour, in particular the principles of group or group practice. Thus, this ethical practice is vital for social researchers (Resnik, 2011).

The process of scientific research passes through several stages before the research goes from developing the idea to the publishing and implementation stage. These steps are choosing the subject of research, evaluating scientific research, implementing research, and preparing scientific research reports, disseminating its information and using its results in practical application. In all these steps the ethical aspects of scientific research, must be taken into account and it is not enough to take into account ethical rules at one stage of research and neglect them at another stage, otherwise, research is unethical. Research may be designed well in terms of practical ethics, but when researchers perform research, they may not follow the controls that are placed when designing their research, in such cases research becomes unethical. Moreover, ethical research in its idea, design and implementation may become immoral if the researcher fails to observe ethical controls when publishing the research report, and uses its results in practice (Denzin and Lincoln, 2009).

The ethics of scientific research require that the researcher should not be exploited by those who study and conduct research on them. In particular, research in some areas, especially social sciences, depends on deceiving those who study so that they believe

that the researchers want to know something. In fact, they want to know something else. The researchers also have to think carefully about the fields in which the results of their research will be employed. Ethics have become a cornerstone for conducting useful and meaningful research. Ethical issues were seriously observed in this study to ensure that research meets the moral standards of academic research and commercial ethical considerations (Resnik, 2011). The researcher followed guidelines and procedures to maintain the privacy of the information gathered via the questionnaires. Meanwhile, the researcher also left a space to leave contact details on the questionnaire, for those participants who wished to receive a copy of the study's results. In addition, the researcher undertook a number of procedures to maintain the privacy of participants, by keeping the identities of the respondents secret to avoid the possibility of bias.

The ethical problems of scientific research in the field of human sciences come from the methodological and objective difficulties facing the human sciences as in the field of sociology, and the application of scientific theories as in the field of psychology and education. Methodological difficulties can be formulated and the consequent ethical issues in a number of points such as the subject of research are variable. It is often about human behaviour and actions. It is variable in time and place (Denzin and Lincoln, 2009). Therefore, it cannot invoke fixed judgments that reach the level of scientific laws. Every human condition is a stand-alone situation and different from other humanitarian situations. It also differs from time to time. The ethical problem comes when researchers try to come out with a law or even a general and consistent rule that can be used to control the behaviour of all human beings. In addition, the nature of the relations between human phenomena is a value-oriented nature. The human sciences should not seek to create connections or formulate comprehensive public laws. Rather,

they should be concerned with developing stereotypical classifications of personality and culture that serve as a framework for understanding humanitarian activities and objectives in different historical circumstances.

Some characteristics of scientific research result from ethical problems in the field of research such as objectivity, generalization, accuracy and abstraction, because they are related to quantitative measurement. For instance, accumulation property has a positive side, such as the use of past experiences and mistakes, and a negative side such as influence on governance, the researcher becomes influenced by the views and experiences and assessments of his predecessors (Resnik, 2011).

There are many ethical principles that try to control the search in its value aspects, but often these controls or others are not binding unless they develop into laws or charters of ethics, and these controls need to be constantly reviewed in order to develop and fill gaps that appear in them to keep abreast of the rapid development of scientific research. The ethical standards are normative and may be described as not an effective means of achieving scientific objectivity. This does not mean that they do not serve science, but they alert us to the need for more psychological, social and historical research to disseminate these standards (Denzin and Lincoln, 2009).

4.11 Summary

In this study, the researcher decides to follow the deductive method, as it is progressing from the theory that seeks to clarify causal relationships among variables, the approach in this study was a single-methods approach consisting of only quantitative data

gathering tools. In addition, through a single-method approach, the researcher was able to achieve the best of method whilst overcoming their deficiencies. Based on that, the questionnaire is considered to be a relevant and easy way of collecting data. In the current study, Cronbach alpha was used to confirm reliability, while validity was confirmed by distributing the final copy of the questionnaire to a group of instructors and experts in the field, and seeking their assessment of the validity of it.

Chapter 5 : Data Analysis

5.1 Introduction

After the research methodology has been identified, this chapter analyses the collected data that were extracted from the questionnaire using SPSS, which aims to critically investigate how parental interventions with regards to social media food advertising influence children's food buying behaviour. In addition, it analyses the outcomes and emphasizes the significant relationships between the constructs proposed in the hypothesized model before an explanation and discussion of the results is presented.

5.2 Respondents' Profile

A random sample of 622 mothers and fathers who have at least one child between the ages of 8 and 12 that use social media were selected. Table 5.1 shows demographic characteristics of the respondents (N= 622). The respondents were females (54.5%, n = 361) and males (51.5%, n = 301). In addition, the nationality of the respondents was 30.1% (n=199) Bahraini, 10.4% (n=69) Kuwaiti, 14.2% (n=94) Emirati, 10.9% (n=72) Saudi, 20.2% (n=134) Qatari, and 14.2% (n=94) Omani. Moreover, the age distribution of the respondents was 12.5% (n=83) from 25 to 30 years old, 30.5% (n=202) from 31 to 36 years old, 39.6% (n=262) from 37 to 42 years old, 15.6% (n=103) from 43 to 48 years old, and 1.8% (n=12) above 48 years old. Also, the education level of the respondents was 4.5% (n=30) Secondary School, 27.0% (n=179) Diploma Degree, 33.7% (n=223) Bachelor Degree, 23.7% (n=157) Master Degree, 10.9% (n=72) PhD, and 0.2% (n=1) others. In addition, the monthly income (in Bahraini Dinar) of the respondents was 2.1% (n=14) less than 500, 14.0% (n=93) between 500 and 1000,

19.8% (n=131) between 1000 and 1500, 21.6% (n=143) between 1500 and 2000, 26.7% (n=12) between 2000 and 2500, and 15.7% (n=104) more than 2500.

Regarding the child's information, child's gender was boy (51.5%, n = 341) and girl (48.5%, n = 321), and the age distribution of children was 12.8% (n=85) 8 years old, 19.0% (n=126) 9 years old, 23.3% (n=154) 10 years old, 25.4% (n=168) 11 years old, and 19.5% (n=129) 12 years old. Also, the most social media platform used by the child was 29.9% (n=198) YouTube, 17.8% (n=118) Snapchat, 17.7% (n=117) WhatsApp, 16.2% (n=107) Instagram, 10.6% (n=70) Facebook, and 7.9% (n=52) Twitter. Finally, the hours that child spent on social media per day were 15.0% (n=99) less than 1 hour, 20.7% (n=137) from 1 to 2 hours, 16.2% (n=107) from 2 to 3 hours, 31.0% (n=205) from 3 to 4 hours, and 17.2% (n=114) more than 4 hours.

Variable	N (%)
What is Child's Age?	
8 years old	85 (12.8%)
9 years old	126 (19.0%)
10 years old	154 (23.3%)
11 years old	168 (25.4%)
12 years old	129 (19.5%)
Which social media platform is most used by your child?	
YouTube	198 (29.9%)
Snapchat	118 (17.8%)
WhatsApp	117 (17.7%)
Instagram	107 (16.2%)
Facebook	70 (10.6%)
Twitter	52 (7.9%)
How many Hours does your child spend on social media per day?	
Less than 1 hour	99 (15.0%)
From 1 to 2 hours	137 (20.7%)
From 2 to 3 hours	107 (16.2%)
From 3 to 4 hours	205 (31.0%)
More than 4 hours	114 (17.2%)

What is your child's gender?	
Boy	341 (51.5%)
Girl	321 (48.5%)
What is your gender?	
Male	301 (45.5%)
Female	361 (54.5%)
Nationality	
Bahraini	199 (30.1%)
Kuwaiti	69 (10.4%)
UAE	94 (14.2%)
Saudi	72 (10.9%)
Qatari	134 (20.2%)
Omani	94 (14.2%)
To which age group do you belong?	
From 25 to 30 years old	83 (12.5%)
From 31 to 36 years old	202 (30.5%)
From 37 to 42 years old	262 (39.6%)
From 43 to 48 years old	103 (15.6%)
Above 48 years old	12 (1.8%)
What is your educational level?	
Secondary School	30 (4.5%)
Diploma degree	179 (27.0%)
Bachelor degree	223 (33.7%)
Master degree	157 (23.7%)
PhD	72 (10.9%)
other	1 (0.2%)
What is your monthly income (in Bahraini Dinar)?	
less than 500	14 (2.1%)
Between 500 to 1000	93 (14.0%)
Between 1000 to 1500	131 (19.8%)
Between 1500 to 2000	143 (21.6%)
Between 2000 to 2500	177 (26.7%)
More than 2500	104 (15.7%)

Table 5.1 Demographic Characteristics of the Respondents (N= 622)

Figures 5.1 to 5.9 summarize the background information about the respondents, including child's gender, child's age, child's social media platform, child's time spent on social media platforms, gender of respondents, age of respondents, nationality of respondents, education of respondents, and monthly income of respondents.

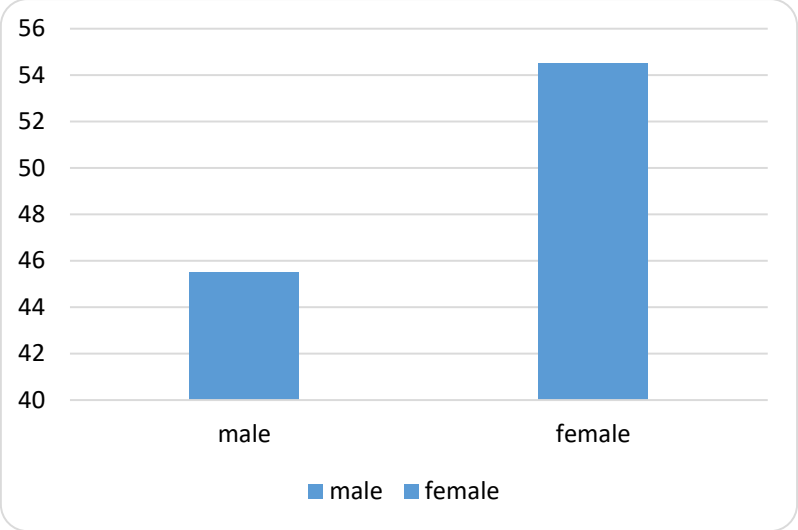

Figure 5.1 Gender of Respondents

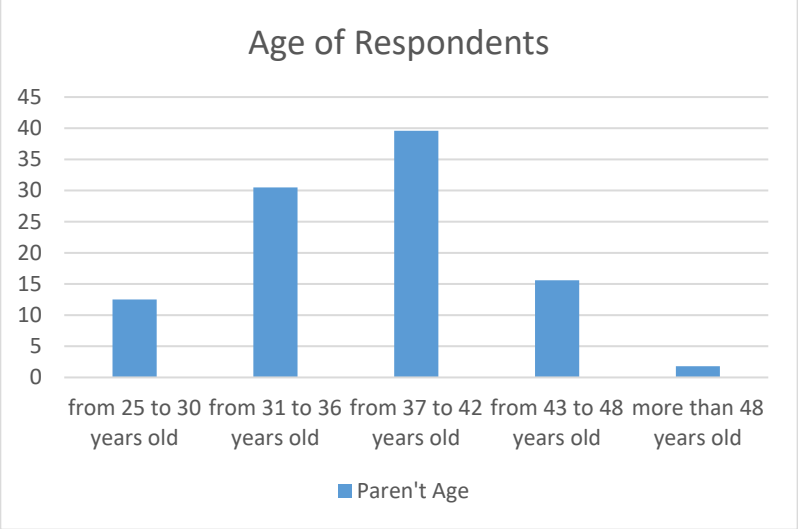

Figure 5.2 Age of Respondents

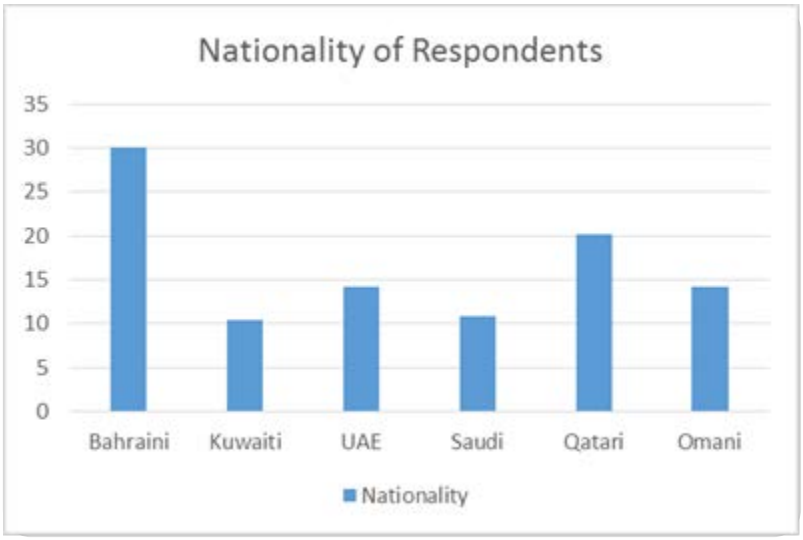

Figure 5.3 Nationality of Respondents

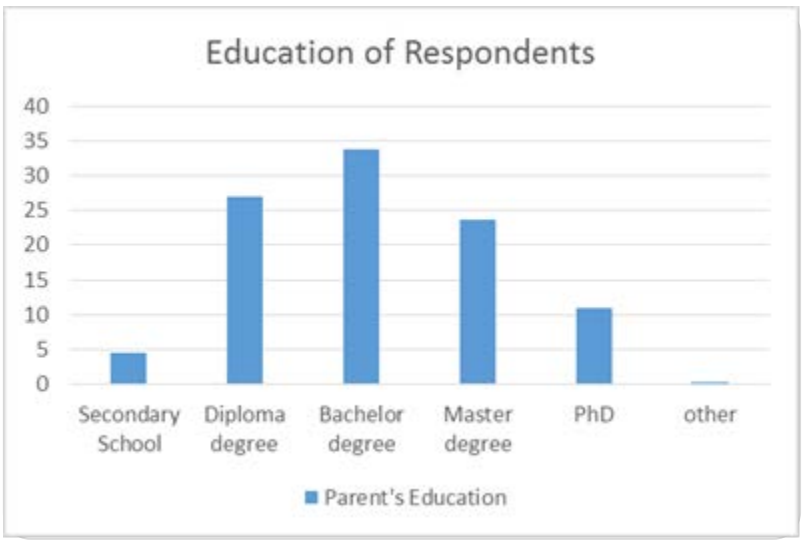

Figure 5.4 Education of Respondents

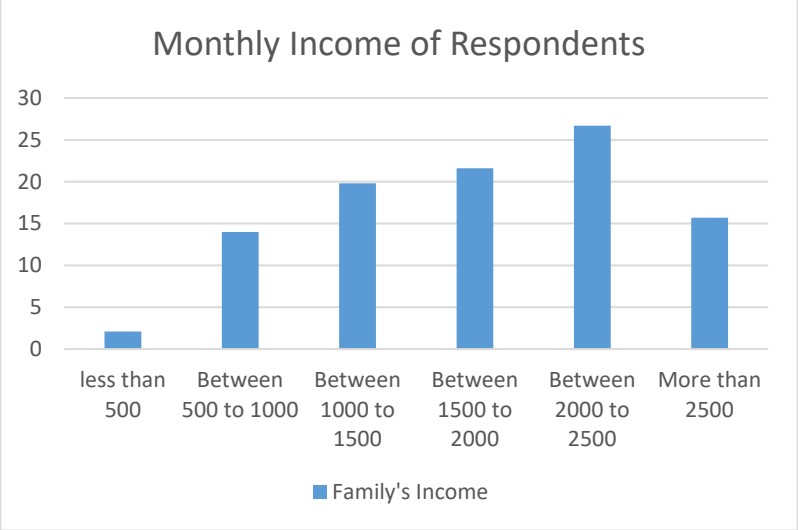

Figure 5.5 Monthly Income of Respondents

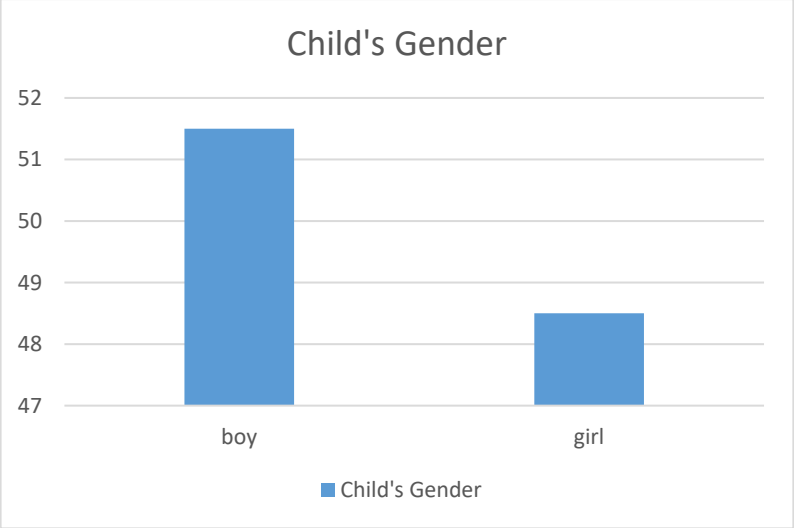

Figure 5.6 Childs' Gender

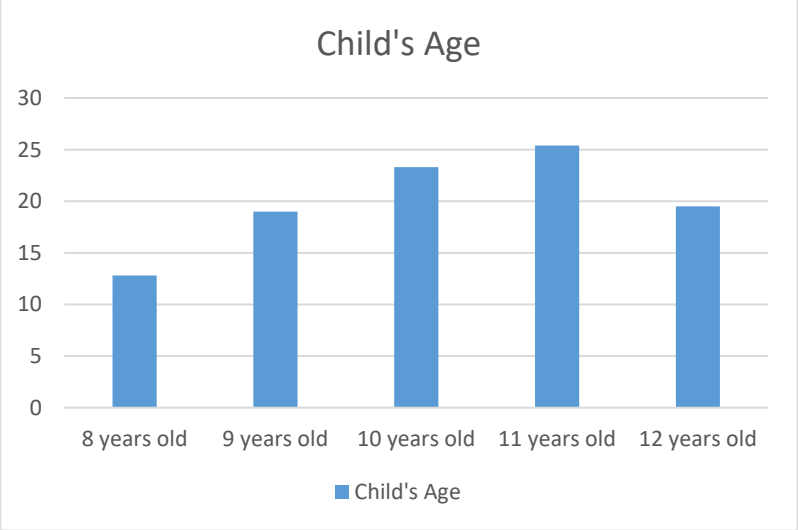

Figure 5.7 Child's Age

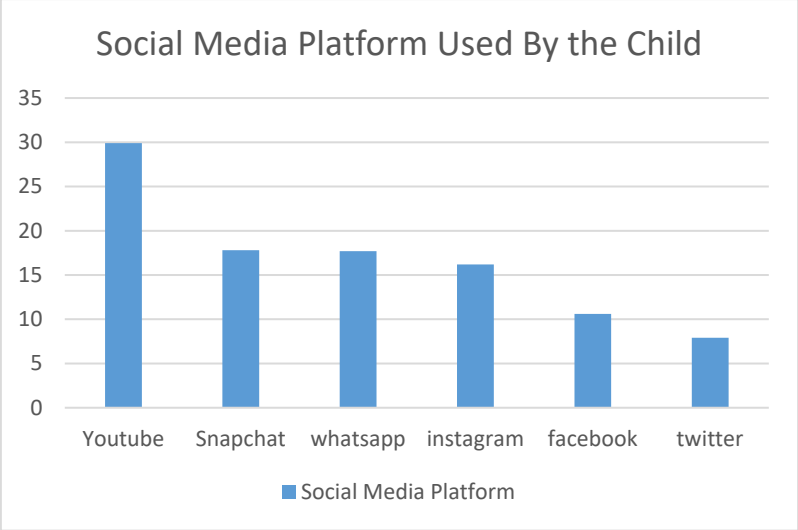

Figure 5.8 Social Media Platform Used By the Child

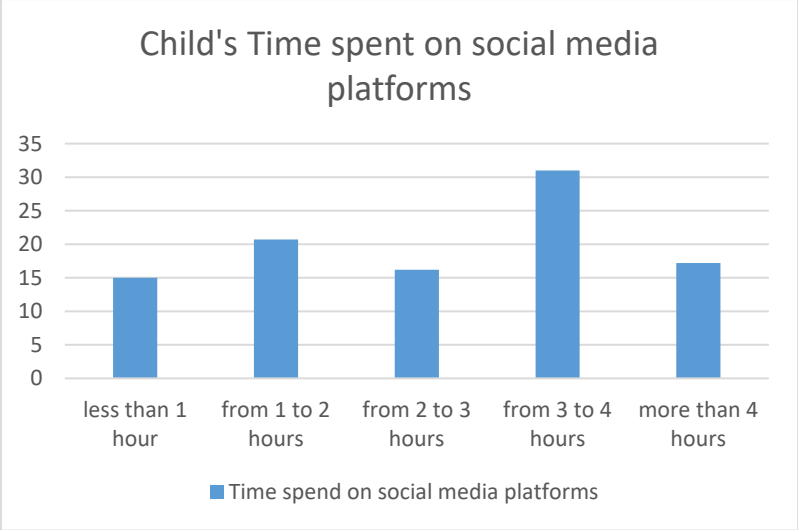

Figure 5.9 Child's Time Spent on Social Media Platforms

5.3 Factor Analysis

5.3.1 Confirmatory Factor Analysis

In order to construct research variables model, Structural Equation Modelling (SEM) was employed. As SEM is a largely confirmatory technique. That is, a researcher is more likely to use SEM to determine whether a certain model is valid. The proper selection of methodology depends on the complexity of the proposed model, and quality of the data. For example, if the model has a single mediator, then OLS regression is right. In this research, the proposed model has mediator and moderator variables, so the researcher used SEM; it also provides more sophisticated information concerning the significance of the indirect effects. A measure of goodness-of-fit was used using AMOS 21 program. The appropriateness of the structural model is judged by the appropriate measures that were extracted, through which the acceptability of the previously assumed relationship is recognized. When there is a good acceptance according to these measures, the model is accurate, the reverse is weak and the model can be rejected. Table 5.2 shows Fit Indices and their Acceptable Thresholds.

