

**THE INFLUENCE OF CONTEXTUAL FACTORS ON FOOD
CONSUMPTION AMONG CONSUMERS IN SELECTED FOOD OUTLETS
IN NAIROBI KENYA**

By

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SEPTEMBER, 2014

DECLARATION

Declaration by the Student

This thesis is my original work and has not been presented for examination in any other university

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DEDICATION

To my parents Dr. Cornelius Serrem and Dr. Mrs. Charlotte Serrem for their assistance, unyielding and unconditional love and support in my academic pursuit and my brothers Rodel and Edgar for their encouragement and understanding throughout the period of my study.

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ABSTRACT

Food consumption patterns have changed and many people and households eat away from home in hotels, restaurants and fast food outlets. Many consumers are not aware of contextual factors such as, social interaction during meal times, the salience of food, easy accessibility of food and increase in variety of food which have a lot of influence on their food consumption patterns. Although they might look unrelated they influence consumption by inhibiting consumption monitoring and suggesting alternative consumption norms. The objective of the study was therefore, to find out the extent to which contextual factors influence food consumption in selected food outlets in Nairobi. The study employed descriptive survey design and the target population for the study was 450 consumers from four selected food outlets, a sample of 207 was drawn for the study. Purposive judgmental sampling was used to select the food outlets in Nairobi and, systematic sampling technique was used to select particular respondents. The instruments for data collection were self-administered questionnaires. Data was obtained from secondary sources for the study. Both descriptive and inferential statistics were used to analyze the data. Multiple regression was used to test the relationship of the independent and the dependent variables. Reliability was tested using Cronbach's Alpha resulting in a value 0.802. Multiple regression was used to analyze and test each of the hypotheses. The results revealed that only two of the variables were significant to the dependent variable, food consumption, as shown in their respective T-Test values. The variables include; Eating environment ($t = 19.742$, $p < 0.005$); Food environment ($t = 25.959$, $p < 0.005$), and lastly the intervening variable; Food mediators revealed ($t = -1.311$, $p > 0.005$). This revealed that two of the three variables (eating environment and food environment) significantly affected food consumption. It is concluded that a better knowledge and understanding of the determinants of contextual factors, would likely result in improved or better food consumption. The findings will be valuable consumers in the food service industry as it will create awareness and sensitize consumers, hence helping them become aware of those contextual factors that might influence their consumption. In addition food outlets can also acquire knowledge on the influence contextual factors have on food consumption, so that other than just providing meals to consumers, they can provide meal experiences to their clients, hence leading to better competitive advantage in comparison to their competitors. Lastly, the study recommends that consumers be educated on contextual factors that influence food consumption hence their health, while hotel owners should create a balance between their financial gain and meeting consumer health needs.

TABLE OF CONTENTS

DECLARATION.....	i
DEDICATION	ii
ACKNOWLEDGMENT	iii
ABSTRACT	iv
LIST OF FIGURES	ix
LIST OF TABLES	x
OPERATIONAL DEFINITION OF TERMS.....	xi
CHAPTER ONE.....	1
INTRODUCTION.....	1
1.0 OVERVIEW.....	1
1.1 Background of the Study.....	1
1.2 Statement of the Problem	3
1.3 Purpose of the study.....	4
1.4 Research objectives.....	4
1.4.1 Main objective.....	4
1.4.2 Specific objectives.....	4
1.5 Research hypothesis	5
1.6 Significance Of The Study	5
1.7 Scope of the Study	6
1.8 Assumptions of the study	6
CHAPTER 2.....	7
LITERATURE REVIEW	7
2.0 OVERVIEW.....	7
2.1 Food Consumption.....	7

2.1.1	Consumer's Perception Of Value On Food Consumption	10
2.1.2	The Food Consumption Model	12
2.1.3	The Relationship Between Values And Food Consumption Motives.....	16
2.1.4	The Effects Of Consumer Values On Food Consumption	17
2.2	Eating Environment	18
2.2.1	The Influence of Other People's Body Type on Food Consumption.....	21
2.3	Food Environment	24
2.3.1	The Effects of Consumer Physiological Values on Sensory Perception Of Food	27
2.4	Social Consumption Norms.....	28
2.5	Consumption monitoring Accuracy	31
2.6	THEORETICAL FRAMEWORK.....	32
2.6.1	Positive Incentive Theory of Hunger and Eating	32
2.7	CONCEPTUAL FRAMEWORK.....	34
	CHAPTER 3.....	36
	RESEARCH METHODOLOGY	36
3.0	Introduction	36
3.1	Study area	36
3.2	Research Design	37
3.3	Target Population.....	38
3.4	Sampling Procedure	38
3.4.1	Sampling Distribution.....	39
3.5	Data Types and Sources	40
3.5.1	Questionnaires.....	40
3.5.2	Data Collection Procedures.....	41
3.5.3	Validity and Reliability.....	41
3.6	Data Analysis and Presentation	42