Measure	Threshold
Chi-square/df (Cmin/df)	A value close to 1 and not exceeding 5 indicates a good fit.
Comparative Fit Index (CFI)	A value close to 1 indicates a very good fit.
Tucker-Lewis Index (TLI)	A value close to 1 indicates a very good fit.
Normed Fit Index (NFI)	A value close to 1 indicates a very good fit.
Incremental Fit Index (IFI)	A value close to 1 indicates a very good fit.
Root Mean Square Residual (RMSEA)	A value of about 0.08 or less indicates a reasonable error of Approximation.
Goodness-of-Fit Index (GFI)	A value close to 1 indicates a very good fit.
Adjusted Goodness-of-Fit Index (AGFI)	A value close to 1 indicates a very good fit.

Table 5.2 Measures of goodness-of-fit and their Acceptable Thresholds (Hooper Coughlan and Mullen, 2008)

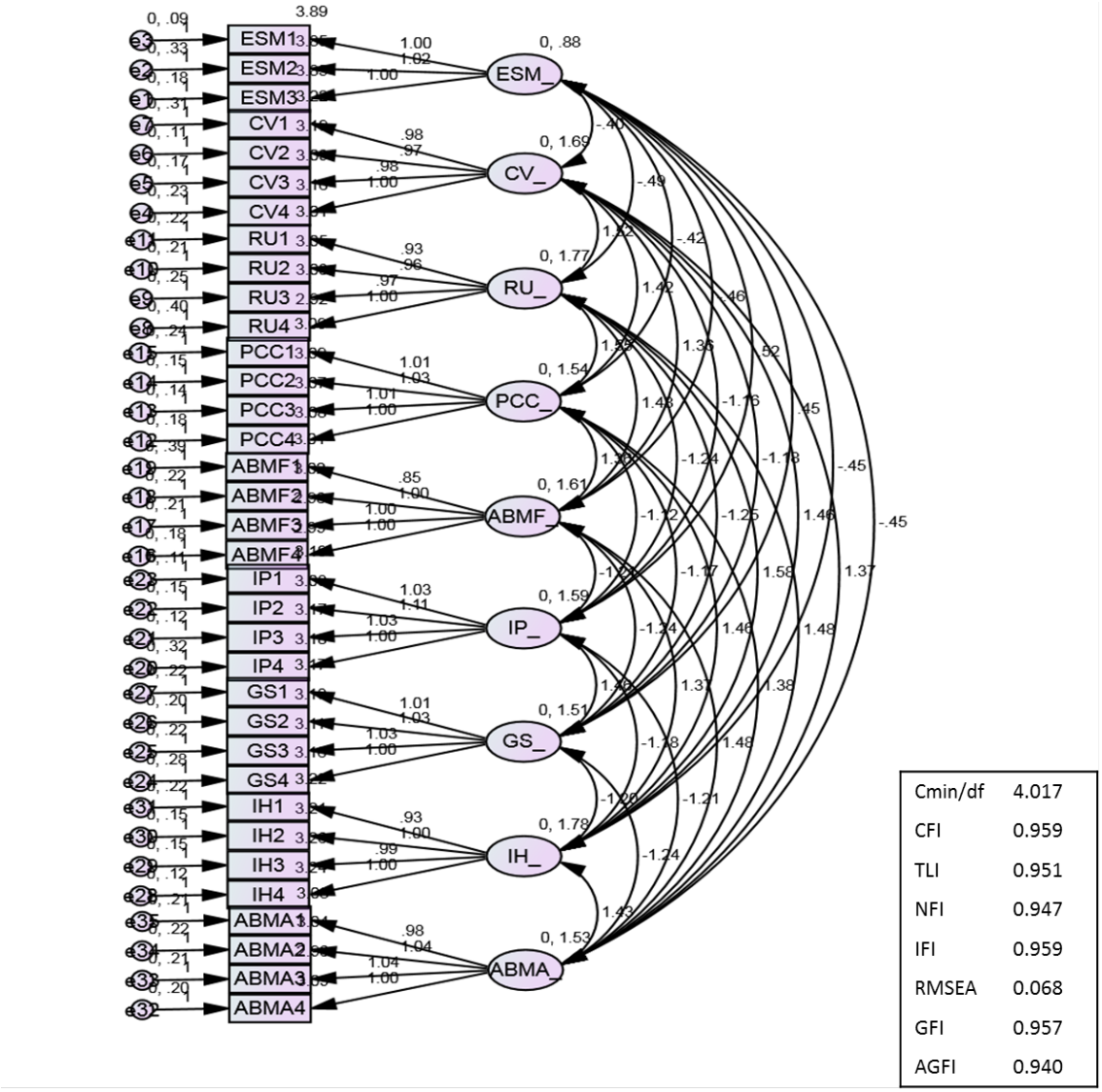

Figure 5.10 The Measurement Model

It is clear from Figure 5.10 that the model has obtained good values for measures of goodness of fit. The results show that the minimum value of the discrepancy, which is a division of Chi2 over the degree of freedom, is 4.017 that indicates a good fit. Also, the model has a comparative fit index (CFI), Tucker-Lewis Index (TLI), and normed fit index (NFI) of 0.959, 0.951, and 0.947 respectively, which reflects a perfect fit. The

CFI, TLI, and NFI values are between 0 and 1, and a value close to 1 indicates a perfect fit. Other measures of model fit include the root mean square residual (RMSEA), as the model has a RMSEA of 0.068, less than 0.08, which indicates a reasonable error of approximation. In addition, the model has an Incremental Fit Index (IFI) of 0.959, which indicates a perfect fit. Furthermore, the model has a goodness-of-fit index (GFI) of 0.957, which indicates a perfect fit. Finally, the model has an adjusted goodness-of-fit index (AGFI) of 0.940, which indicates a good fit, as the GFI and AGFI values are between 0 and 1, as a value close to 1 indicates a perfect fit.

	Loading	**SMC**	**AVE**
ESM3	0.911	0.830	0.823
ESM2	0.858	0.736	
ESM1	0.951	0.904	
CV4	0.938	0.880	0.891
CV3	0.952	0.906	
CV2	0.967	0.935	
CV1	0.918	0.843	
RU4	0.903	0.815	0.862
RU3	0.933	0.870	
RU2	0.942	0.887	
RU1	0.936	0.876	

PCC4	0.946	0.895	0.899
PCC3	0.959	0.920	
PCC2	0.957	0.916	
PCC1	0.931	0.867	
ABMF4	0.949	0.901	0.853
ABMF3	0.94	0.884	
ABMF2	0.937	0.878	
ABMF1	0.865	0.748	
IP4	0.914	0.835	0.909
IP3	0.967	0.935	
IP2	0.964	0.929	
IP1	0.968	0.937	
GS4	0.92	0.846	0.872
GS3	0.937	0.878	
GS2	0.943	0.889	
GS1	0.935	0.874	
IH4	0.969	0.939	0.914
IH3	0.959	0.920	
IH2	0.96	0.922	

IH1	0.935	0.874	
ABMA4	0.939	0.882	0.881
ABMA3	0.942	0.887	
ABMA2	0.94	0.884	
ABMA1	0.934	0.872	

Table 5.3 Factor Loading and AVE of Construct

Moreover, Construct validity shows to the ability of measures of a construct to assess what they are designed for (Brown, 1996 and Hair et al., 2010). Convergent validity is the method used in this thesis to assess construct validity (Hair et al., 2010).. Convergent validity can be examined using standardized loadings and Average Variance Extracted (AVE). Table 5.3 shows factor loading for each statement, as the value of less than (0.4) is rejected (Maciel et al., 2013). Since factor loading exceeds the specified ratio (0.4), this indicates that it is acceptable and valid. In addition, average variance extracted (AVE) for all constructs of a measurement model was high, as AVE should be higher than 0.5, so it is considered acceptable (valid). AVE for each factor can be calculated by sum of squares of factor loadings divided by this sum.

5.3.2 KMO and Bartlett's Test of Sphericity

The appropriateness of data for factor analysis was first verified. In this regard, in order to proceed with data factor analysis, Kaiser (1970) explained that the value of The Kaiser-Meyer Olkin (KMO) test should be greater than 0.7, which means that the sample is adequate, as well as the value of Bartlett (1937) test should be statistically

significant, which means that factor analysis is valid. In addition, The Total Variance Explained which was used to investigate the variance is divided among possible factors. The tables (5.4) to (5.21) show this for all study variables.

5.3.2.1 Social Media Unhealthy Food Advertisement Exposure (ESM)

As shown in Table (5.4) below, the value of the Kaiser-Meyer Olkin (KMO) test equals 0.753, greater than 0.70, which means that the sample is adequate; In addition, the value of Bartlett's test is less than 0.05, which confirms the validity of factor analysis.

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0.753
Bartlett's Test of Sphericity	Approx. Chi-Square	1679.161
	df	3
	Sig.	0.000

Table 5.4 The Kaiser-Meyer Olkin (KMO) and Bartlett's Test for Social Media Unhealthy Food Advertisement Exposure (ESM)

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.643	88.084	88.084	2.643	88.084	88.084
2	0.227	7.565	95.649			
3	0.131	4.351	100.000			

Table 5.5 Total Variance Explained for Social Media Unhealthy Food Advertisement Exposure (ESM)

It is clear from Table 5.5 that three components have been extracted from the analysis of Social Media Unhealthy Food Advertisement Exposure (which has been built), as the total for these components respectively was 2.643, which means that these components contribute together 88.084% of the total variance of test scores.

5.3.2.2 Imitation of Parents (IP)

As shown in Table (5.6) below, the value of the Kaiser-Meyer Olkin (KMO) test equals 0.867, greater than 0.70, which means that the sample is adequate; In addition, the value of Bartlett's test was less than 0.05, which confirms the validity of factor analysis.

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0.867
Bartlett's Test of Sphericity	Approx. Chi-Square	4047.967
	df	6
	Sig.	0.000

Table 5.6 The Kaiser-Meyer Olkin (KMO) and Bartlett's Test for Imitation of Parents (IP)

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3.717	92.931	92.931	3.717	92.931	92.931
2	0.162	4.057	96.988			
3	0.069	1.716	98.704			
4	0.052	1.296	100.000			

Table 5.7 Total Variance Explained for Imitation of Parents (IP)

It is clear from Table 5.7 that four components have been extracted from the analysis of imitation of parents (which has been built), as the total for these components is 3.717, which means that these components contribute together to 92.931% of the total variance of test scores.

5.3.2.3 Goal setting (GS)

As shown in Table (5.8) below, the value of the Kaiser-Meyer Olkin (KMO) test equals 0.872, greater than 0.70, which means that the sample is adequate; In addition, the value of Bartlett's test is less than 0.05, which confirms the validity of factor analysis.

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0.872
Bartlett's Test of Sphericity	Approx. Chi-Square	3238.231
	df	6
	Sig.	0.000

Table 5.8 The Kaiser-Meyer Olkin (KMO) and Bartlett's Test for Goal Setting (GS)

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3.616	90.399	90.399	3.616	90.399	90.399
2	0.164	4.107	94.505			
3	0.112	2.789	97.294			
4	0.108	2.706	100.000			

Table 5.9 Total Variance Explained for Goal setting (GS)

From Table 5.9 that four components have been extracted from the analysis of goal setting (which has been built), as the total for these components is 3.616, which means that these components contribute together 90.399% of the total variance of test scores.

5.3.2.4 Advertising-Based Defensive Formation (ABMF)

As shown in Table 5.10 below, the value of the Kaiser-Meyer Olkin (KMO) test equals 0.864, greater than 0.70, which means that the sample is adequate; In addition, the value of Bartlett's test is less than 0.05, which confirms the validity of factor analysis.

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0.864
Bartlett's Test of	Approx. Chi-Square	3077.319

Sphericity	df	6
	Sig.	0.000

Table 5.10 The Kaiser-Meyer Olkin (KMO) and Bartlett's Test for Advertising-based Defensive Memory Formation (ABMF)

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3.562	89.041	89.041	3.562	89.041	89.041
2	0.216	5.396	94.438			
3	0.125	3.131	97.568			
4	0.097	2.432	100.000			

Table 5.11 Total Variance Explained for Advertising-based Defensive Memory Formation (ABMF)

Table 5.11 shows four components have been extracted from the analysis of advertising-based defensive memory formation (which has been built), as the total for these components is 3.562, which means that these components contribute together to 89.041% of the total variance of test scores.

5.3.2.5 Advertising Defensive Memory Application (ABMA)

As shown in Table 5.12 below, the value of the Kaiser-Meyer Olkin (KMO) test equals 0.881, greater than 0.70, which means that the sample is adequate; In addition, the value of Bartlett's test is less than 0.05, which confirms the validity of factor analysis.

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0.881
Bartlett's Test of Sphericity	Approx. Chi-Square	3356.793
	df	6
	Sig.	0.000

Table 5.12 : The Kaiser-Meyer Olkin (KMO) and Bartlett's Test for Advertising Defensive Memory Application (ABMA)

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3.644	91.103	91.103	3.644	91.103	91.103
2	0.133	3.323	94.425			
3	0.120	2.999	97.424			
4	0.103	2.576	100.000			

Table 5.13 Total Variance Explained for Advertising Defensive Memory Application (ABMA)

From Table 5.13, it is clear that four components have been extracted from the analysis of Social Media Unhealthy Food Advertisement Exposure (which has been built), as the total for these components is 3.644, which means that these components contribute together to 91.103% of the total variance of test scores.

5.3.2.6 Co-viewing (CV)

As shown in Table 5.14 below, the value of the Kaiser-Meyer Olkin (KMO) test equals 0.875, greater than 0.70, which means that the sample is adequate; In addition, the value of Bartlett's test is less than 0.05, which confirms the validity of factor analysis.

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0.875
Bartlett's Test of Sphericity	Approx. Chi-Square	3598.891
	df	6
	Sig.	0.000

Table 5.14 The Kaiser-Meyer Olkin (KMO) and Bartlett's Test for Co-viewing (CV)

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3.667	91.681	91.681	3.667	91.681	91.681
2	0.161	4.028	95.709			
3	0.099	2.485	98.194			
4	0.072	1.806	100.000			

Table 5.15 : Total Variance Explained for Co-viewing (CV)

It is clear from Table 5.15 that four components have been extracted from the analysis of co-viewing (which has been built), as the total for these components is 3.667, which means that these components contribute together to 91.681% of the total variance of test scores.

5.3.2.7 Parent-Child Communication (PCC)

As shown in Table 5.16 below, the value of the Kaiser-Meyer Olkin (KMO) test equals 0.875, greater than 0.70, which means that the sample is adequate; In addition, the value of Bartlett's test is less than 0.05, which confirms the validity of factor analysis.

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0.875
Bartlett's Test of Sphericity	Approx. Chi-Square	3731.081
	df	6
	Sig.	0.000

Table 5.16 The Kaiser-Meyer Olkin (KMO) and Bartlett's Test for Parent-Child Communication (PCC)

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3.695	92.379	92.379	3.695	92.379	92.379
2	0.142	3.560	95.938			
3	0.082	2.059	97.997			
4	0.080	2.003	100.000			

Table 5.17 Total Variance Explained for Parent-Child Communication (PCC)

It is clear from Table 5.17 that four components have been extracted from the analysis of parent-child communication (which has been built), as the total for these components respectively is 3.695, which means that these components contribute together to 92.379% of the total variance of test scores.

5.3.2.8 Rules of Use (RU)

As shown in Table 5.18 below, the value of the Kaiser-Meyer Olkin (KMO) test equals 0.866, greater than 0.70, which means that the sample is adequate; In addition, the value of Bartlett's test is less than 0.05, which confirms the validity of factor analysis.

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0.866
Bartlett's Test of Sphericity	Approx. Chi-Square	3137.936
	df	6
	Sig.	0.000

Table 5.18 The Kaiser-Meyer Olkin (KMO) and Bartlett's Test for Rules of use (RU)

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3.584	89.606	89.606	3.584	89.606	89.606
2	0.193	4.819	94.424			
3	0.120	2.999	97.423			
4	0.103	2.577	100.000			

Table 5.19 Total Variance Explained for Rules of use (RU)

It is clear from Table 5.19 that four components have been extracted from the analysis of rules of use (which has been built), as the total for these components is 3.584, which means that these components contribute together to 89.606% of the total variance of test scores.

5.3.2.9 If, Then Heuristic Strategy (IH)

As shown in Table 5.20 below, the value of the Kaiser-Meyer Olkin (KMO) test equals 0.879, greater than 0.70, which means that the sample is adequate; In addition, the value of Bartlett's test is less than 0.05, which confirms the validity of factor analysis.