3.7	Ethical Considerations	43
CHAPTER FOUR		45
DATA RESULTS AND PRESENTATION		45
4.0	Introduction	45
4.1	Descriptive Analysis	45
4.1.1	Demographic Characteristics of Respondents	45
4.1.2	Extent to Which The Eating Environment Influences Food Consumption (Objective One)	46
4.1.3	Most Preferred Aspect In A Favorite Food Outlet	46
4.1.4	Frequency of Visiting a Food Service Outlet.....	48
4.1.5	Aspects of Ambiance Most Preferred In An Eating Environment.....	48
4.1.6	Influence Of The Environment On Food Consumption	50
4.1.7	Influence of Company While Eating	51
4.1.8	Company Preferred Most During Meal Times.....	52
4.1.9	Influence of Company on Food Consumption	52
4.1.10	Eating Distractions and Its Influence on Food Consumption	53
4.1.11	Effects Eating Destructions Have On Food Consumption	54
4.2	Extent to Which the Food Environment Influences Food Consumption (Objective 2).....	55
4.2.1	Descriptive Analysis.....	55
4.2.2	Frequency of Consumption in a Single Day	55
4.2.3	Factors Influencing Food Choice and Consumption	57
4.2.4	Factors That Would Cause Over Consumption	59
4.3	Extent to Which Food Moderators Influence Food Consumption (Objective 3)	60
4.4	Information on Food Outlet Managers Concerning Contextual Factors In Relation To Food Consumption	62
4.5	Inferential Data Analysis.....	64
4.5.1	The Independent and Dependent Variables	65

4.5.1.1 Independent Variables.....	65
4.5.1.2 Dependent Variables	65
4.5.2 Correlation Results	66
4.5.3 Regression Analysis	67
4.5.3.1 The Regression Model	67
4.5.3.2 Regression Coefficients.....	70
4.5.4 Test of Research Hypothesis.....	71
CHAPTER FIVE.....	73
SUMMARY OF FINDINGS, DISCUSSION, CONCLUSIONS AND RECOMMENDATION	73
5.0 Overview	73
5.1 SUMMARY OF FINDINGS.....	73
5.2 Discussion	74
5.2.1 The Eating Environment	74
5.2.1.1 Eating Atmosphere on Food Consumption	74
5.2.1.2 Eating With Company on Food Consumption	76
5.2.1.3 Eating Distraction on Food Consumption	77
5.3 Food Environment	78
5.3.1 Salience of Food.....	78
5.3.2 Variety of Food	79
5.3.3 Size and Shape of Serving Equipment	79
5.4 FOOD CONSUMPTION MEDIATORS.....	80
5.5 CONCLUSION.....	83
5.6 RECOMMENDATIONS	84
5.7 AREAS FOR FURTHER STUDIES	85
REFERENCES.....	86
APPENDICES.....	94

LIST OF FIGURES

Figure 2.1: Model of the food consumption process (Furst et al., 1996)	13
Figure 2.2: Conceptual Framework.....	34
Figure 4.1: Aspects of ambiance most preferred in an eating environment	50
Figure 4.2 preference of company while eating	52
Figure 4.3: Influence of company on food consumption.....	53
Figure 4.4 Frequency of consumption	56
Figure 4.5: Factors Influencing Overconsumption among consumers.....	60
Figure 4.6: Influence of norms on food consumption	61

LIST OF TABLES

Table 3.1: Number of consumers per food outlet.....	39
Table 3.2: Sample Size Determination	40
Table 4.1: Respondents characteristics	46
Table 4.2: The Most preferred aspect in favorite food outlet	48
Table 4.3: Environment versus food consumption.....	51
Table 4.4: Influence of eating distractions on food consumption	55
Table 4.5: Reasons for food consumption	57
Table 4.6: Factors influencing food choice and consumption	59
Table 4.7 Influence of company on (culture, tradition and ethnicity)	62
Table 4.8; Correlation results	67
Table 4.9; Regression model summary	69
Table 4.10 Regression coefficients.....	71
Table 5.1: Summary of results of the hypothesis testing	74

OPERATIONAL DEFINITION OF TERMS

- **Contextual factors:** Includes both the eating and food environments.
- **Eating Environment:** Refers to the ambient factors associated with the eating of food, but that are independent of food
- **Food Environment:** Refers to factors that directly relate to the way food is provided or presented
- **Norms:** Standards against which the appropriateness of a certain behavior is assessed.
- **Consumption monitoring accuracies:** Assists individuals reduce discrepancies between perceived and actual consumption levels.