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0.879
Bartlett's Test of Sphericity	Approx. Chi-Square	4017.921
	df	6
	Sig.	0.000

Table 5.20 The Kaiser-Meyer Olkin (KMO) and Bartlett's Test for If, Then Heuristic Strategy (IH)

Component	Initial Eigenvalues	Extraction Sums of Squared Loadings

	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3.737	93.422	93.422	3.737	93.422	93.422
2	0.120	2.990	96.412			
3	0.083	2.071	98.483			
4	0.061	1.517	100.000			

Table 5.21: Total Variance Explained for if, then heuristic Strategy (IH)

It is clear from Table 5.21 that four components have been extracted from the analysis of if, then heuristic strategy (which has been built), as the total for these components is 3.737, which means that these components contribute together to 93.422% of the total variance of test scores.

5.4 Descriptive Analysis

This section presents a descriptive analysis that shows mothers' or fathers' perceptions and agreement with the statements on measuring parental interventions with regard to social media food advertising influence on children's food buying behaviour. This section presents a descriptive analysis that shows mothers' and fathers' responses to each research dimension with its statements, including Co-viewing (CV), Rules of use (RU), Parent-Child Communication (PCC), Imitation of parents (IP), Goal Setting (GS), If, then heuristic strategy (IH), Social Media Unhealthy Food Advertisement Exposure (ESM), Advertising-based Defensive Memory Formation (ABMF), and Advertising-based Defensive Memory Application (ABMA).

5.4.1 Social Media Unhealthy Food Advertisement Exposure (ESM)

The first variable represents social media unhealthy food advertisement exposure (ESM), which refers to mothers' or fathers' level of agreement with the following statements about ESM as shown in Table 5.22 below.

Statement	Mean	Standard Deviation
ESM1. My child is exposed to advertised unhealthy food frequently on social media.	3.89	0.984
ESM2. My child is exposed to advertised unhealthy food for long periods of time on social media.	3.85	1.113
ESM3. My child is repeatedly exposed to advertisement of unhealthy food on social media.	3.85	1.030
Total Mean and Standard Deviation	**3.86**	**1.044**

Table 5.22 The Mean and Standard Deviations of Social Media Unhealthy Food Advertisement Exposure (ESM)

Table 5.22 shows mean and standard deviations for Social Media Unhealthy Food Advertisement Exposure (ESM) dimension of which ranged between 3.85 and 3.89. It is clear that the total mean is (3.86) with a standard deviation of (1.044). In addition, the highest mean for statement, ESM 1, which states “My child is exposed to advertised unhealthy food frequently on social media”, while the lowest mean for statement, ESM 2, which states “My child is exposed to advertised unhealthy food for long periods of time on social media” and ESM 3, which states “My child is repeatedly exposed to advertisement of unhealthy food on social media”. This reflects the seriousness of social media advertising on children's health.

5.4.2 Imitation of Parents (IP)

The section represents descriptive statistics of the imitation of parents (IP), which refers to mothers' or fathers' level of agreement with the following statements about IP as shown in Table 5.23 below.

Statement	Mean	Standard Deviation
IP1. My child tends to repeat my unhealthy food purchase behaviour that is advertised on social media.	3.19	1.341
IP2. My child tends to replicate my unhealthy food purchase behaviour that is advertised on social media.	3.08	1.460
IP3. My child tends to mimic my unhealthy food purchase behaviour that is advertised on social media.	3.17	1.344
IP4. My child tends to follow my behaviour when it comes to purchasing healthy food advertised on social media.	3.18	1.383
Total Mean and Standard Deviation	**3.16**	**1.383**

Table 5.23 The Mean and Standard Deviations of Imitation of parents (IP)

Table 5.23 shows mean and standard deviations for Imitation of parents (IP) dimension of which ranged between 3.08 and 3.19. It is clear that a total mean is (3.16) with a standard deviation of (1.383). In addition, the highest mean for statement IP 1, which states "My child tends to repeat my unhealthy food purchase behaviour that is advertised on social media", while the lowest mean for statement IP 2, which states "My child tends to replicate my unhealthy food purchase behaviour that is advertised on social media". This indicates the extent to which children attach to social media advertising and their impact on household purchasing decisions.

5.4.3 Goal Setting (GS)

This section represents goal setting (GS) descriptive statistics, which refers to mothers' or fathers' level of agreement with the following statements about GS as shown in Table 5.24 below.

Statement	Mean	Standard Deviation
GS1. My child tends to stick to unhealthy food purchase behaviour of advertised on social media when I repeat it as a parent.	3.16	1.326

GS2. My child tends to stick to unhealthy food purchase behaviour of advertised on social media when I fail to exercise self- control during purchase process as a parent.	3.18	1.337
GS3. My child tends to repeat unhealthy food purchase behaviour of advertised on social media when I continue to practice this behaviour as a parent.	3.11	1.354
GS4. My child tends to stick to unhealthy food purchase behaviour of advertised on social media when I don't show its risks as a parent.	3.16	1.336
Total Mean and Standard Deviation	**3.15**	**1.338**

Table 5.24 The Mean and Standard Deviations of Goal setting (GS)

Table 5.24 shows mean and standard deviations for goal setting (GS) dimension of which ranged between 3.11 and 3.18 with a total mean of (3.15) and a standard deviation of (1.338). In addition, the highest mean for statement GS 2, which states "My child tends to stick to unhealthy food purchase behaviour of advertised on social media when I fail to exercise self-control during purchase process as a parent", while the lowest mean for statement GS 3, which states "My child tends to repeat unhealthy food purchase behaviour of advertised on social media when I continue to practice this behaviour as a parent". This reflects the extent to which unhealthy food purchase behaviour on social media affects their children.

5.4.4 Advertising-Based Defensive Formation (ABMF)

This section represents advertising-based defensive formation (ABMF**)** descriptive statistics**,** which refers to mothers' and fathers' level of agreement with the following statements about ABMF as shown in Table 5.25 below.

Statement	Mean	Standard Deviation
ABMF1. My child tends to dislike brands associated with unhealthy food advertised on social media.	3.01	1.243

ABMF2. My child tends to dislike brands that advertise unhealthy food on social media.	3.02	1.351
ABMF3. My child tends to be annoyed with brands associated with unhealthy food which are advertised on social media.	2.98	1.346
ABMF4. My child tends to stay away from brands that advertise unhealthy food on social media.	2.99	1.336
Total Mean and Standard Deviation	**3.00**	**1.320**

Table 5.25 The Mean and Standard Deviations of Advertising-based Defensive Memory Formation (ABMF)

Table 5.25 shows mean and standard deviations for Advertising-based Defensive Memory Formation (ABMF) dimension of which ranged between 2.98 and 3.02 with a total mean of (3.00) and a standard deviation of (1.320). In addition, the highest mean for statement ABMF 2, which states “My child tends to dislike brands that advertise unhealthy food on social media”, while the lowest mean for statement ABMF 3, which states “My child tends to be annoyed with brands associated with unhealthy food which are advertised on social media”. This indicates the significant impact of brands and trademarks associated with unhealthy food advertised on social media on children tend.

5.4.5 Advertising Defensive Memory Application (ABMA)

This section represents advertising defensive memory application (ABMA) descriptive statistics, which refers to mothers' and fathers' level of agreement with the following statements about ABMA as shown in Table 5.26 below.

Statement	Mean	Standard Deviation
ABMA1. My child tends to purchase healthy food advertised on social media.	3.08	1.299
ABMA2. My child prefers healthy over unhealthy food advertised on social media.	3.03	1.374
ABMA3. My child tends not to be susceptible to purchasing unhealthy food advertised on social media.	2.96	1.362

ABMA4. My child tends to make a correct purchase decision when it comes to unhealthy food advertised on social media.	3.09	1.318
Total Mean and Standard Deviation	**3.04**	**1.339**

Table 5.26 The Mean and Standard Deviations of Advertising Defensive Memory Application (ABMA)

Table 5.26 shows means and standard deviations for Advertising Defensive Memory Application (ABMA) dimension of which ranged between 2.96 and 3.09 with a total mean of (3.04) and a standard deviation of (1.339). In addition, the highest mean for statement ABMA 4, which states "My child tends to make a correct purchase decision when it comes to unhealthy food advertised on social media", while the lowest mean for statement ABMA 3, which states "My child tends not to be susceptible to purchasing unhealthy food advertised on social media". This reflects the importance of social media in the lives of children and their impact on their purchasing decisions.

5.4.7 Co-viewing

This section represents co-viewing (CV) descriptive statistics, which refers to mothers' and fathers' level of agreement with the following statements about CV as shown in Table 5.27 below.

Statement	Mean	Standard Deviation
CV1. As a parent, I am aware of what social media platform(s) my child uses.	3.22	1.395
CV2. As a parent, I am aware of food advertisements viewed by my child on social media.	3.19	1.299
CV3. As a parent, I monitor food advertisements viewed by my child on social media.	3.09	1.333
CV4. As a parent, I check food advertisements viewed by my child on social media.	3.16	1.386
Total Mean and Standard Deviation	**3.17**	**1.354**

Table 5.27 : The Mean and Standard Deviations of Co-viewing (CV)

Table 5.27 shows mean and standard deviations for Co-viewing (CV) dimension of which ranged between 3.09 and 3.22 with a total mean of (3.17) and a standard deviation of (1.354). In addition, the highest mean for statement CV 1, which states “As a parent, I am aware of what social media platform(s) my child uses”, while the lowest mean for statement CV 3, which states “As a parent, I monitor food advertisements viewed by my child on social media”. This reflects how important it is to monitor and follow up children on social media to avoid advertisements that harm children's health.

5.4.7 Parent-Child Communication (PCC)

This section represents parent-child communication (PCC) descriptive statistics, which refers to mothers' and fathers' level of agreement with the following statements about PCC as shown in the Table 5.28 below.

Statement	Mean	Standard Deviation
PCC 1. As a parent, I talk to my child about food advertisement on social media.	3.09	1.343
PCC 2. As a parent, I discuss with my child the selling tactics used by food advertisers on social media.	3.09	1.338
PCC 3. As a parent, I communicate to my child the selling intent of food advertisement on social media.	3.07	1.304
PCC 4. As a parent, I explain to my child the biased nature of food advertisement on social media.	3.08	1.313
Total Mean and Standard Deviation	**3.08**	**1.325**

Table 5.28 The Mean and Standard Deviations of Parent-Child Communication (PCC)

Table 5.28 shows mean and standard deviations for Co-viewing (CV) dimension of which ranged between 3.09 and 3.22 with a total mean of (3.08) and a standard deviation of (1.325). In addition, the highest mean for statement CV 1, which states “As

a parent, I am aware of what social media platform(s) my child uses", while the lowest mean for statement CV 3, which states "As a parent, I monitor food advertisements viewed by my child on social media". This indicates the importance of talking to the children not only about marketing and advertising, but about the specific foods that are advertised, and the impact of these foods on their health later on.

5.4.8 Rules of Use (RU)

This section represents Rules of Use (RU) descriptive statistics, which refers to mothers' and fathers' level of agreement with the following statements about RU as shown in Table 5.29 below.

Statement	Mean	Standard Deviation
RU 1. As a parent, I monitor the use of specific social media platforms by my child to lessen unhealthy advertisement exposure.	3.01	1.325
RU 2. As a parent, I restrict my child from specific social media platforms to lessen unhealthy advertisement exposure.	3.05	1.354
RU 3. As a parent, I restrict my child to specific hours of use that he/she uses social media platforms to lessen unhealthy advertisement exposure.	3.03	1.389
RU 4. As a parent, I use parental software/ program to monitor my child's use of social media to lessen unhealthy advertisement exposure.	2.92	1.475
Total Mean and Standard Deviation	**3.00**	**1.387**

Table 5.29 The Mean and Standard Deviations of Rules of Use (RU)

Table 5.29 shows mean and standard deviations for Rules of use (RU) dimension of which ranged between 2.92 and 3.05 with a total mean is (3.00) and a standard deviation of (1.387). In addition, the highest mean for statement RU 2, which states "As a parent, I restrict my child from specific social media platforms to lessen unhealthy

advertisement exposure", while the lowest mean for statement RU 4, which states "As a parent, I use parental software/program to monitor my child's use of social media to lessen unhealthy advertisement exposure". This indicates the importance of follow-up children on social media, and sometimes taking strict measures.

5.4.9 If, then heuristic Strategy (IH)

This section represents if, then heuristic strategy (IH) descriptive statistics, which refers to mothers' and fathers' level of agreement with the following statements about IH as shown in Table 5.30 below.

Statement	Mean	SD
IH 1. As a parent, I encourage my child to go for a healthier option when they are purchasing food advertised on social media to maintain a good health condition.	3.22	1.328
IH 2. As a parent, I encourage my child to go for a healthier option when they are purchasing food advertised on social media to maintain healthy body weight.	3.21	1.395
IH 3. As a parent, I encourage my child to go for a healthier option when they are purchasing food advertised on social media to maintain better lifestyle.	3.26	1.375
IH 4. As a parent, I encourage my child to go for a healthier option when they are purchasing food advertised on social media to maintain a healthy body shape.	3.24	1.379
Total Mean and Standard Deviation	**3.23**	**1.369**

Table 5.30 The Mean and Standard Deviations of If, then heuristic strategy (IH)

Table 5.30 shows mean and standard deviations for If, and then heuristic strategy (IH) dimension of which ranged between 3.21 and 3.26 with a total mean is (3.23) and a standard deviation of (1.369). In addition, the highest mean for statement IH 3, which states "As a parent, I encourage my child to go for a healthier option when they are

purchasing food advertised on social media to maintain better lifestyle", while the lowest mean for statement IH 2, which states "As a parent, I encourage my child to go for a healthier option when they are purchasing food advertised on social media to maintain healthy body weight". This reflects the great role played by parents in encouraging children to buy healthier meals.

5.5 Correlation Matrix

Regarding the dimensions of the research; Co-Viewing (CV), Rules of Use (RU), Parent-Child Communication (PCC), Imitation of Parents (IP), goal setting (GS), heuristic strategy (IH), Social Media Unhealthy Food Advertisement Exposure (ESM), Advertising-based Defensive Memory Formation (ABMF), and Advertising Defensive Memory Application (ABMA), and a correlation matrix test was run to ensure that multicollinearity was avoided. Table 5.31 shows the correlation matrix between all dimensions of research. Moreover, the correlation matrix shows many strong correlations as there are correlation coefficients that are higher than 0.7. On the other hand, it was noted that there are some weak correlation, however, in spite of its weakness, the value of Pearson correlation coefficient was significant at $\alpha = 1\%$.

		ESM	IP	GS	ABMF	ABMA	CV	PCC	RU	IH
ESM	Pearson Correlation	1	0.425**	0.375**	-0.364**	-0.376**	-0.336**	-0.352**	-0.384**	-0.366**
	Sig. (2-tailed)		0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	N	662	662	662	662	662	662	662	662	662
IP	Pearson Correlation	0.425**	1	0.924**	-0.737**	-0.755**	-0.695**	-0.700**	-0.731**	-0.689**
	Sig. (2-tailed)	0.000		0.000	0.000	0.000	0.000	0.000	0.000	0.000
	N	662	662	662	662	662	662	662	662	662
GS	Pearson Correlation	0.375**	0.924**	1	-0.765**	-0.787**	-0.716**	-0.739**	-0.745**	-0.712**
	Sig. (2-tailed)	0.000	0.000		0.000	0.000	0.000	0.000	0.000	0.000
	N	662	662	662	662	662	662	662	662	662
ABMF	Pearson Correlation	-0.364**	-0.737**	-0.765**	1	0.906**	0.798**	0.834**	0.844**	0.787**
	Sig. (2-tailed)	0.000	0.000	0.000		0.000	0.000	0.000	0.000	0.000
	N	662	662	662	662	662	662	662	662	662
ABMA	Pearson Correlation	-0.376**	-0.755**	-0.787**	0.906**	1	0.834**	0.874**	0.870**	0.844**
	Sig. (2-tailed)	0.000	0.000	0.000	0.000		0.000	0.000	0.000	0.000
	N	662	662	662	662	662	662	662	662	662
CV	Pearson Correlation	-0.336**	-0.695**	-0.716**	0.798**	0.834**	1	0.865**	0.850**	0.826**
	Sig. (2-tailed)	0.000	0.000	0.000	0.000	0.000		0.000	0.000	0.000
	N	662	662	662	662	662	662	662	662	662
PCC	Pearson Correlation	-0.352**	-0.700**	-0.739**	0.834**	0.874**	0.865**	1	0.908**	0.861**
	Sig. (2-tailed)	0.000	0.000	0.000	0.000	0.000	0.000		0.000	0.000
	N	662	662	662	662	662	662	662	662	662
RU	Pearson Correlation	-0.384**	-0.731**	-0.745**	0.844**	0.870**	0.850**	0.908**	1	0.866**

	Sig. (2-tailed)	0.000	0.000	0.000	0.000	0.000	0.000	0.000		0.000
	N	662	662	662	662	662	662	662	662	662
	Pearson Correlation	-0.366**	-0.689**	-0.712**	0.787**	0.844**	0.826**	0.861**	0.866**	1
IH	Sig. (2-tailed)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
	N	662	662	662	662	662	662	662	662	662

**. Correlation is significant at the 0.01 level (2-tailed).

Table 5.31 The Correlation Matrix

5.6 Path Analysis

In this research, there are two moderating variables (A parental intervention at exposure stage and a parental intervention at purchase stage) and one mediating variable (advertising-based defensive memory formation). In order to test proposed hypotheses, path analysis with AMOS was used as shown in Figure 5.11. In the next sections, outcomes of path analysis will be used to examine the effect of mediating and moderating variables separately.

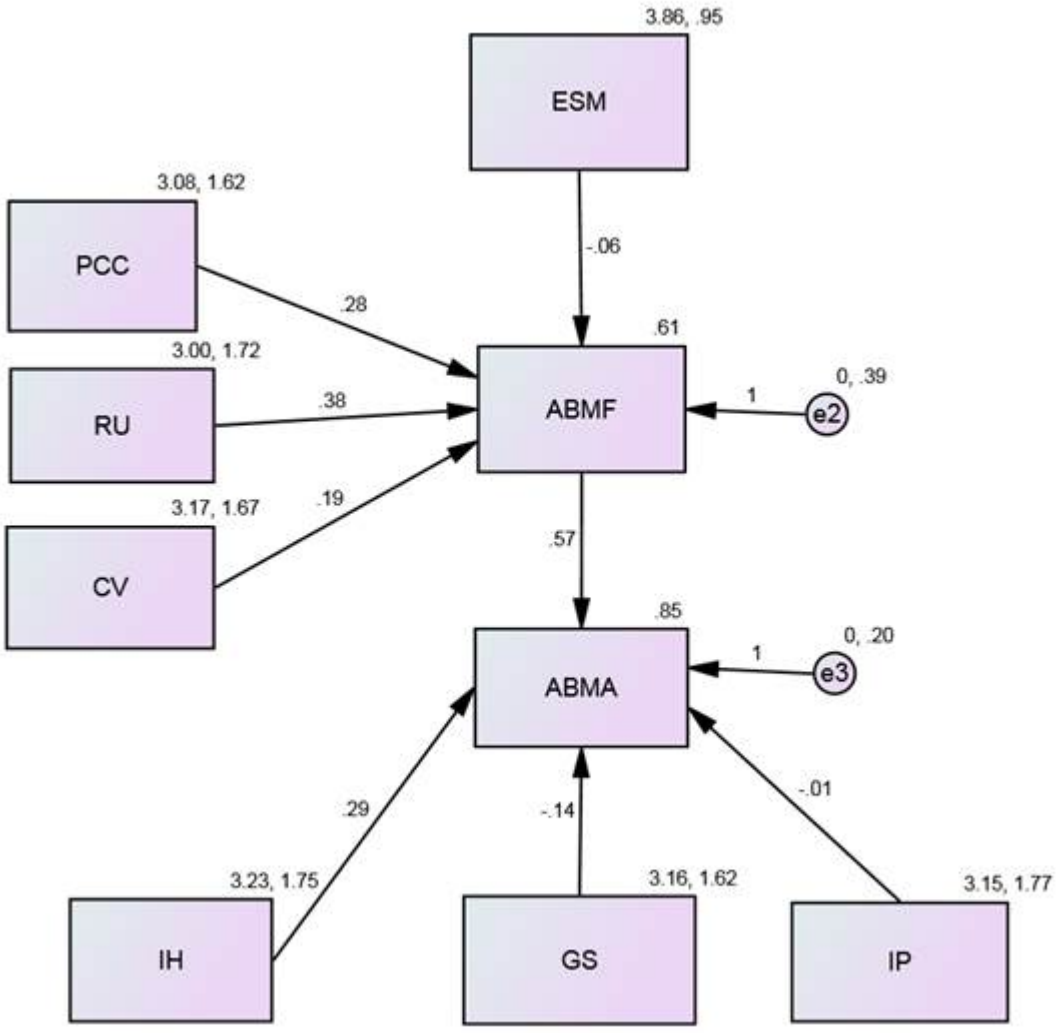

Figure 5.11 Path Analysis Model

5.7 Mediation Effect

In this research, advertising-based defensive memory formation (ABMF) acts as mediating variable to show its effect on the relationship between social media unhealthy food advertisement exposure (ESM) and advertising-based defensive memory application (ABMA). Path analysis results were used to illustrate the mediation effects of advertising-based defensive memory formation (ABMF). Table 5.32 shows that ESM → ABMF and ABMF → ABMA paths, which form indirect effect, were significant, which support the first main hypothesis (H1), which states that "Social Media Unhealthy food Advertisement Exposure has a negative effect on advertising-based defensive memory formation", and the third main hypothesis (H3), which states that, "Advertising-based defensive memory formation has a positive effect on advertising- based defensive memory application". In addition, Table 5.32 shows that the value of indirect effect (-.012*0.69= -0.08) is larger than the value of direct effect (-0.07), which indicates that advertising-based defensive memory formation mediate partially between social media unhealthy food advertisement exposure (ESM) and advertising-based defensive memory application (ABMA). In addition, table (5.32) shows that ESM → ABMF, ABMF → ABMA, and ESM → ABMA are significant, as well as the sign of multiplication of -0.012*0.69*-0.07 is positive, which means that the mediating effect is complementary partial mediation (Nitzl, Roldan and Cepeda, 2016; Zhao, Lynch and Chen, 2010). In other words, Advertising-based defensive memory formation (ABMF) partially mediates the effect of Social Media Unhealthy food Advertisement Exposure (ESM) on advertising-based defensive memory application (ABMA).

	Estimate	P
ABMF <--- ESM	-0.12	0.000
ABMF <--- PCC	0.66	0.000
ABMF <--- RU	-0.32	0.000
ABMF <--- CV	0.43	0.000
ABMA <--- ABMF	0.69	0.000
ABMA <--- IH	0.40	0.000
ABMA<--- GS	-0.06	0.000
ABMA <--- IP	-0.29	0.000
ABMA <--- ESM	-0.07	0.002

Table 5.32 Standardized Regression Weights

Figures 5.12 and 5.13 below, show the direct and indirect effect on advertising-based defensive memory formation (ABMF) and advertising-based defensive memory application (ABMA) paths, as all paths are direct effect, except ESM → ABMF and ABMF → ABMA paths, which confirms the mediating role of advertising-based defensive memory formation (ABMF), despite the presence of negative significant effects, but this does not affect the validity of hypotheses 1 and 3 ($P < 0.05$).

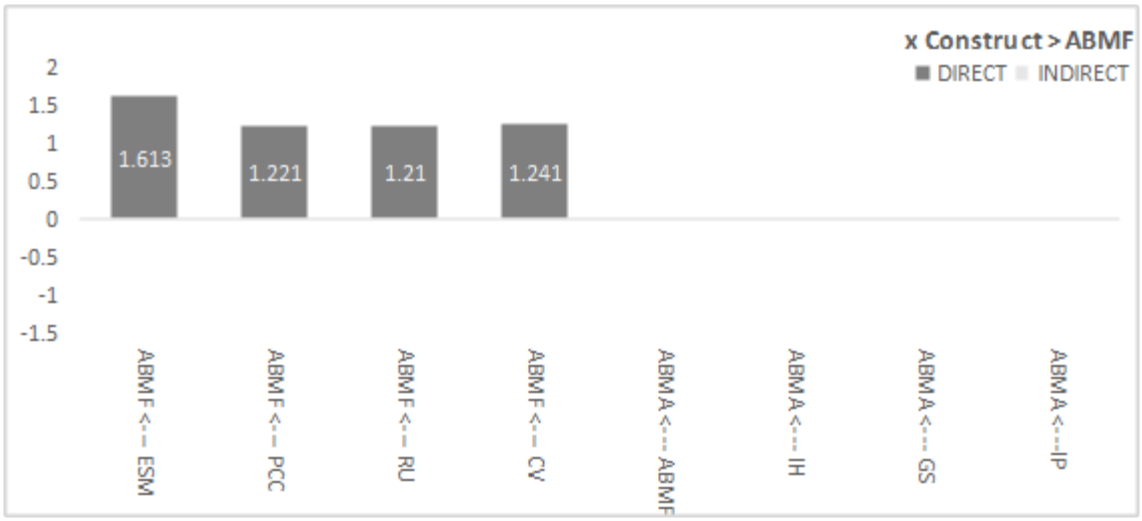

Figure 5.12 Total Effects of Direct and Indirect Paths on Advertising- Based Defensive Memory Formation (ABMF)

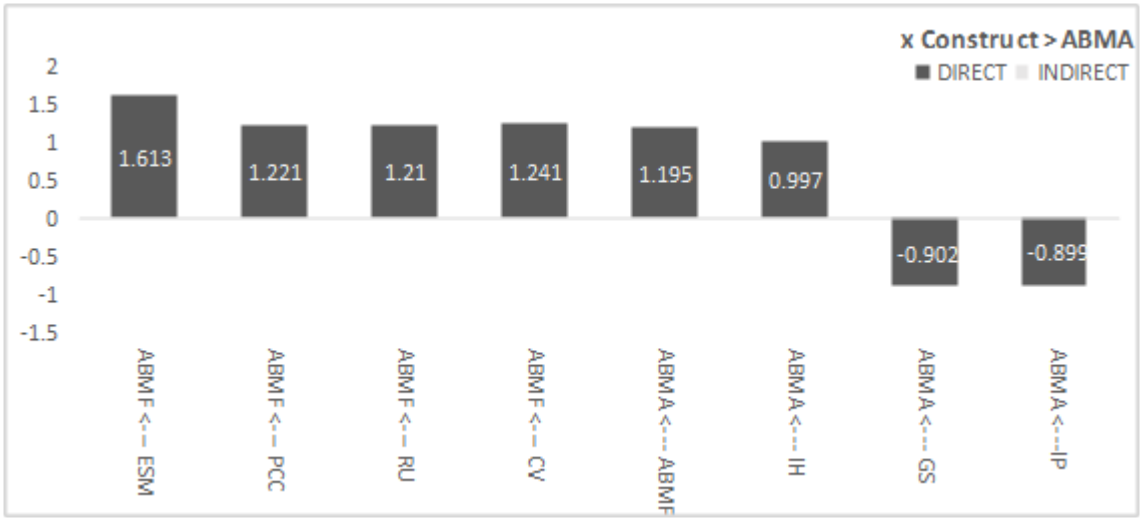

Figure 5.13 Total Effects of Direct and Indirect Paths on Advertising-Based Defensive Memory Application (ABMA)

5.8 Moderation Effect

As mentioned above, parental intervention at exposure stage and parental intervention at purchase stage are two moderator variables, as a parental intervention at exposure

stage (parent-child communication, rules of use, and co-viewing) was to moderate the relationship between social media unhealthy food advertisement exposure (ESM) and advertising-based defensive memory formation (ABMF), while parental intervention at purchase stage (if, then heuristic strategy, repeated self-regulation behaviour, and imitation of parents) was to moderate the relationship between advertising-based defensive memory formation (ABMF) and advertising-based defensive memory application (ABMA). In this research, path analysis outcomes were used to test the sub hypotheses 2 and 4.

5.8.1 Testing Moderation Hypotheses at Exposure Stage

The Figure 5.14 below shows the moderating role of a parental intervention at exposure stage (parent-child communication, rules of use, and co-viewing) between Social Media Unhealthy food Advertisement Exposure and advertising based memory formation. This hypothesis is tested by verifying the sub hypotheses, as follows:

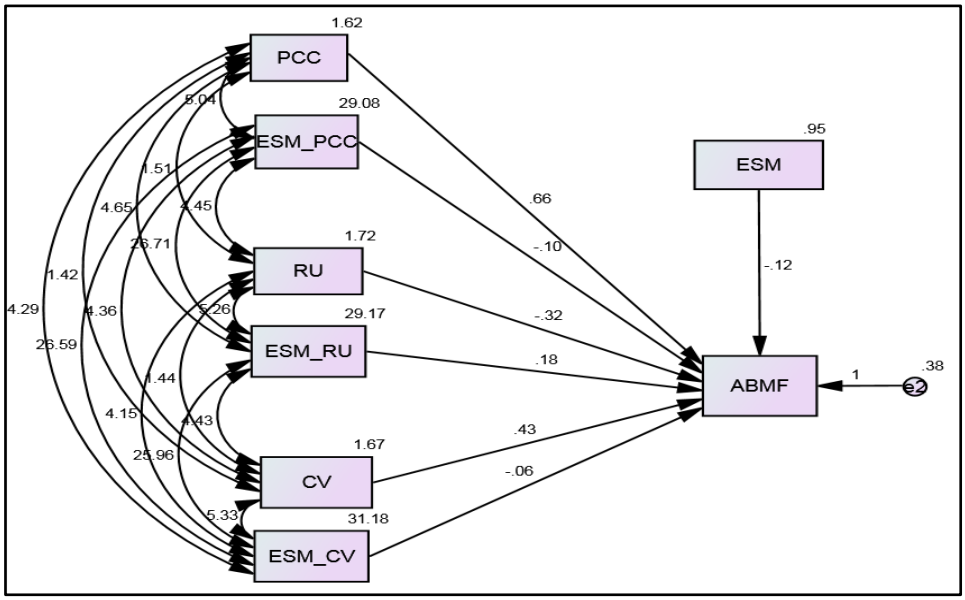

Figure 5.14 The moderating role of a parental intervention at exposure stage (PCC, RU, and CV) between ESM and ABMF

5.8.1.1 The First Sub Hypothesis

The first sub hypothesis states that Parent-child communication moderates the relationship between Social Media Unhealthy food Advertisement Exposure and advertising-based defensive memory formation, such that the effect of social media unhealthy food advertisement exposure will be weaker (stronger) for parents that use (do not use) the parent-child communication intervention on advertising-based defensive memory formation.

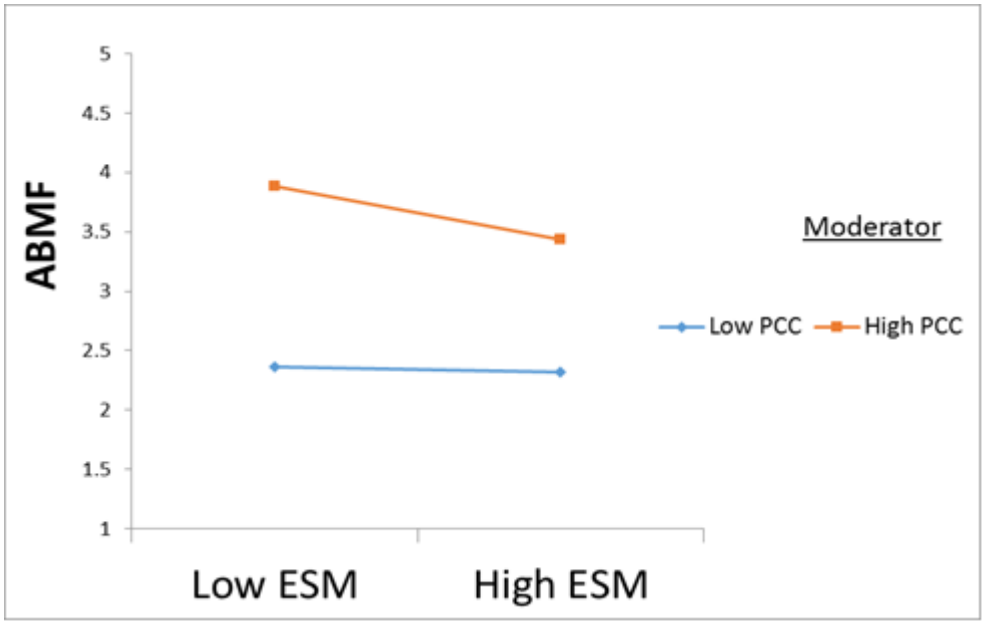

Figure 5.15 The Moderating Role of Parent-Child Communication on the Relationship between Social Media Unhealthy Food Advertisement Exposure (ESM) and Advertising-Based Defensive Memory Formation (ABMF)

	Estimate	S.E.	C.R.	P	Results
ABMF <--- ESM*PCC	-0.099	0.056	-1.763	0.002	Significant

Table 5.33 The Moderating Effect of ESM*PCC on ABMF

Table 5.33 shows the moderating role of parent-child communication on the relationship between social media unhealthy food advertisement exposure (ESM) and

advertising-based defensive memory formation (ABMF). Table 5.33 shows that the interaction of ESM and PCC on ABMF is negative (-.099), which indicates that the moderating variable (PCC) strengthens the negative relationship between ESM and ABMF. In other words, as ESM increases by 1 unit, ABMF decreases by (-0.12 - 0.099 = -0.219) units with the Parent–Child Communication compared to (-0.12) units decrease in ABMF without Parent–Child Communication as shown in Figure 5.15, where the blue colour refers to the impact of ESM on ABMF and the orange colour refers to the impact of (ESM*PCC) on ABMF. Also, Table 5.33 shows that P value is significant, which is less than 0.05, leading to acceptance of the first sub hypothesis (H2a). Therefore, parent-child communication was found to have significant moderating effect on the relationship between ESM and ABMF. As, the hypothesis for the main effect (ABMF <--- ESM) still significant after enter PCC into the model, the type of moderation is partial.

5.8.1.2 The Second Sub Hypothesis

The second sub hypothesis states that Rules of Use moderates the relationship between Social Media Unhealthy food Advertisement Exposure and advertising-based defensive memory formation, such that the effect of social media unhealthy food advertisement exposure will be weaker (stronger) for parents that use (do not use) the rules of use intervention on advertising-based defensive memory formation.

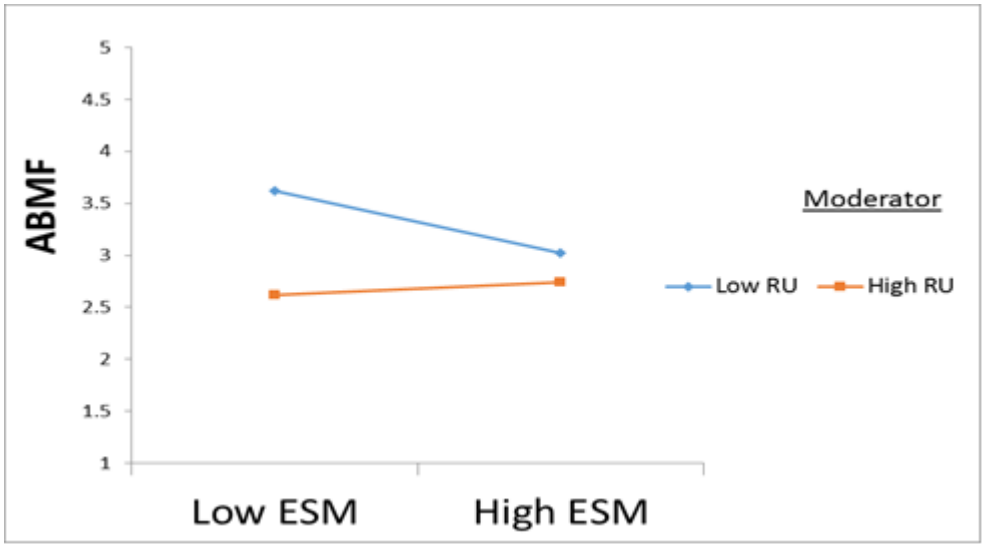

Figure 5.16 The Moderating Role of Rules of Use on the Relationship between Social Media Unhealthy Food Advertisement Exposure (ESM) and Advertising-Based Defensive Memory Formation (ABMF)

	Estimate	S.E.	C.R.	P	Results
ABMF <--- ESM*RU	0.179	0.053	3.347	0.000	Significant

Table 5.34 The Moderating Effect of ESM*RU on ABMF

Table 5.34 shows the moderating role of rule of use on the relationship between social media unhealthy food advertisement exposure (ESM) and advertising-based defensive memory formation (ABMF). It shows that the interaction of ESM and RU on ABMF is positive (0.179), which indicates that the moderating variable (RU) dampens the negative relationship between ESM and ABMF. In other words, as ESM increases by 1 unit, ABMF increases by (-0.12 + 0.179 = 0.059) units with the Rules of Use in comparison to a decrease of -0.12 units without the Rules of Use as shown in Figure 5.16, where the blue colour refers to the relation between ESM and ABMF and the orange colour refers to the relation between (ESM*RU) and ABMF. Also, Table 5.34

shows that P value is significant, which is less than 0.05, leading to acceptance of the second sub hypothesis (H2b). Therefore, rule of use is found to have significant moderating effect on the relationship between ESM and ABMF. Since the hypothesis for the main effect (ABMF <--- ESM) is still significant after incorporating RU in the model, the type of moderation is partial.

5.8.1.3 The Third Sub Hypothesis

The third sub hypothesis states that Co-viewing moderates the relationship between Social Media Unhealthy food Advertisement Exposure and advertising-based defensive memory formation, such that the effect of social media unhealthy food advertisement exposure will be weaker (stronger) for parents that use (do not use) the co-viewing intervention on advertising-based defensive memory formation.