CHAPTER ONE

INTRODUCTION

1.0 OVERVIEW

In this chapter, the background of the study, statement of the problem, purpose of the study, the research objectives, research hypothesis, assumptions, and justification of the study and the scope of the study will be discussed.

1.1 BACKGROUND OF THE STUDY

Currently there are increased efforts by governments, food manufacturers and international organizations to provide consumers with healthy meals (WHO, 2006). Consequently many consumers are more health conscious and majority are making healthy food choices (WHO, 2003). In many developing countries where standards of living are improving, food availability is higher, and the number of consumers obtaining food provided by the food service industry has also increased (Barrett, 2007). Additionally, in recent years, the food service industry has evolved, with major improvements made regarding entertainment, comfort, convenience and food quality among others, with the intention to create a more welcome and homely environment for clients (Wansink, 1996). This is a result of the many available food service establishments trying to gain competitive advantage over one another in order to grow their market share and remain in business (Bradford, 2000)

However, studies have shown that poor food consumption patterns may be influenced by contextual factors in the eating and food environments which include, eating with company, watching television, salience of food, availability of variety, and serving equipment among others (Wansink, 2004). Other studies have also shown that food consumption is influenced by income, prices, individual preference, location and

belief in cultural traditions (Desmet & Schifferstein, 2007). This shows that it is possible there are many factors which cause consumers to consume or make inappropriate choices for their individual needs, from foods provided by the food service industry.

The environment where food is consumed has been shown to affect consumption both positively and negatively. According to Wansink (2004), the eating environment includes the atmospherics, effort to obtain food, social interactions and distractions that take place when food is eaten. Several researchers have demonstrated the influence of environment on food intake. For example, it has been reported that cues within the eating environment affected intake (Scheibehenne, Todd, & Wansink, 2010; Shimizu, Payne, & Wansink, 2010). One study showed that the closer an individual is to a food source; the more likely it is consumed in the diet, as proximity facilitates food visibility, causing an increase in hunger and temptation (Wansink, 2004). In adults, proximity, visibility, convenience and accessibility of food greatly influenced their food consumption (Davis & Carpenter, 2009, Laraia, Siega-Riz, Kaufman, & Jones, 2004; Mooney, 1990). According to Rolls (1982) emotions arising about food, influenced by personal, cultural, past experience and anticipated consequences can be translated into pleasurable or unpleasant feelings about that particular food. Such feelings include enjoyment, accomplishment, anxiety and reaction to taste or guilt; hence they affect food consumption as well as determine emotions felt afterwards.

Studies have also shown that food intake is influenced by the company an individual eats' with. People imitate the food intake of those with whom they are eating

(Herman *et al.*, 2003). Men and women consume the same amount of food when eating in smaller groups, as compared to eating in larger groups or by themselves and women eat less than men do hence, group-eaters tend to consume more than single eaters (Klesges, Bartsch, Norwood, Kautzman, & Haugrud, 1989). Social facilitation may cause a distorted perception of food intake, leading to an under-estimation of what was actually consumed, as less attention is given to satiety signals due to the distraction of socializing (Herman *et al.*, 2003).

There is currently very limited information on environmental factors that influence food consumption by Kenyan consumers visiting food service establishments. It is therefore necessary to investigate the contextual factors that consumers may or may not be aware of that influence their food consumption.

Therefore the aim of this study is to find out the influence of contextual factors on food consumption among consumers in the food service industry.

1.2 STATEMENT OF THE PROBLEM

Food consumption patterns have changed and many people and households eat away from home in hotels, restaurants and fast foods outlets. In recent years, the food service industry has experienced dramatic growth. Consequently, there is increased competition among various food service establishments, all of them struggling to remain in business (Bradford, 2000). In an effort to attract, retain and grow their market share, food service outlets have tried to enhance the environment by increasing customer comfort, entertainment, convenience and food quality among others, with the intention of creating a more welcoming and homely environment for clients to stay longer and spend more (Bradford, 2000). This has been done In order

to gain a competitive advantage over other similar establishments. This however, may have a negative impact on the health of consumers. For example, the eating environment, eating with company, increased variety or watching television during meal times may increase customer's food intake. Most food consumers are vulnerable to such contextual factors because they are not aware of the effect it has on their intake (Brian, 2004). Consumers visiting food establishments often find themselves in situations, where they are vulnerable to these factors. It is important to establish and analyze these contextual factors, the influence they have on consumption patterns, and lastly sensitize or create awareness among consumers in the food service industry.