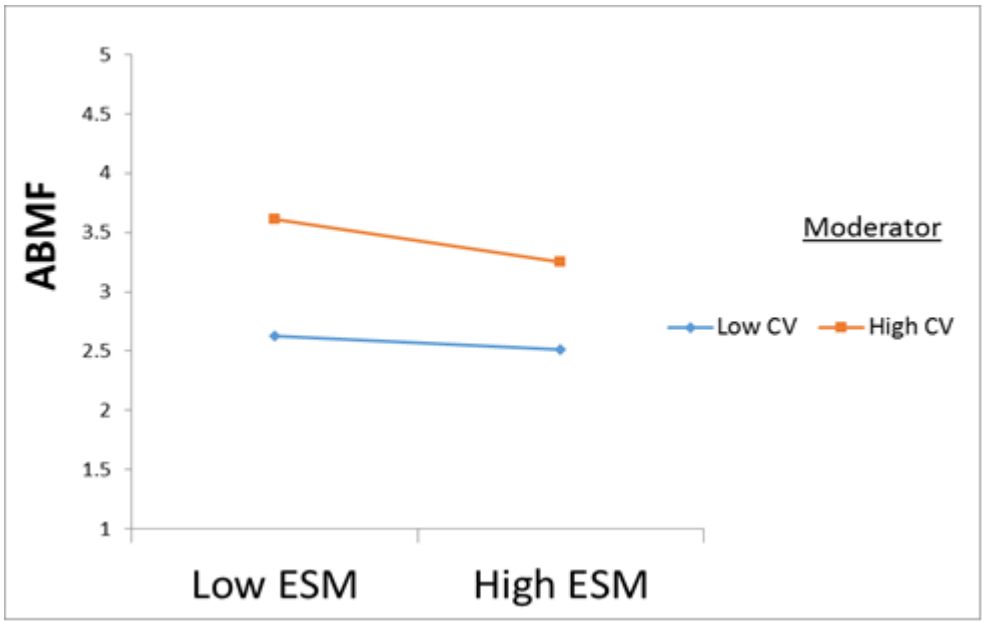

Figure 5.17 The Moderating Role of Co-viewing on the Relationship between Social Media Unhealthy Food Advertisement Exposure (ESM) and Advertising-Based Defensive Memory Formation (ABMF)

	Estimate	S.E.	C.R.	P	Results
ABMF <--- ESM*CV	-0.061	0.038	-1.631	0.003	Significant

Table 5.35 The Moderating Effect of ESM*CV on ABMF

Table 5.35 shows the moderating role of co-viewing on the relationship between social media unhealthy food advertisement exposure (ESM) and advertising-based defensive memory formation (ABMF). It shows that the interaction of ESM and CV on ABMF is negative (-0.061), which indicates that the moderating variable (CV) strengthens the negative relationship between ESM and ABMF. In other words, as ESM increases by 1 unit, ABMF increases by (-0.12 - 0.061 = -0.181) units with the co-viewing in comparison to a decrease of -0.12 units without the co-viewing as shown in Figure 5.17, where the blue colour refers to the relation between ESM and ABMF and the orange colour refers to the relation between (ESM*CV) and ABMF. Also, table 5.35 shows that P value is significant, which is less than 0.05, leading to acceptance of the third sub hypothesis (H2c). Therefore, co-viewing was found to have significant moderating effect on the relationship between ESM and ABMF. Since the hypothesis for the main effect (ABMF <--- ESM) still significant after CV enters the model, the type of moderation is partial.

5.8.2 Testing Moderation Hypotheses at Consumption Stage

Figure 5.18 below shows the moderating role of a parental intervention at purchase stage (if, then heuristic strategy, repeated self-regulation behaviour, and imitation of parents) between advertising based memory formation and advertising based memory application. This hypothesis is tested by verifying the sub hypotheses, as follows:

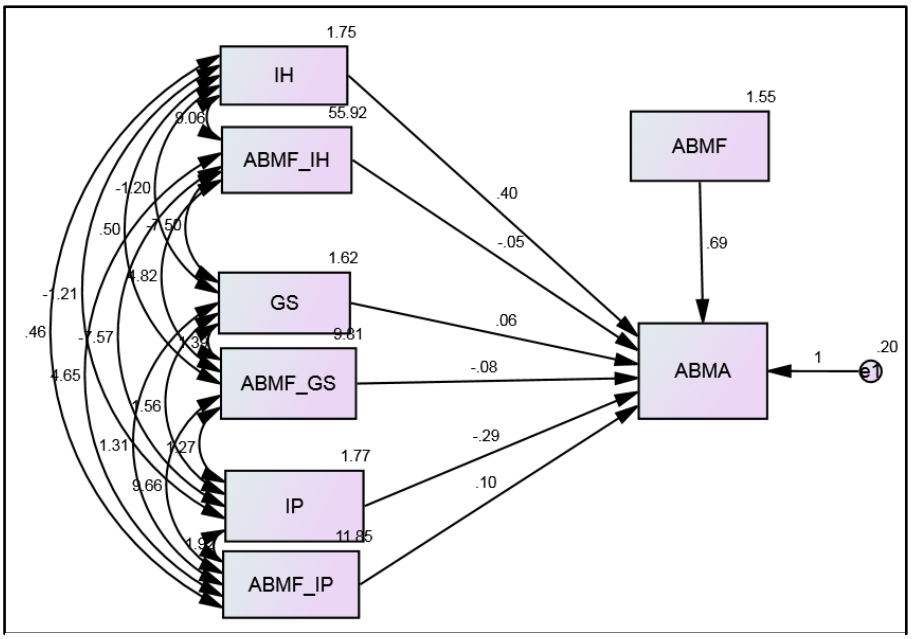

Figure 5.18 The moderating role of a parental intervention at purchase stage (IH, GS, and IP) between ABMF and ABMA

5.8.2.1 The Fourth Sub Hypothesis

The fourth sub hypothesis states that If, then heuristic strategy moderates the relationship between advertising-based defensive memory formation and advertising based memory application, such that the effect of advertising-based defensive memory formation will be stronger (weaker) for parents that use (do not use) the if, then heuristic intervention on the advertising-based defensive memory application.

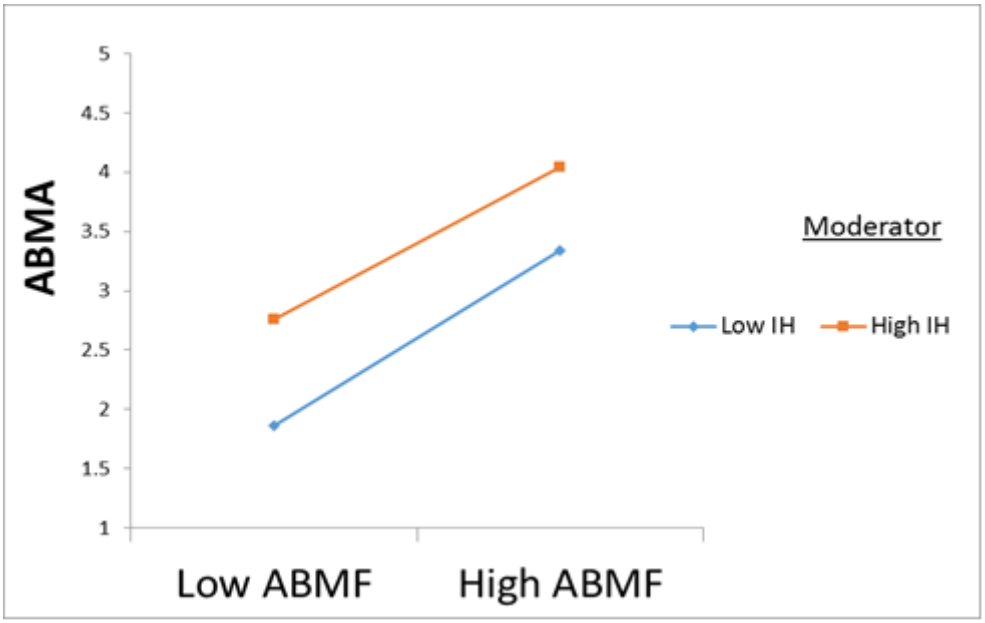

Figure 5.19 The Moderating Role of If, Then Heuristic Strategy on the Relationship between Advertising-Based Defensive Memory Formation (ABMF) and advertising-based defensive memory application (ABMA)

	Estimate	S.E.	C.R.	P	Results
ABMA <--- ABMF*IH	-0.049	0.011	-4.413	0.078	Not Significant

Table 5.36 The Moderating Effect of ABMF*IH on ABMA

Table 5.36 shows the moderating role of if, then heuristic strategy on the relationship between advertising-based defensive memory formation (ABMF) and advertising-based defensive memory application (ABMA). It shows that the interaction of ABMF and IH on ABMA is negative (-0.049), which indicates that the moderating variable (IH) dampens the positive relationship between ABMF and ABMA. In other words, as ABMF increases by 1 unit, ABMA increases by (0.69 – 0.049 = 0.641) units with the if, then heuristic strategy in comparison to a decrease of 0.69 units without the if, then heuristic strategy as shown in Figure 5.19, where the blue colour refers to the relation

between ABMF and ABMA and the orange colour refers to the relation between (ABMF*IH) and ABMA. Also, Table 5.36 shows that P value is not significant, which is more than 0.05, leading to rejection of the first sub hypothesis (H4a). Therefore, then heuristic strategy had no moderating effect on the relationship between ABMF and ABMA.

5.8.2.2 The Fifth Sub Hypothesis

The fifth Hypothesis states that Goal Setting moderates the relationship between advertising-based defensive memory formation and advertising based memory application, such that the effect of advertising-based defensive memory formation will be stronger (weaker) for parents that use (do not use) the goal setting intervention on the advertising-based defensive memory application.

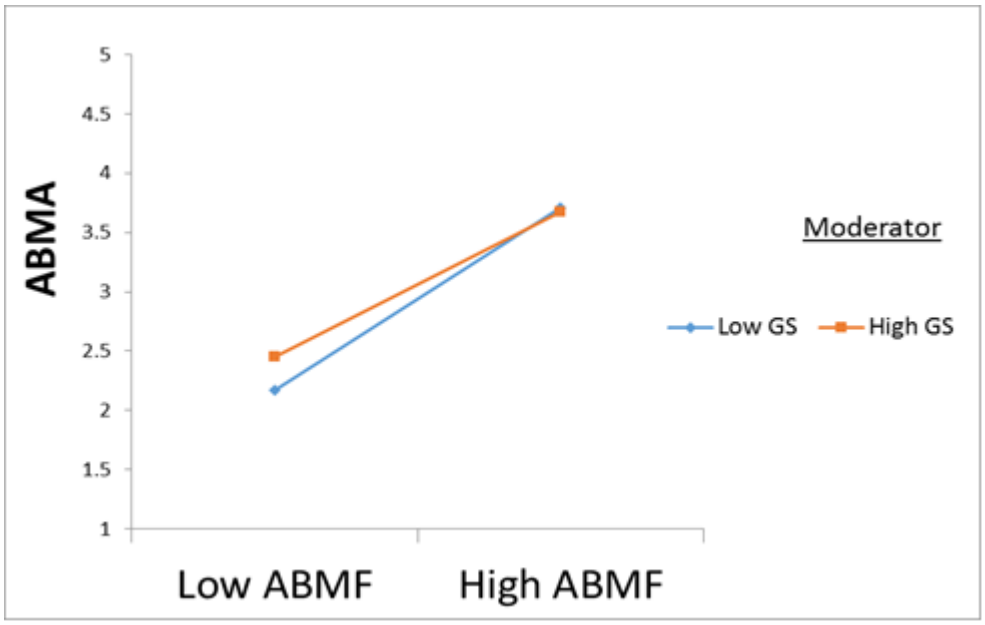

Figure 5.20 The Moderating Role of Goal Setting on the Relationship between Advertising-Based Defensive Memory Formation (ABMF) and advertising-based defensive memory application (ABMA)

	Estimate	S.E.	C.R.	P	Results
ABMA <--- ABMF*GS	-0.081	0.032	-2.536	***	Significant

Table 5.37 The Moderating Effect of ABMF*GS on ABMA

Table 5.37 shows the moderating role of goal setting on the relationship between advertising-based defensive memory formation (ABMF) and advertising-based defensive memory application (ABMA). It shows that the interaction of ABMF and GS on ABMA is negative (-0.081), which indicates that the moderating variable (GS) dampens the positive relationship between ABMF and ABMA. In other words, as ABMF increases by 1 unit, ABMA increases by (0.69 - 0.081 = 0.609) units with the goal setting in comparison to a decrease of 0.69 units without the goal setting as shown in Figure 5.20, where the blue colour refers to the relation between ABMF and ABMA and the orange colour refers to the relation between (ABMF*GS) and ABMA. Also, Table 5.37 shows that P value is significant, which is less than 0.05, leading to acceptance of the second sub hypothesis (H4b). Therefore, goal setting was found to have significant moderating effect on the relationship between ABMF and ABMA. Since the hypothesis for the main effect (ABMA <--- ABMF) is still significant after GS enters the model, the type of moderation is partial.

5.8.2.3 The Sixth Sub Hypothesis

Imitation of parents moderates the relationship between advertising-based defensive memory formation and advertising based memory application, such that the effect of advertising-based defensive memory formation will be stronger (weaker) for parents that use (do not use) the imitation of parents intervention on the advertising-based defensive memory application.

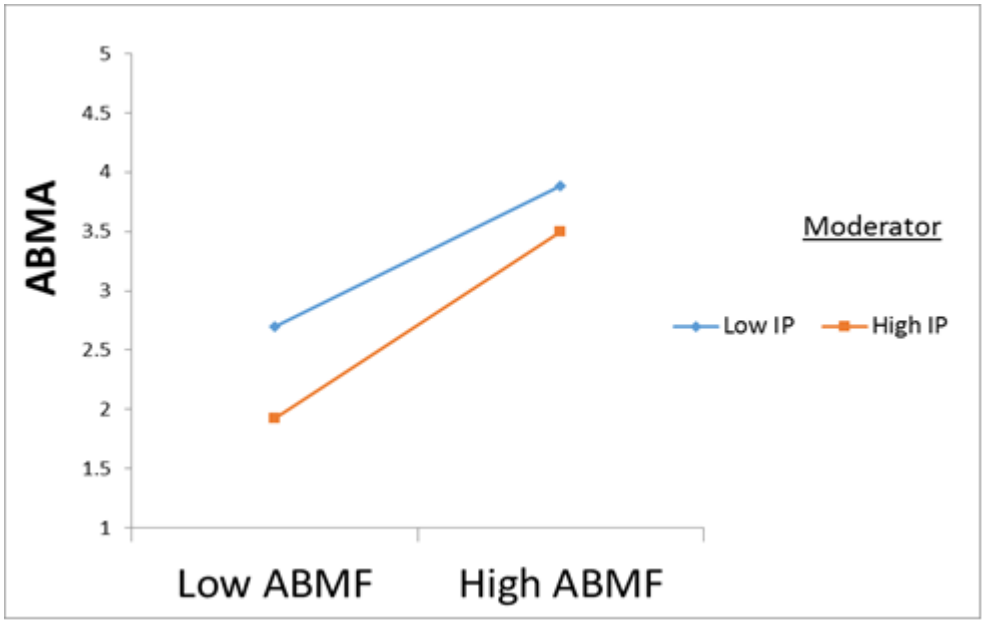

Figure 5.21 The Moderating Role of Imitation of Parents on The Relationship between Advertising-Based Defensive Memory Formation (ABMF) and advertising-based defensive memory application (ABMA)

	Estimate	S.E.	C.R.	P	Results
ABMA <--- ABMF*IP	0.097	0.031	3.156	***	Significant

Table 5.38 The Moderating Effect of ABMF*IP on ABMA

Table 5.38 shows the moderating role of imitation of parents on the relationship between advertising-based defensive memory formation (ABMF) and advertising-based defensive memory application (ABMA). It shows that the interaction of ABMF and IP on ABMA is positive (0.097), which indicates that the moderating variable (IP) strengthens the positive relationship between ABMF and ABMA. In other words, as ABMF increases by 1 unit, ABMA increases by (0.69 + 0.097 = 0.787) units with the imitation of parents in comparison to a decrease of 0.69 units without the imitation of parents as shown in Figure 5.21, where the blue colour refers to the relation between

ABMF and ABMA and the orange colour refers to the relation between (ABMF*IP) and ABMA. Also, Table 5.38 shows that P value is significant, which is less than 0.05, leading to acceptance of the third sub hypothesis (H4c). Therefore, imitation of parents is found to have significant moderating effect on the relationship between ABMF and ABMA. Since the hypothesis for the main effect (ABMA <--- ABMF) is still significant after entering IP into the model, the type of moderation is partial.

5.9 Summary

As summarized in this chapter, the results showed that the mean and standard deviations for all research dimensions and statements were good. In this research, The Kaiser-Meyer Olkin (KMO) and Bartlett's test were used to measure sampling adequacy. Moreover, the results showed that there was a significant impact of social media unhealthy food advertisement exposure (ESM) on advertising-based defensive memory formation (ABMF). Moreover, the study concluded that there was a significant impact of parent-child communication (PCC), co-viewing (CV), and rules of use (RU) on advertising-based defensive memory formation (ABMF). In addition, it was found that there was a significant impact of advertising-based defensive memory formation (ABMF) on advertising defensive memory application (ABMA). Furthermore, the research concluded that there was a significant impact of goal setting (GS) and imitation of parents (IP) on advertising defensive memory application (ABMA). Also, the research concluded that there was no significant impact of heuristic strategy (IH) on advertising defensive memory application (ABMA).

Chapter 6 : Discussion

6.1 Introduction

In the previous chapter, outcomes of the data analysis conducted on the collected data were presented. The present study aimed at investigating how parental interventions with regard to social media food advertising influence children's food buying behaviour. This chapter will discuss the research results in relation to the research questions against the background of previous research covered in the literature review. Also, this research presented a number of hypotheses related to the nature of the relationship between the variables of the study. Moreover, this research reached several results which contributed to solving the problems and discussing hypotheses. Also, in this chapter, the results of this study will be compared with previous studies, and as well the similarities and differences will be presented, thus giving the reader an opportunity to benefit from them in the optimal manner.

6.2 Results and Analysis of Research Variables

The results showed that the mean of all research variables were good. As Social Media Unhealthy Food Advertisement Exposure (ESM) dimension obtained the highest mean (3.86), followed by If, then heuristic strategy (IH) dimension (3.23), while Advertising-based Defensive Memory Formation (ABMF) and Rules of use (RU) dimensions obtained the lowest mean (3.00) as shown in the below table. The reason for this is the diversity of questions and contradictory ideas from which the researcher attempted to devise results in a realistic manner, which in turn reflects the validity of the study. Moreover, this may be due to the inability of parents to control the behaviour of children

on social networking sites as well as the desire of children to access unhealthy food advertised through those media. Scientific research in this area, especially in Europe, including the United Kingdom, and the United States of America, has carried out comprehensive studies and evidence review of the impact of food advertising on influencing the behaviour of children and adolescents in the selection and preference of certain foods and beverages (Clarke and Svanaes, 2014). It has been noticed that there exist far less number of studies in Saudi Arabia and other Gulf countries that investigated the impact of social media on the eating behaviours of children. This calls for a study to elaborate the extent to which the social media advertising influence eating behaviour and nutritional status of children.

Statement	**Total Mean**
Social Media Unhealthy Food Advertisement Exposure (ESM)	3.86
Imitation of Parents (IP)	3.16
Goal setting(GS)	3.15
Advertising-Based Defensive Formation (ABMF)	3.00
Advertising Defensive Memory Application (ABMA)	3.04
Co-viewing (CV)	3.17
Parent-Child Communication (PCC)	3.08
Rules of Use (RU)	3.00
If, Then Heuristic Strategy (IH)	3.23

Table 6.1 The Mean of Research Variables

6.3 Mediation Effect of Advertising-Based Defensive Memory Formation (ABMF)

In this research, path analysis results were used to illustrate the mediation effects of advertising-based defensive memory formation (ABMF). As ABMF acts as a mediating variable to show its effect on the relationship between social media unhealthy food

advertisement exposure (ESM) and advertising-based defensive memory application (ABMA). As shown in table below, ESM → ABMF and ABMF → ABMA paths, which are indirect effect, were significant, and support the first main hypothesis (H1), which stated that "Social Media Unhealthy food Advertisement Exposure has a negative effect on advertising-based defensive memory formation", and the third main hypothesis (H3), which stated that, "Advertising-based defensive memory formation has a positive effect on advertising-based defensive memory application". The table below show all paths were significant except ABMA <--- IH. This will be discussed later in more detail in this chapter.

	Estimate	P
ABMF <--- ESM	-0.12	***
ABMF <--- PCC	0.66	***
ABMF <--- RU	-0.32	***
ABMF <--- CV	0.43	***
ABMA <--- ABMF	0.69	***
ABMA <--- IH	0.40	0.07
ABMA<--- GS	-0.06	***
ABMA <--- IP	-0.29	***
ABMA <--- ESM	-0.07	0.002

Table 6.2 Standardized Regression Weights

6.4 Moderation Effect of Parental Intervention at Exposure Stage and Purchase Stage

In this research, path analysis outcomes were used to show moderation effect of parental intervention at exposure stage and purchase stage, parental intervention at exposure stage and parental intervention at purchase stage are two moderator variables, as a parental intervention at exposure stage (parent-child communication, rules of use, and co-viewing) was to moderate the relationship between social media unhealthy food advertisement exposure (ESM) and advertising-based defensive memory formation (ABMF), while parental intervention at purchase stage (if, then heuristic strategy, goal setting, and imitation of parents) was to moderate the relationship between advertising-based defensive memory formation (ABMF) and advertising-based defensive memory application (ABMA).

Table 6.3 shows the moderating role of a parental intervention at exposure stage (parent-child communication, rules of use, and co-viewing) between Social Media Unhealthy food Advertisement Exposure and advertising based memory formation. The results showed that parent-child communication, rules of use, and co-viewing had the ability to moderate the relationship between Social Media Unhealthy food Advertisement Exposure and advertising based memory formation.

	Estimate	S.E.	C.R.	P	Results
ABMF <---ESM*PCC	-0.099	0.056	-1.763	0.002	Significant

ABMF <--- ESM*RU	0.179	0.053	3.347	***	Significant
ABMF <--- ESM*CV	-0.061	0.038	-1.631	0.003	Significant

Table 6.3 The Moderating Effect of Parental Intervention at Exposure Stage

On the other hand, table 6.4 shows the moderating role of a parental intervention at the purchase stage (if, then heuristic strategy, goal setting, and imitation of parents) between advertising-based defensive memory formation (ABMF) and advertising-based defensive memory application (ABMA). The results showed that goal setting and imitation of parents had the ability to moderate the relationship between Social Media Unhealthy food Advertisement Exposure and advertising based memory formation. The if-then heuristic strategy failed to moderate the relationship between Social Media Unhealthy food Advertisement Exposure and advertising based memory formation.

	Estimate	S.E.	C.R.	P	Results
ABMA <---ABMF*IH	-0.049	.011	-4.413	0.078	Not Significant
ABMA <--ABMF*GS	-0.081	0.032	-2.536	***	Significant
ABMA <--- ABMF*IP	0.097	0.031	3.156	***	Significant

Table 6.4 The Moderating Effect of Parental Intervention at Purchase Stage

6.5 Discussion Hypotheses Testing Results

H1: Social Media Unhealthy food Advertisement Exposure has a negative effect on advertising-based defensive memory formation.

The results showed a statistically significant effect for Social Media Unhealthy food Advertisement Exposure on advertising-based defensive memory formation. The children are a target of advertisements, which in turn become a source of concern for the parents, professionals and policymakers (Story and French, 2004). Advertisers know how to affect the child, especially those under the age of fifteen as children tend to mimic the content of social media advertising, particularly when they see their cartoon character connected with a specific product. Children remain victims of social media advertising, which address them directly. At the same time, social media advertisers are claiming that advertising for children has made fantastic profits (Eggerton, 2007). The profits of those companies came from promoting their products on social media (i.e. promoting food, clothing and games) (Boyland and Whalen, 2015). Companies claim that they have won the customers of the future, as the child develops an associative memory of these brand images, and becomes attached favourite, especially in relation to fast food, which studies have shown to cause health problems, which is one accepted hypothesis of this thesis in alignment with previous studies (Brownell and Horgen, 2004; Kraak, Gootman and McGinnis, 2006). On the other hand, there are other companies who exploit the children themselves to be an instrument of influence in their peers, through the formation of advertising child stars who promote companies' products (Gaber and Wright, 2014; Henderson et al., 2009).

Unhealthy food advertising also affects children and facilitates a culture of consumerism, thus leading to excessive intake of advertised, especially if those foods contain large amounts of carbohydrates, fat, and sugars, ultimately causing obesity in children since (Kelly et al., 2015). With obesity, there is an increase in certain diseases such as high blood pressure and high cholesterol, which leads to an increased risk of

heart disease, in addition to the risk of diabetes, and health problems. Obesity also causes social and psychological problems in children (Kraak and Story, 2015; Galbraith-Emami and Lobstein, 2013; Kunkel, Castonguay and Filer, 2015).

Current evidence has shown that advertising food in different advertising methods has a significant impact on how food is selected as well as child buying behaviour, (Strasburger et al., 2013). Developing countries, including GCC, are following the same marketing and promotion techniques as developed countries (Hama Kareem et al., 2016). Calling for the attention of concerned parties as well research in this area. The current study addresses this concern and is consistent with previous studies that obesity in children has multiple causes such as of them being advertising, and the increase use of modern means of communication such as social media (Harris et al., 2012). As parents often do not pay attention to the sheer volume of such advertisements since they specifically target children. World Health Organization (World Health Organization, 2006), as well as other researchers, criticized governments for failing to keep pace with the current revolution in the way that people consume the media (World Health Organization, 2006; Harris and Graff, 2012; Ogba and Johnson, 2010). Paediatricians called for strict measures to stop the spread of obesity among children (Kunkel et al., 2004). Reports pointed out how some video bloggers get money from fast-food vendors to promote this type of food, as US analysts reported the growing impact of video bloggers in promoting brands more than the impact of television, because of their growing confidence. It also raised concerns about how fast food chains attract children's attention by making them important sites in enhanced reality games (Clarke and Svanaes, 2014). These sites collected data from children such as age, location, and what they liked and preferred to include in fast food advertising. Furthermore, advertisements

spread very fast through social media and the current rules and regulations for such platforms have gaps. Adding to that, parents do not know, and sometimes, do not realize that children are exposed to such huge amount of commercials. It can be said that social media to be more alarming than traditional media such as television (Galbraith-Emami and Lobstein, 2013; Kotler, Schiffman and Hanson, 2012; Ferguson, Munoz and Medrano, 2012).

As a result of the above discussion, it is clear that social media advertising influence the preferences and memory structures of children as it has been confirmed in this thesis as well. Once children form these preferences, associations and memory structures, their buying behaviour will ultimately be affected as it is hypothesized **H3**: Advertising-based defensive memory formation has a positive effect on advertising-based defensive memory application.

The results of this study showed a statistically significant effect for Advertising-based defensive memory formation on advertising-based defensive memory application. This is due to the significant impact of brands and trademarks associated with food advertised on social media on children. Advertising communication works to add importance and value to the advertised products, as it usually dependent on the process of defining and informing children of products and services, which may give them a degree of importance as a result of the positive impact targeted on child's perceptions of the advertised product. Researchers found that these brands and trademarks were marketed online in a way that made them attractive in the eyes of children. They

referred to animations, games, and content on social networking sites as key means (Swist et al., 2015; Folta et al., 2006).

Children are more likely to fall for advertising companies' claims due to the abovementioned reasons. Previous studies stated that parents often are not around their children as a result of working conditions, resulting in children being guided and influenced by commercial sources. Children are also targeted, as companies focus on children to create loyalty to brands. Studies claim that a child of six years can form mental images of corporate logos (Mills, 2016; Strasburger, Jordan and Donnerstein, 2010). This is consistent with the advertising models discussed in chapter 2 as well as with the two hypotheses in this thesis (H1 and H3).

Moving forward to discussing the other hypotheses related to parental interventions at the exposure stage, the following sub-hypotheses are raised:

H2a: Parent-child communication moderates the relationship between Social Media Unhealthy food Advertisement Exposure and advertising-based defensive memory formation

Parent-child communication was found to have a significant moderating effect on the relationship between ESM and ABMF. Since the hypothesis for the main effect (ABMF <--- ESM) is still significant after PCC enters the model, based on that, the type of moderation is partial. This study showed that PCC has a moderation effect that dampens the negative effect of unhealthy food advertisements on the advertising-based defensive

memory formation (ABMF). The result is consistent with previous literature stating that parents who communicate with their children can help them understand the marketing mechanism, how these companies attracts them, and understand the selling intent of these commercials (Harris and Graff, 2012; Van Reijmersdal et al., 2017). As mentioned before, many studies have shown that the exposure of children to social media and their persistence in watching advertisement may lead to a certain behaviour such as imitate lifestyles displayed in commercials, as well as exposure to tempting commercials that promote unhealthy foods and drinks leads to affecting their eating behaviour and diet (Hama Kareem et al., 2016; Ogba and Johnson, 2010).

This research showed that GCC parents who talked, discussed, explained to their children about unhealthy food advertisements on social media were successful in mitigating the effect of the effects of those advertisements. Researchers found that many of those advertisements were about unhealthy food (Kraak and Story, 2015; Kunkel, Castonguay and Filer, 2015).

Parents should be involved in communicating and educating children about social media advertising, especially, in light of the preoccupation of parents with work. Overlooking the benefits of parent-child communication leaves a wide gap for children with the absence of dialogue and the increase use of social media to be more susceptible to fall for unhealthy food advertising resulting in unhealthy eating behaviour (Kotler, Schiffman and Hanson, 2012; Ferguson, Munoz and Medrano, 2012).

Previously, the influence of children on parent's purchase decisions discussed by researchers (Galbraith-Emami and Lobstein, 2013). As a result, parents need to be fully aware of their responsibility in protecting their children from the dangers of unhealthy food advertising, and understand the seriousness of these advertisements and their duty to face these media campaigns targeting children. One of the first steps can be taken in the first stage of advertising process as confirmed by this hypothesis (parent-child communication or PCC). Starting the conversation with children about these advertisements and how they work is essential.

As for the next hypothesis, **H2b**: Rules of Use moderate the relationship between Social Media Unhealthy food Advertisement Exposure and advertising-based defensive memory formation.

Rules of use were found to have a significant moderating effect on the relationship between ESM and ABMF. Since the hypothesis for the main effect (ABMF <--- ESM) still significant after RU enters the model, based on that, the type of moderation is partial. This study showed that RU has a moderation effect that dampens the negative effect of unhealthy food advertisements on the advertising-based defensive memory formation (ABMF). The result is in line with previous literature stating that the amount of social media use as well as the platforms utilized should be regulated and monitored. It is necessary to impose certain rules on children when using social media, for example, agreeing on timing, number of hours to spend and the platform of social media used. Also, parents can use specific restriction software/tools monitor types of advertising is watched children (Strasburger, Jordan and Donnerstein, 2010). Also, many other

strategies can be developed to guard children from the effects of social media unhealthy food advertising. These strategies include the development and use of ad-skipping or ad-blocking software or programs (e.g. Adblock Plus) (Galbraith-Emami and Lobstein, 2013). The Federal Trade Committee has suggested anti-tracking software for users of smartphone that would block tracking by advertising companies (Williams, 2013). However, the challenge for such programs is that advertisements are changing and adapting. Adding to that, these programs are not able to block neither product placement nor other indirect marketing tactics. (Eagle and Dahl, 2018; Kelly et al., 2015).

Parents monitoring children's activity and their efforts to reduce the time of social media and modern technology use can lessen the probability and limits the chance of those children to be subjected to unhealthy food advertising (Gaber and Wright, 2014; Henderson et al., 2009). This conclusion is supported by previous studies on traditional media which reported children in that one every four commercials is for food, half of them promoting unhealthy food options (Keller and Schulz, 2010). On the other hand, unhealthy food advertisements are no longer limited to television, but have also penetrated modern media, social networking sites, video games, and many more. This means that the child is exposed to the more commercials for unhealthy food from every side, and this negatively affects food choices, health and diet (Galbraith-Emami and Lobstein, 2013; Kunkel, Castonguay and Filer, 2015).

This research confirmed that parents in the GCC have to regulate the use of social media and monitor what is related to the world of children and the subsequent assessment, guidance, and direction for formation of a better association memory and preferences

that eventually is translated to a better food choice. The current research highlighted one of the reasons for the deterioration of the health of children in the GCC region being the absence of family supervision, lack of strict rules for social media use and distance from the family as an educational institution and as an important and irreplaceable guide. There has been a discussion on advertising restrictions to reduce pressure on parents and help minimize the negative implications of those commercials (Keller and Schulz, 2010; Galbraith-Emami and Lobstein, 2013; Kotler, Schiffman and Hanson, 2012).

For the third sub-hypothesis, **H2c**: Co-viewing moderates the relationship between Social Media Unhealthy food Advertisement Exposure and advertising-based defensive memory formation.

Co-viewing was found to have significant moderating effect on the relationship between ESM and ABMF. Since the hypothesis for the main effect (ABMF <--- ESM) still significant after CV enters the model, based on that, the type of moderation is partial. This study showed that CV has a moderation effect that dampens the negative effect of unhealthy food advertisements on the advertising-based defensive memory formation (ABMF). This is consistent with previous studies urging parents to monitor their children and follow up on how they are dealing with these new technologies, as well as ensuring the type and magnitude of commercials their children are exposed (Büttner, Florack and Serfas, 2014). In addition, the frequent use of these sophisticated technologies slowly pulls parents' control over their children (Mills, 2016; Strasburger, Jordan and Donnerstein, 2010). This research emphasized on the role of parents in the

GCC in observing children well, especially, at the beginning of their lives while browsing social media sites. Taking into account the openness of the environment and the fact that dissemination of information happens in less than a second, parents must be present with their children, checking the fitness of commercialized messages children are exposed to as well as participating in the dialogue to advise about the harmful effects of unhealthy foods and the advantages and disadvantages of social media.

Following the discussion of the hypotheses related to parental interventions at the consumption stage, the following sub-hypothesis are raised:

H4a: If, then heuristic strategy moderates the relationship between advertising-based defensive memory formation and advertising based memory application. This hypothesis was rejected. The reason for this might be due to the fact that if, then heuristic is an intervention that delegate control to the implicit system passing first through the explicit system. This means that If, then heuristic techniques are formed by the explicit system by thinking and planning, but the implementation operates in an implicit, automatic way (Gollwitzer and Sheeran 2009). Literature about the social development of children clearly state that children under 12 years old possess lower cognitive capabilities and skills to process information explicitly (Piaget, 1952; John, 1999; Roedder, 1981; Selman, 1980). This intervention has an element that depends on explicit processes that requires certain thinking capabilities that children ages 8 to 12 might not have.

Another reason can be attributed to the fact that every attempt of parents is undermined by the pressure and intensity of advertisements of fast foods and drinks that intrude on their children's lives from every side (Strasburger, Jordan and Donnerstein, 2010). As many researchers have pointed out, these advertisements are increasingly evolving (Wilson and Wood, 2004), not only in quantitative terms, but in the ways and ideas of these advertisements, which are based on sophisticated marketing ideas and psychological play on children, specifically at points of sale, which is where the of, then heuristic intervention is suggested (stage 2 of the advertising process) (Hama Kareem et al., 2016).

In addition, advertisements have a negative impact on children in a way that make them excessive buyers (Henderson et al., 2009). This causes them to reject their family reality and directions needed or if, then heuristic to work creating conflict inside children themselves, which often causes them to be frustrated, resorting to abnormal behaviour to obtain the necessary money to satisfy their desire caused by external factors, advertisements being one of them (Livingstone and Helsper, 2004; Ogba and Johnson, 2010).

H4b: Goal setting moderates the relationship between advertising-based defensive memory formation and advertising based memory application

Goal setting was found to have a significant moderating effect on the relationship between ABMF and ABMA, since the hypothesis for the main effect (ABMA <--- ABMF) is still significant after GS enters the model, based on that, the type of moderation is partial. This study showed that GS has a moderation effect that

strengthens the positive effect of advertising-based defensive memory formation (ABMF) on advertising-based defensive memory application (ABMA). This result is consistent with reviewed literature that states setting goals for a healthier lifestyle will eventually result in a better purchase decision. Studies showed a correlation between setting goals for children to live healthy and them making a healthier choice when buying food (Ebbeling, Pawlak and Ludwi, 2002).

The results of this study showed that children tend to stick to unhealthy food purchase behaviour of advertised on social media when parents do not set the correct goals for them (i.e. setting incorrect lifestyles). As mentioned by Büttner, Florack and Serfas (2014), this type of intervention is implicit in nature and requires repetition and discipline exercised by parents in order for it to work.

This is a promising result as it can be effective at the second stage of the advertising process, a stage that received less attention in literature, as well as it being an implicit intervention. Goal setting intervention can be used as a defence against social media advertisements knowing that the food industry spends about $ 1.8 billion per year in marketing products for adolescents and children with more than 1,000 advertisements per year for children who range in age from 9 to 12 years (Gentile et al., 2012). Goal setting intervention can be carried out in many forms like shopping and eating with children while emphasizing the importance of living healthy. Parents should accompany their children when shopping and teach them how to read the health benefits of food, lipids, carbohydrates, sugars, and calories for each product as a way to live a healthier lifestyle. It is also necessary to eat with the child and how to ensure that their

choices are healthy, and even strengthen bonds of love and family warmth. Researchers found that the more children watched social media advertisements, which broadcast advertisements about unhealthy food, the more the family visited those restaurants, as 37% of parents confirmed they made monthly visits, 54% of children asked to visit at least once a day, and 29% of the children collected toys from restaurants (Harris and Graff, 2012). This shows that parents are pestered by their kids as well as they have the power to direct children to specific lifestyles.

H4c: Imitation of parents moderates the relationship between advertising-based defensive memory formation and advertising based memory application

Imitation of parents was found to have a significant moderating effect on the relationship between ABMF and ABMA. Since the hypothesis for the main effect (ABMA <--- ABMF) is still significant after IP enters the model, based on that, the type of moderation is partial. This study showed that IP has a moderation effect that strengthens the positive effect of advertising-based defensive memory formation (ABMF) on advertising-based defensive memory application (ABMA). The result of this hypothesis testing is in line with the reviewed literature pointing out the importance and the influence parents have on the formation of values, attitudes and patterns of purchase for their children. Many children follow the same basic family patterns that have been practiced for a long time (Carlson and Grossbart, 1988; Gaber and Wright, 2014). Parents' attitudes to everyday life have an impact on younger children. Parental views of advertisements promoting a particular food product have a direct impact on young children as children usually mimic the actions and adopt the views of their parents (Gentile et al., 2012; Mikeska, Harrison and Carlson, 2017).

Marketing managers are aware of the power parents exert on their children simply by imitation since children are influenced by the opinions, advice and purchasing decisions of their parents (Gaber and Wright, 2014; Henderson et al., 2009). Unfortunately, many parents ignore or are unaware of this power.

It has been noted that the real and effective need for the diet starts at very young age. Thus, the mother's diet affects the child during pregnancy and later on as well. Parents, especially mothers, are influenced by social media unhealthy food advertisement as well without them even noticing (Doub, Small and Birch, 2016). Eating pattern of mothers is very influential on the physical health, emotions and feelings, and also affects the mental health of the child (Marchi et al., 2015). Previous research also found a link between unhealthy food and diet passed by parents and the psychological behaviour of the child, which causes psychological problems including anxiety, disorder and depression (Garcia-Mantrana, and Collado, 2016; Wilson and Wood, 2004).