1.3 PURPOSE OF THE STUDY

The purpose of this study was to investigate the influence of contextual factors on food consumption among consumers in the food service industry; in four selected food outlets in Nairobi. This study sought to find out the extent to which eating environment (eating atmospherics, eating destruction, eating with company) and food environment (Food salience, increase in variety, packaging and portioning) influenced food consumption. Lastly, the influence of norms and consumption monitoring accuracies on mediating food consumption was also established.

1.4 RESEARCH OBJECTIVES

1.4.1 Main Objective

The general objective of this study was to investigate the influence of contextual factors on food consumption in selected food outlets in Nairobi

1.4.2 Specific Objectives

- 1) To find out the extent to which the eating environment influences food consumption

- 2) To determine the extent to which the food environment influences food consumption
- 3) To investigate the extent to which consumption moderators influence food consumption

1.5 RESEARCH HYPOTHESIS

H₀₁. The eating environment does not significantly influence food consumption

H₀₂. The food environment does not significantly influence food consumption

H₀₃. Consumption mediators do not significantly influence food consumption

1.6 SIGNIFICANCE OF THE STUDY

In an effort to attract, retain and grow their market share, food service outlets have tried to find ways of increasing market share by mainly increasing customer comfort, entertainment, convenience and food quality among others (Bradford, 2000). This has been done in a bid to gain competitive advantage over their competitors and encourage clients to visit such establishments more frequently and for longer periods of time. Studies have shown that contextual factors are an important determinant of individual food consumption patterns. Such factors may include peers' food choices and salience of the food, among others, which constitute the environment the consumer is exposed to, may have an influence on the food consumption even though they might be monitoring their consumption. It is important to investigate the extent to which contextual factors influence consumption in order to create awareness and sensitization among the consumers on factors that influence their intake so that they can manage their environment better hence their food consumption patterns for better health management. In addition food outlets can also acquire knowledge on the influence contextual factors have on food consumption, so that other than just

providing meals to consumers, they can provide meal experiences to their clients, hence leading to better competitive advantage in comparison to their competitors

1.7 SCOPE OF THE STUDY

This study investigated the influence of contextual factors (both the eating and food environments) on food consumption in the food service industry. The study sampled four food outlets in Nairobi's Central Business District (CBD).

1.8 ASSUMPTIONS OF THE STUDY

The assumptions of this study are that:

- a) All the establishments that were selected adequately represent the hotels in the hospitality sector

- b) The respondents were able to reflect their own experiences on contextual factors and their influence on their food consumption among consumers of the food service industry

- c) The respondent's contextual activities were relevant to the concepts being investigated

CHAPTER 2

LITERATURE REVIEW

2.0 OVERVIEW

This chapter will discuss the concept of food consumption, the eating environment, the food environment, Social consumption norms and Consumption monitoring Accuracy, related theory and conceptual framework.

2.1 FOOD CONSUMPTION

Food consumption is a complex phenomenon, dependent on various factors, which affect human behavior in multiple ways, resulting in the consumption of some and the rejection of other products (Shepherd 1989). Though there are many reasons for food consumption, the most obvious and important one is to obtain nourishment for healthy and strong bodies (Rolls, 1996). However, in a society where food supplies, safety and nutrition are relatively adequately provided for by most major manufacturers, other issues relating to the food consumption have also grown in importance (Sparks 1994). An aspect that is often over looked is that, consumers like to enjoy their foods as many foods are consumed almost entirely for the pleasure value they impart. For example, products like coffee, chocolate, ice cream and alcohol are often consumed to enhance positive states of mind, or to reduce the effects of the negative ones (Rolls, 1996).

Individual food consumption is influenced by a wide variety of environmental and individual variables. The three main dimensions related to food consumption are taste, perceived value, which includes price and portion size and perceived nutritional benefit (French, 1999). Foods vary along each of these evaluative dimensions. Individuals also vary in terms of the importance placed on each dimension (Glanz,

1998). For example, individuals of lower socioeconomic status may place greater importance on perceived value, while those who are health conscious may place greater importance on the nutritional quality of foods (Solheim, 1996). In general, people may possess knowledge about healthful food consumption, but when considered in tandem with the dimensions of price and taste, they may choose to consume the tastier and cheaper, but less nutritious, food. An important question for public health promotion efforts in the area of healthful food consumption, is, “Can people be influenced to purchase and consume more healthful foods if the foods are increased in attractiveness through lowering prices?”(Solheim, 1996)