6.6 Summary

This chapter has offered a summary of the study's major results, and then discussed them in comparison with previous studies. This study sought to know the role of the media (social networks and websites) in the promotion of unhealthy food and its impact on the purchasing behaviour children. This study showed that the promotion of unhealthy food through social media result in encouraging the purchase behaviour of children leading to serious health problems. This study also shed the light on the possible parental role and

interventions to mitigate the negative effects of social media food advertisements. Five out of six suggested interventions were proven to be effective in lessen those negative effects. Stage 1 (explicit) parental interventions (PCC, RU, CV) were all effective as per the results. On the other hand, stage 2 (implicit) parental interventions that were proven effective are GS and IP, while IH hypothesis was rejected. The results show that both stage 1 and stage 2 (or explicit and implicit) parental interventions can be effective.

Chapter 7 : Conclusions

7.1 Introduction

In the previous chapter, the findings and analysis of research variables were presented and results were discussed in relation to the research hypotheses and compared with previous studies. This chapter will give a brief a summary of analysis results in section 7.1, followed by research aim and objective revisited in section 7.2. Then, research contribution to knowledge and practice will be explained in section 7.3. In addition, this chapter will provide some recommendations that researchers and decision makers can benefit from in section 7.4, followed by research limitations in section 7.5. Then, this chapter will offer suggestions for future research in section 7.6. Finally, the summary of this chapter will be presented in section 7.7.

7.2 Summary of Analysis Results

- To verify the reliability of the study instrument, Cronbach alpha coefficient was calculated. The Cronbach alpha coefficient to all dimensions of the questionnaire was (0.885). For the sub-dimensions, it was shown that the highest Cronbach alpha coefficient was 0.976% for If, then heuristic strategy (IH) dimension, while the lowest Cronbach alpha coefficient was 0.930% to Social Media Unhealthy Food Advertisement Exposure (ESM) dimension.

- Social Media Unhealthy Food Advertisement Exposure (ESM) dimension obtained the highest mean (3.86), followed by If, then heuristic strategy (IH) dimension (3.23), while Advertising-based Defensive Memory Formation

(ABMF) and Rules of use (RU) dimensions obtained the lowest mean (3.00).

- The results showed that Advertising-based defensive memory formation (ABMF) partially mediates the effect of Social Media Unhealthy food Advertisement Exposure (ESM) on advertising-based defensive memory application (ABMA).

- The first main hypothesis H1 (There is a significant impact of Social Media Unhealthy food Advertisement Exposure on advertising-based defensive memory formation) was accepted.

- The second main hypothesis H3 (There is a significant impact of Advertising-based defensive memory formation on advertising-based defensive memory application) was accepted.

- The moderation effect hypotheses results for stage 1 parental interventions were as follows:
    1. There was a significant impact of parent-child communication on advertising-based defensive memory formation.
    2. There was a significant impact of rules on advertising-based defensive memory formation.
    3. There was a significant impact of co-viewing which a positive effect on advertising-based defensive memory formation.

- The moderation effect hypotheses results for stage 2 parental interventions were

as follows:

1. There was no significant impact of if, and then heuristic strategy on advertising-based defensive memory application.
2. There was a significant impact of goal setting on advertising-based defensive memory application.
3. There was a significant impact of imitation of parents on advertising-based defensive memory application.

The revised model is presented in figure 7.1 and a summary of the results for hypotheses testing is presented in table 7.1.

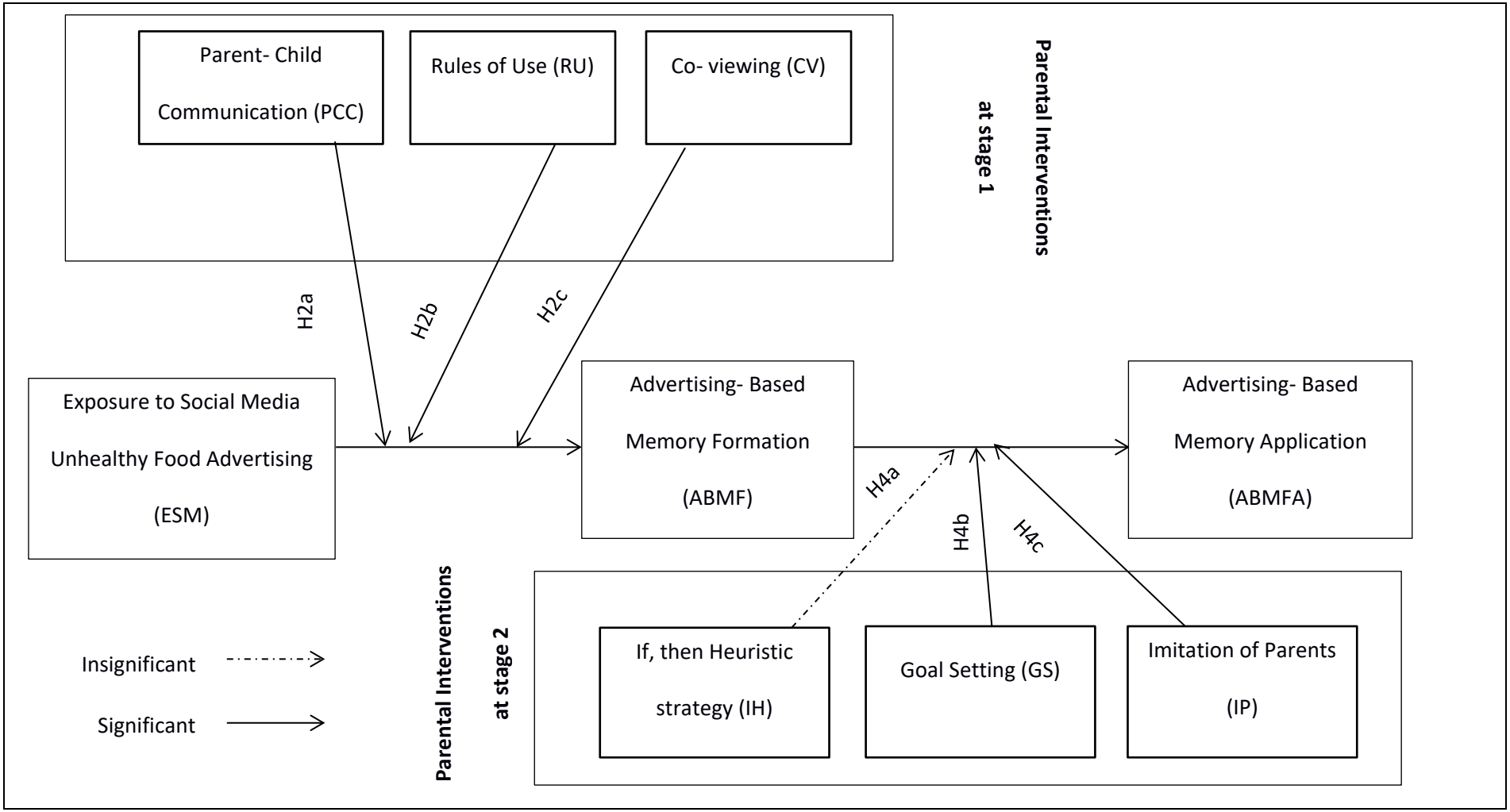

Figure 7.1 Conceptual Model (final)

Research Hypotheses		Path Coefficients, *p*-value	
H1	Exposure to Social Media Unhealthy Food Advertising → Advertising- Based Memory Formation	-0.12*	Supported
H2a	Exposure to Social Media Unhealthy Food Advertising * Parent- Child Communication → Advertising- Based Memory Formation	- 0.099*	Supported
H2b	Exposure to Social Media Unhealthy Food Advertising * Rules of Use → Advertising- Based Memory Formation	0.179*	Supported
H2c	Exposure to Social Media Unhealthy Food Advertising * Co- viewing → Advertising- Based Memory Formation	- 0.061*	Supported
H3	Advertising- Based Memory Formation → Advertising- Based Memory Application	0.69 *	Supported
H4a	Advertising- Based Memory Formation * If, then Heuristic strategy → Advertising- Based Memory Application	-0.049 ^{ns}	Not supported
H4b	Advertising- Based Memory Formation * Goal Setting → Advertising- Based Memory Application	−0.081***	Supported
H4c	Advertising- Based Memory Formation * Imitation of Parents → Advertising- Based Memory Application	0.097***	Supported

Table 7.1 Results summary for hypotheses testing, Structural path significant at ***$p < 0.001$, **$p < 0.01$, *$p < 0.05$, ^{ns} = not significant

7.3 Research Aims and Objectives Revisited

The main aim of this research was to investigate how parental interventions affect the buying decisions of their children that are exposed to social media food advertising influence. The above aim was achieved through examining the sub-objectives. Table 7.1 presents those objectives and how and where they were met.

Research Objectives	Chapter	Summary of how the Objective was Accomplished
a. Exploring the recent literature related advertising targeting children and examining the relationship between advertising effects and unhealthy eating habits.	Chapter 2	Chapter 2 identified and discussed factors affecting children's eating habits highlighting the role of food advertising in the increase of unhealthy eating patterns Moreover, chapter 2 identified and discussed the introduction of new media, its increased popularity among children and how advertising on these platforms are causing concerns.
b. Examining the current literature and reviewing the models and theories that aid in understanding concepts related to social media advertising, children's buying behaviour and parental interventions, as well as suggesting hypotheses supporting the proposed conceptual model.	Chapters 2 and 3	Chapters 2 and 3 presented and discussed the different theories and models that discussed the different relationship between study variables, which contributed significantly to the construction of the model for this research. A conceptual model was developed using the advertising process as well as the inclusion of Büttner, Florack, and Serfas (2014) model as a base taking into account other identified constructs from literature. The defined constructs and their relationships within the proposed model were supported by theories and models. As for hypotheses, 8 were proposed for this research.

c. Outlining the framework for the methodology utilized throughout the research for testing the proposed hypotheses.	Chapters 4	The approach of the study was single-method approach that consists of quantitative method. The purpose of using this method was to analyse the outcomes and emphasize the significant relationships between the constructs proposed in the hypothesized model. The researcher used questionnaires (hard and soft copies) targeting sample consisted of parents with at least one child between 8 and 12 that are exposed to social media food advertising in the GCC region. To ensure validity of the conceptual model the reliability of the data, the researcher conducted a pilot survey prior to conducting the main survey.
d. Analyzing the outcomes and emphasizing the significant relationships between the constructs proposed in the hypothesized model.	Chapters 5	SPSS and AMOS 21 programs were used to analyse data. In this research. Kaiser-Meyer Olkin (KMO) and Bartlett's test were used to measure sampling adequacy. In order to construct measure goodness-of-fit of research variables, Structural Equation Modelling (SEM) was performed. Moreover, this research presented a descriptive analysis that showed parents' perceptions and agreement with the statements on measuring parental interventions with regards to social media food advertising influence children's food buying behaviour. In addition, a correlation matrix test was conducted to ensure that multicollinearity was avoided. As the value of Pearson correlation coefficient was significant. In order to test proposed hypotheses, path

		analysis with AMOS was used. Outcomes of path analysis were used to examine the effect of mediating and moderating variables separately.
e. Discussing the outcomes and findings and linking them to the literature, drawing the major theoretical and practical implications of the study and offering directions for future research	Chapters 6 and 7	Results of this research were discussed and contributions were outlined in chapters 6 and 7. Outcomes highlighted the impact of unhealthy food advertising targeting children on social media platforms on their food purchase behaviour. The results of this study have great implication on the GCC society. These outcomes can be used to inform GCC parents about the importance of intervening and their important role they might play in elevating the health of their children and their overall lifestyles. This research also offers many recommendations and future work, so that researchers in the future can be built on the results of this study.

Table 7.2 Meeting the Aim and Objectives of the Research

7.4 Contribution to Knowledge

There have been several contributions offered by this thesis:

Firstly, a dual-step and dual-process model was taken into consideration to assess advertising effects on children as suggested by Büttner, Florack, and Serfas (2014) which was built on the advertising processes and model like AIDA, DAGMAR and Hierarchy of effects model. This suggests that advertisements may affect children at two stages and via two systems of information processing. Previous studies studied one or the other. This research acknowledges that advertisements may affect children at two stages meaning interventions must target the two stages. Interventions can target the first stage which is the exposure of the commercial stage or the second stage which is the consumption stage. Literature also emphasized the existence of dual processes: implicit (or S1) and explicit (or S2) (Smith and DeCoster, 2000; Kahneman and Egan, 2011; Kahneman and Frederick, 2002; Evans, 2003; Metcalfe and Mischel, 1999; Strack and Deutsch, 2004). Therefore, this thesis included interventions that use both systems and the conceptual model was developed taking into account all these factors pointed throughout literature as issues to investigate. Also, in this research, interventions in the two stages act as moderators that affect the relationship between advertisement exposure, memory formation and the final consumption decision.

Secondly, this study highlighted the role that parents can play in mitigating the negative effects of social media food advertising. Previous studies suggested other interventions such as advertising literacy. Brian Young (1990) has stated that children must acquire advertising literacy. However, the acquiring of advertising literacy depends on both consumer socialization and cognitive development (De la Ville and Tartas 2010; John

1999) and despite the fact that the process of acquiring advertising literacy is a gradual one (Gunter, Oates and Blades, 2004; Kunkel et al., 2004), there has been an on-going debate on the age at which children possess mature levels of advertising literacy. Additionally, advertising literacy requires children to use explicit or S2 system of processing which is harder to achieve with younger children according to researchers in the fields of psychology and consumer behaviour (Piaget 1952; John, 1999). This research introduced parental interventions that used both systems (implicit and explicit) making a contribution to the body of literature with regards to type and processing system of the intervention.

Thirdly, most previous studies investigated traditional or conventional media advertising effects on children. In addition, previous studies suggested that social media advertising is different and can be more alarming than traditional advertising (O'Keeffe and Clarke-Peatson, 2011; Wilking et al., 2013; Dietz, 2013; Harris, Schwartz and Munsell, 2013). Thus, researcher investigated the effects of social media advertising which is considered part of the "new media". This research contributes to the body of literature in the field of advertising, specifically, social media advertising effects literature.

Finally, data were collected from GCC thus adding to the body of knowledge about this region. Few studies discussed the issue of social media advertising to children or the dangers of unhealthy eating habits in general despite data collected from GCC countries showing one out of every five children was obese after finishing primary school (Alhyas et al., 2011). This study examined an issue concerning children and the impact of

advertising on their purchasing behaviour. This study is considered a new initiative in stimulating many studies related to many fields such as: social media advertising impact on children in the GCC, development of advertising in social media, the public health within the GCC and the effect of advertising on the overall GCC families' lifestyles.

7.5 Implications for Practice

Conclusions and implications drawn from this thesis are presented below:

- Advertising is a powerful motivator for a child to make a purchase decision by offering information about products in the finest detail, focusing on the use of mental and emotional inputs to attract his/her attention by employing famous personalities or cartoon figures that the their psychological and social desires, leading to a decision to buy. Companies use explicit advertising, which involves short and direct sales messages to target children as well as using implicit advertising by associating their products with a psychological or symbolic element. With the introduction of social media, children are subjected more and more to unhealthy food advertising. Collected data suggest that exposure to advertisements has a significant effect on children's buying behaviour. Therefore, it is necessary to join efforts to protect children from the unfair practice performed by companies producing high-calorie foods through their tempting advertisements via social media. Moreover, these children will become future buying customers as well with loyalty to a particular brand of food or drink, developed and encouraged at a young age, making this allegiance a habit that cannot be easily eliminated (Harris and Graff, 2012).

- Previous studies found that many countries have established organized rules and foundations for the process of commercial advertising in general and advertisements aimed at young people and adolescents in particular, which makes the advertising material addressed to this age group carefully selected (Clarke and Svanaes, 2014). However, in many developing countries, especially in the GCC, there are hardly any practices or rules to regulate advertising targeting children as highlighted by past research. It is worth mentioning that in terms of behavioural, health and educational aspects, close monitoring is required from the competent authorities (Gentile et al., 2012). This research provide the extent to which social media unhealthy food advertising impact children which intended in turn to evoke policymakers concern to this issue in the GCC.

- This research revealed new and alarming information about the daily habits of children, and their impact on their buying behaviour. Concerned parties must take this information into account moving forward. Social media advertising is one of the most important sources of information for these children thus directing their wishes to a certain type of food leading to shortages of some important nutrients such as vegetables and fruit that are advertised less on social media, while a child's rapid growth and high metabolism require a higher proportion of growth and dietary energy components for the children's body (Gentile et al., 2012). Many concerned parties voiced their concerns in this regard (Kunkel et al., 2004) and this research is as added evidence of the seriousness of the problem. Also, it has been noticed the need to introduce media literacy training programs to children as well as parents, especially for

understanding the integrated nature of social media advertising.

- The influence of parents on the formation of values, attitudes and patterns of purchase for their children is something that cannot be ignored as results indicated. Many children follow the same basic family patterns that have been used for a long time. On the other hand, advertisers are interested in knowing the degree to which parents influence their children in purchasing decisions. This research suggested 6 interventions, however one (IH intervention) was rejected as explained in chapter 6. Children pester their parents to buy them unhealthy food. Also, many parents are unaware of the implicit nature of advertisements on social media. Thus, parents must educate themselves about the effects of social media advertising on children and ways to mitigate their effect.

- Based on the results of this research, there is a significant relationship between parental interventions and the buying decision of children as seen in chapter 5 tables 5.33 to 5.38. Parents have the main role in supporting children financially and psychologically it is the duty of parents to educate their children wisely about the dangers of these advertisements and their products to ensure a generation of healthy people who can benefit themselves and society (Gaber and Wright, 2014). Since it is an open world, blocking and prevention is not the answer, but the effective parent-child relationships further facilitating such interventions.

- In light of the findings (as seen in table 5.34), rules of use can be an effective

intervention. However, parents need to develop skills for using technology, following up, and learning about advertising via social media. It is essential that parents use monitoring programs for internet-connected devices. However, parents should not rely on these programs to block websites and because children are now more skilled than ever. Therefore, it is important to talk to the child not only about marketing and advertising, but about the specific foods that are advertised and the impact of these foods on his/her health later on. It is also necessary to set an example as a parent by eating healthy and with the child to strengthen bonds of love and family warmth which, in turn, increase influence of parents on their children.

- Since Social media advertising proven to be very effective as hypotheses H1 and H3 suggested. Therefore, it can be used to promote healthy lifestyles by using counter-advertising strategy. Kelly et al. (2015) provided an example of such strategy which is the advertising campaign against the commercial of Coca Cola that focused on the dangers of sugary drinks. In addition, counter-advertising was successful in getting the sugary drinks and 'unhealthy food tax implemented in Mexico (Kelly et al., 2015).

7.6 Limitations of this Research

This research is influenced by several determinants like other social studies. Given the available physical resources, the selected sample was limited to some areas in the GCC considering that Saudi Arabia is a big country. Future studies may expand the scope of the sample to include more than one region, and perhaps extend it to various Arab countries, not only in the GCC.

Findings of this research are only based on parents' perspective on constructs and relationship identified within the conceptual model. Other perspectives such as children themselves are not covered in this research. Also, researcher opted for parents with children from one age group (8 to 12 years) meaning interventions suggested may or may not work on children from other age groups.

The adopted research methodology was quantitative. Although it can be supportive for generalization of the findings, this may limit the ability of the research to obtain an in-depth understanding of how these advertising influence children and ways to intervene. The researcher was unable to employ a hybrid/mixed methodology due to time constraints of the research in hand.

While results and findings of the research are particularly applicable to the specific context where this study was conducted, GCC, generalization to other Arab countries who share similar economic, political, and cultural structure is possible. Generalization beyond the suggested region may be difficult and special attention must be given to the differences in the family structure, values and parenting styles when interpreting the outcomes of this study in other contexts.

Considering the effect of peer pressure was not included in this research which might gave some additional understanding of the advertising effects on children. However, the main aim of the research was to determine interventions rather than discussing

influence.

The abovementioned limitations provide directions for future research, which will further enrich the advertising literature and in particular the areas of social media food advertising targeting children.

7.7 Further Research

This research offers suggestions for future research. Firstly, the influence of the child on household purchasing decisions in the GCC according to family monthly income, the order a child is born in the family, the gender of the child, and whether the mother is working or a housewife, so future research is necessary in this field.

Secondly, possible future research can focus on studying other age groups mentioned by John (1999). These other groups have different cognitive and social skills and results may be different as well as accepted/rejected interventions.

Thirdly, future research can investigate other factors that impact children's buying behaviour when subjected to advertising via social media. Also, future research can explore advertising of food on other new media such as advergames, websites, mobile applications, etc.

Fourthly, research in the future could be conducted in different contexts and countries

using different methods (qualitative or mixed). This could add beneficial information to the body of knowledge.

Finally, future research should conduct an in-depth study and research into the role played by the Ministry of Health, Ministry of Education, and the Ministry of Information Affairs in children's behaviour and consumption patterns. It is also necessary to conduct studies to investigate the impact of school on children's behaviour and consumption patterns.

7.8 Summary

This chapter presented the research conclusions to the thesis investigating how parental interventions influence the buying behaviour of their children that are subjected to social media food advertising. Parents should be aware of the different type of social media advertising, and their relative strengths, and weaknesses. After conducting the study and applying it in practice, it is expected that the results of this research will contribute to shed the light on measures that can be used to reduce these negative effects of social media food advertising and taking advantage of the findings to improve children's dietary habits and overall lifestyles. The great role played by parents in protected and helping their children from unhealthy food advertisements is very important, undeniable and can affect the health of the upcoming generations.

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Appendix 1: Survey (English Version)

Thank you for participating in this survey. Your feedback is important.

If you **have more than one child falling in the age group stated below, please answer for one child only**

What is child's age?

- 8
- 9
- 10
- 11
- 12
- None of the above (if this option is chosen, then the questionnaire will close)

Does your child use social media?

- Yes
- No (if no, then the questionnaire will close)

Which social media platform is most used by your child?

- Youtube

Instagram

Snapchat

Facebook

Twitter

Whatsapp

Other (please specify) _____

How many Hours does your child spend on social media per day?

Less than 1 hour

1 to 2 hours

3 to 4 hours

More than 4 hours

What is your child's gender?

Boy

Girl

What is your gender?

Male

Female

To which age group do you belong?

25-30 years old

31-36 years old

37-42 years old

43- 48 years old

Above 48 years old

What is your educational level?

High school

Diploma

Graduate (B.Sc., BA,..)

Master

PhD

Other (please state)

What is your monthly income (in Bahraini Dinar)?

Less than 500

500-1000

1000-1500

1500- 2000

2000-2500

More than 2500

ESM 1. My child is exposed to advertised unhealthy food frequently on social media.

Strongly Agree

Agree

Neutral

Disagree

Strongly disagree

ESM 2. My child is exposed to advertised unhealthy food for long periods of time on social media .

Agree

Neutral

Disagree

Strongly disagree

ESM 3. My child is repeatedly exposed to advertisement of unhealthy food on social media.

Agree

Neutral

Disagree

Strongly disagree

IP 1. My child tends to repeat my unhealthy food purchase behavior that is advertised on social media

Strongly Agree

Agree

Neutral

Disagree

Strongly disagree

IP 2. My child tends to replicate my unhealthy food purchase behavior that is advertised on social media

Strongly Agree

Agree

Neutral

Disagree

Strongly disagree

IP 3. My child tends to mimic my unhealthy food purchase behavior that is advertised on social media

Strongly Agree

Agree

Neutral

Disagree

Strongly disagree

IP 4. My child tends to follow my behavior when it comes to purchasing healthy food advertised on social media

Strongly Agree

Agree

Neutral

Disagree

Strongly disagree

GS 1. My child tends to stick to unhealthy food purchase behavior of advertised on social media when I repeat it as a parent

Strongly Agree

Agree

Neutral

Disagree

Strongly disagree

GS 2. My child tends to stick to unhealthy food purchase behavior of advertised on social media when I fails to exercise self- control during purchase process as a parent

Strongly Agree

Agree

Neutral

Disagree

Strongly disagree

GS 3. My child tends to repeat unhealthy food purchase behavior of advertised on social media when I continue to practice this behavior as a parent

Strongly Agree

Agree

Neutral

Disagree

Strongly disagree

GS 4. My child tends to stick to unhealthy food purchase behavior of advertised on social media when I don't show its risks as a parent

Strongly Agree

Agree

Neutral

Disagree

Strongly disagree

ABMF 1. My child tends to dislike brands associated with unhealthy food advertised on social media

Strongly Agree

Agree

Neutral

Disagree

Strongly disagree

ABMF 2. My child tends to dislike brands that advertise unhealthy food on social media

Strongly Agree

Agree

Neutral

Disagree

Strongly disagree

ABMF 3. My child tends to be annoyed with brands associated with unhealthy food which are advertised on social media

Strongly Agree

Agree

Neutral

Disagree

Strongly disagree

ABMF 4. My child tends to stay away from brands that advertise unhealthy food on social media

Strongly Agree

Agree

Neutral

Disagree

Strongly disagree

ABMA 1. My child tends to purchase healthy food advertised on social media

Strongly Agree

Strongly Agree

Agree

Neutral

Disagree

Strongly disagree

ABMA 2. My child prefers healthy over unhealthy food advertised on social media

Strongly Agree

Agree

Neutral

Disagree

Strongly disagree

ABMA 3. My child is tends not to be susceptible to purchasing unhealthy food advertised on social media

Strongly Agree

Agree

Neutral

Disagree

Strongly disagree

ABMA 4. My child tends to make a correct purchase decision when it comes to unhealthy food advertised on social media

Strongly Agree

Agree

Neutral

Disagree

Strongly disagree

CV 1. As a parent, I am aware of what social media platform(s) my child uses

Strongly Agree

Agree

Neutral

Disagree

Strongly disagree

CV 2. As a parent, I am aware of food advertisements viewed by my child on social media

Strongly Agree

Agree

Neutral

Disagree

Strongly disagree

CV 3. As a parent, I monitor food advertisements viewed by my child on social media

Strongly Agree

Agree

Neutral

Disagree

Strongly disagree

CV 4. As a parent, I check food advertisements viewed by my child on social media

Strongly Agree

Agree

Neutral

Disagree

Strongly disagree

PCC 1. As a parent, I talk to my child about food advertisement on social media

Strongly Agree

Agree

Neutral

Disagree

Strongly disagree

PCC 2. As a parent, I discuss with my child the selling tactics used by food advertisers on social media

Strongly Agree

Agree

Neutral

Disagree

Strongly disagree

PCC 3. As a parent, I communicate to my child the selling intent of food advertisement on social media

Agree

Neutral

Disagree

Strongly disagree

PCC 4. As a parent, I explain to my child the biased nature of food advertisement on social media

Strongly Agree

Agree

Neutral

Disagree

Strongly disagree

RU 1. As a parent, I monitor the use of specific social media platforms by my child to lessen unhealthy advertisement exposure

Strongly Agree

Agree

Neutral

Disagree

Strongly disagree

RU 2. As a parent, I restrict my child from specific social media platforms to lessen unhealthy advertisement exposure

Strongly Agree

Agree

Neutral

Disagree

Strongly disagree

RU 3. As a parent, I restrict my child to specific hours of use that he/she uses social media platforms to lessen unhealthy advertisement exposure

Strongly Agree

Agree

Neutral

Disagree

Strongly disagree

RU 4. As a parent, I use parental software/ program to monitor my child's use of social media to lessen unhealthy advertisement exposure

Strongly Agree

Agree

Neutral

Disagree

Strongly disagree

IH 1. As a parent, I encourage my child to go for a healthier option when they are purchasing food advertised on social media to maintain a good health condition

Strongly Agree

Agree

Neutral

Disagree

Strongly disagree

IH 2. As a parent, I encourage my child to go for a healthier option when they are purchasing food advertised on social media to maintain healthy body weight

Strongly Agree

Agree

Neutral

Disagree

Strongly disagree

IH 3. As a parent, I encourage my child to go for a healthier option when they are purchasing food advertised on social media to maintain better lifestyle

Strongly Agree

Agree

Neutral

Disagree

Strongly disagree

IH 4. As a parent, I encourage my child to go for a healthier option when they are purchasing food advertised on social media to maintain a healthy body shape

Strongly Agree

Agree

Neutral

Disagree

Strongly disagree

Appendix 2: Survey (Arabic Version)

استبيان: الانماط الشرائية للأطفال بالنسبة للأطعمة المعلن عنها على مواقع التواصل الاجتماعي

شكرا للمشاركة في هذا الاستبيان. إن تعليقاتكم وآرائكم مهمة بالنسبة لنا. إذا كان لديكم أكثر من طفل يقع في الفئة العمرية المحددة للاستبيان، أرجو الإجابة عن طفل واحد فقط.

كم عمر طفلك / طفلتك؟

- 8
- 9
- 10
- 11
- 12

أي من وسائل التواصل الاجتماعي أدناه هي الاكثر استخداماً من قبل طفلك / طفلتك ؟

- يوتيوب
- انستغرام
- سناب شات
- فيس بوك
- تويتر
- واتس اب
- أخرى (ارجى التحديد)

كم عدد الساعات التي يقضيها طفلك على وسائل التواصل الاجتماعي في اليوم الواحد؟

- أقل من ساعة
- من ساعة إلى ساعتين
- من 3 ساعات إلى 4 ساعات
- أكثر من 4 ساعات

ما هو جنس طفلك؟

- ولد
- بنت

ماهو جنسك؟

- ذكر
- أنثى

ما هي جنسيتك؟

- بحريني
- سعودي
- كويتي
- عماني
- إماراتي
- قطري

إلى أي فئة عمرية تنتمي؟

- 25 – 30 سنة
- 31 – 36 سنة
- 37 – 42 سنة
- 43 – 48 سنة
- أكبر من 48 سنة

ما هو المستوى العلمي الخاص بك؟

- الثانوية
- شهادة دبلوم
- خريج (بكالوريوس، ؟؟، ..)
- ماجستير
- دكتوراه
- أخرى (حدد من فضلك)

ما هو دخلك الشهري (بالدينار البحريني)

- أقل من 500
- 1000-500
- 1500-1000
- 2000 -1500

- 2500-2000
- أكثر من 2500

طفلي معرض لإعلانات أطعمة غير صحية بشكل كبير على وسائل التواصل الاجتماعي

أوافق بشده

أوافق

لا أعلم

لا أوافق

لا أوافق بشده

طفلي يشاهد الإعلان عن الطعام الغير صحي لفترات طويلة من الزمن على وسائل التواصل الاجتماعي

أوافق بشده

أوافق

لا أعلم

لا أوافق

لا أوافق بشده

طفلي معرض لإعلانات أطعمة غير صحية بشكل متكرر على وسائل التواصل الاجتماعي

أوافق بشده

أوافق

لا أعلم

لا أوافق

لا أوافق بشده

يميل طفلي إلى تكرار سلوكي الشرائي للطعام الغير صحي المعلن عنه على وسائل التواصل الاجتماعي

أوافق بشده

أوافق

لا أعلم

لا أوافق

لا أوافق بشده

يميل طفلي إلى إعادة سلوكي الشرائي للطعام الغير صحي المعلن عنه على وسائل التواصل الاجتماعي

أوافق بشده

أوافق

لا أعلم

لا أوافق

لا أوافق بشده

يميل طفلي إلى محاكاة سلوكي الشرائي للطعام الغير صحي المعلن عنه على وسائل التواصل الاجتماعي

أوافق بشده

أوافق

لا أعلم

لا أوافق

لا أوافق بشده

يميل طفلي إلى اتباع سلوكي الشرائي للطعام الغير صحي المعلن عنه على وسائل التواصل الاجتماعي

أوافق بشده

أوافق

لا أعلم

لا أوافق

لا أوافق بشده

يميل طفلي إلى التمسك بسلوك شراء الطعام الغير صحي المعلن عنه على وسائل التواصل الاجتماعي عندما أكرره كأب / كأم

أوافق بشده

أوافق

لا أعلم

لا أوافق

لا أوافق بشده

يميل طفلي إلى التمسك بسلوك شراء الطعام الغير صحي المعلن عنه على وسائل التواصل الاجتماعي عندما أفشل في ممارسة ضبط النفس أثناء عملية الشراء كأب / كأم

أوافق بشده

أوافق

لا أعلم

لا أوافق

لا أوافق بشده

يميل طفلي إلى تكرار سلوك شراء الطعام الغير صحي المعلن عنه على وسائل التواصل الاجتماعي عندما أستمر في ممارسة هذا السلوك كأب / كأم

أوافق بشده

أوافق

لا أعلم

لا أوافق

لا أوافق بشده

يميل طفلي إلى التمسك بسلوك شراء الطعام الغير صحي المعلن عنه على وسائل التواصل الاجتماعي عندما لا أظهر له مخاطرة كأب / كأم

أوافق بشده

أوافق

لا أعلم

لا أوافق

لا أوافق بشده

يميل طفلي إلى عدم الإعجاب بالعلامات التجارية المرتبطة بالأطعمة الغير صحية التي يتم الإعلان عنها على وسائل التواصل الاجتماعي

أوافق بشده

أوافق

لا أعلم

لا أوافق

لا أوافق بشده

يميل طفلي إلى عدم الإعجاب بالعلامات التجارية التي تقوم بالإعلان عن أطعمة غير صحية على وسائل التواصل الاجتماعي

أوافق بشده

أوافق

لا أعلم

لا أوافق

لا أوافق بشده

يميل طفلي إلى الانزعاج من العلامات التجارية المرتبطة بالأطعمة الغير صحية التي يتم الإعلان عنها على وسائل التواصل الاجتماعي

أوافق بشده

أوافق

لا أعلم

لا أوافق

لا أوافق بشده

يميل طفلي إلى الابتعاد عن العلامات التجارية التي تقوم بالإعلان عن أطعمة غير صحية على وسائل التواصل الاجتماعي

أوافق بشده

أوافق

لا أعلم

لا أوافق

لا أوافق بشده

يميل طفلي إلى شراء الطعام صحي الذي يتم الإعلان عنه على وسائل التواصل الاجتماعي

أوافق بشده

أوافق

لا أعلم

لا أوافق

لا أوافق بشده

يفضل طفلي شراء الطعام الصحي على الطعام الغير صحي الذي يتم الإعلان عنه على وسائل التواصل الاجتماعي

أوافق بشده

أوافق

لا أعلم

لا أوافق

لا أوافق بشده

يميل طفلي الى عدم التأثر بالأطعمة الغير صحية المعلن عنها على وسائل التواصل الاجتماعي وشراءها

أوافق بشده

أوافق

لا أعلم

لا أوافق

لا أوافق بشده

يميل طفلي إلى اتخاذ قرار شراء صحيح عندما يتعلق الأمر بالطعام الغير صحي المعلن عنه على وسائل التواصل الاجتماعي

أوافق بشده

أوافق

لا أعلم

لا أوافق

لا أوافق بشده

كأب / أم، أعرف وسائل التواصل الاجتماعي التي يستخدمها طفلي

أوافق بشده

أوافق

لا أعلم

لا أوافق

لا أوافق بشده

كأب / أم، أعرف إعلانات الأطعمة التي يشاهدها طفلي على وسائل التواصل الاجتماعي

أوافق بشده

أوافق

لا أعلم

لا أوافق

لا أوافق بشده

كأب / أم، أراقب إعلانات الأطعمة التي يشاهدها طفلي على وسائل التواصل الاجتماعي

أوافق بشده

أوافق

لا أعلم

لا أوافق

لا أوافق بشده

كأب / أم، أتحقق من إعلانات الأطعمة التي يشاهدها طفلي على وسائل التواصل الاجتماعي

أوافق بشده

أوافق

لا أعلم

لا أوافق

لا أوافق بشده

كأب / أم، أتحدث مع طفلي عن إعلانات الأطعمة على وسائل التواصل الاجتماعي

أوافق بشده

أوافق

لا أعلم

لا أوافق

لا أوافق بشده

كأب / أم، أتناقش مع طفلي عن أساليب البيع التي يستخدمها معلنو الأطعمة على وسائل التواصل الاجتماعي.

أوافق بشده

أوافق

لا أعلم

لا أوافق

لا أوافق بشده

كأب / أم، أبلغ طفلي عن نية البيع لإعلانات الأطعمة على وسائل التواصل الاجتماعي.

أوافق بشده

أوافق

لا أعلم

لا أوافق

لا أوافق بشده

كأب / أم، أشرح لطفلي عن الطبيعة المنحازة لإعلانات الأطعمة على وسائل التواصل الاجتماعي.

أوافق بشده

أوافق

لا أعلم

لا أوافق

لا أوافق بشده

كأب / أم، أراقب استخدام طفلي لبعض وسائل التواصل الاجتماعي. بغرض خفض التعرض إلى مخاطر إعلانات الأطعمة غير الصحية

أوافق بشده

أوافق

لا أعلم

لا أوافق

لا أوافق بشده

كأب / أم، أقيد استخدام طفلي لبعض وسائل التواصل الاجتماعي. بغرض خفض التعرض إلى مخاطر إعلانات الأطعمة غير الصحية

أوافق بشده

أوافق

لا أعلم

لا أوافق

لا أوافق بشده

كأب / أم، أحدد وقت معين لاستخدام طفلي لبعض وسائل التواصل الاجتماعي. بغرض خفض التعرض إلى مخاطر إعلانات الأطعمة غير الصحية

أوافق بشده

أوافق

لا أعلم

لا أوافق

لا أوافق بشده

كأب / أم، استخدام برامج حماية لمراقبة استخدام طفلي لوسائل التواصل الاجتماعي. بغرض خفض التعرض إلى مخاطر إعلانات الأطعمة غير الصحية

أوافق بشده

أوافق

لا أعلم

لا أوافق

لا أوافق بشده

كأب / أم، أشجع طفلي على اختيار الأطعمة الصحية عندما يشترون الطعام المعلن عنه على وسائل التواصل الاجتماعي للبقاء في حالة صحية جيدة

أوافق بشده

أوافق

لا أعلم

لا أوافق

لا أوافق بشده

كأب / أم، أشجع طفلي على اختيار الأطعمة الصحية عندما يشترون الطعام المعلن عنه على وسائل التواصل الاجتماعي للمحافظة على وزن صحي

أوافق بشده

أوافق

لا أعلم

لا أوافق

لا أوافق بشده

كأب / أم، أشجع طفلي على اختيار الأطعمة الصحية عندما يشترون الطعام المعلن عنه على وسائل التواصل الاجتماعي للمحافظة على أسلوب حياة أفضل.

أوافق بشده

أوافق

لا أعلم

لا أوافق

لا أوافق بشده

كأب / أم، أشجع طفلي على اختيار الأطعمة الصحية عندما يشترون الطعام المعلن عنه على وسائل التواصل الاجتماعي للمحافظة على شكل جسم صحي

أوافق بشده

أوافق

لا أعلم

لا أوافق

لا أوافق بشده