According to (Drewnowski, A. (2003), food consumption factor may be divided in to three groups. The first are product related factors, which determine the physical and chemical properties, sensory attributes that include taste, flavor and texture, functional features that include packaging, accessibility and convenience or the health value of the food. The second are the consumer related factors, such as, age, gender and educational level, psychological factors such as personality, experience and mood, as well as, physiologic factors such as health status, obesity and hunger. The third are environmental related factors that include economics, addressing price and income, cultural beliefs and societal issues such as fashion and society. Hence, food consumption may be characterized by the context of a situation determined by time, place, circumstance, habit, by what and with whom one eats (Gains, 1994). The eating pattern and preference of the young generation, choice factors and their relationships, have been discovered to affect some product related factors, such as taste, flavor, texture, visual appearance and color, influenced by the consumption

behavior (Lyman, 1989). A study by Cusatis (1995) confirmed that two factors, fat and sugar content were of importance to the eating behavior of adolescents.

Food also represents whom and what we are (Lyman, 1989). For instance, some people use food to help cope with stress by overeating or depriving themselves. Others express their creative side by serving dinner guests, as well as expressing their awareness and appreciation for others. Special meals and foods such as birthday cakes encourage bonding and foster relationships around the dinner table and at celebrations, Food may also be used as a reward for accomplishing a specific goal (Chaiken, 1990). Consequently, what people eat can reveal much about who they are socially, politically and religiously.

A review by Chaiken (1990) also indicated that food consumption is influenced by factors such as culture and religion. Religious food laws have restricted the consumption of beef and pork among adherents of the Hindu and Jewish faiths, respectively. Culture also dictates the meal patterns and what to eat at certain meals. Advisements influence food consumption, as consumers will tend to emulate what they see and learn from their entertainment sources (Chaiken, 1990). Persuasion by food producers and restaurant personnel who may brand or make false claims to make their products appealing to consumers are equally a very strong influence (Gains, 1994). Social factors have had a major effect on food consumption in the food industry. A fast-paced society demands drive-through restaurants, petrol stations now accommodate convenience stores and restaurants attached to them, to provide consumers a one-stop shopping. Malls also cater to their customers with food courts offering a wide variety of foods. Individual habits also play a major role in their food consumption. Majority of what people eat is from a particular core group of food.

Having a narrow range of food choices provides individuals with some form of security. For instance, always visiting a particular fast-food restaurant provides common expectations and experiences.

2.1.1 Consumer's Perception of Value On Food Consumption

Food consumption vastly differs between individuals, situations and product classes (Rozin 2007). It is controlled by a very large number of variables. Food choice is an outcome of interactions between the consumer through biological, physiological and psychological factors, products such as food flavour and package and environment with time, physical surroundings, social and cultural factors (Meiselman 2007;).

Consumer-related social psychological factors, values such as health, safety and ethics have become important in food production and consumption (Clarke *et al.*, 2008; Vandendriessche 2008), stemming from growing health problems, such as obesity and food borne diseases (WHO 2010) and concerns about environmental well-being. As a result, some consumption trends have emerged. For instance, ethical consumption, which is associated with personal endorsement of values of health, security and protecting the environment and with organic food purchases (Shaw *et al.*, 2005), has constantly increased.

Food marketers, knowledge about consumer values can be very useful for segmentation and marketing communication planning. This arises from the fact that consumers tend to differ in their personally important values. Consumers purchase many products because they believe these products will help them attain a value-related goal (Solomon 2007). For example, some consumers are willing and while others are unwilling to buy organic foods. Universalistic consumers who endorse

values such as welfare for all people and protection of nature appreciate and prefer organically grown food, while power-oriented consumers who support values such as wealth and authority in their lives, in turn, are not interested in consuming it (Dreezens *et al.*, 2005; Kihlberg & Risvik 2007). Such groups form two consumer segments that make different food consumption choices. According to (Dreezens *et al.*, 2005), Consumers in the former segment are likely to pay a price premium when purchasing organic bread as (they can find , for example. naturality and purity cues appealing, while the latter might prefer a conventional alternative or an alternative produced from genetically modified grains (Dreezens *et al.*,2005).

The importance of values has also been noticed in the development of food policies. For instance, a national research strategy for the food sector in Europe is aimed at sustainable and profitable production, and consumer welfare (Kaukovirta-Norja 2011). To advance regeneration and competitiveness of the food sector, the report further proposes three strategic challenges for the whole food chain. Enhancing the understanding of consumer values, needs and choices, secondly, controlling the safety and traceability of foods, and lastly, improving the systems and methods in production and logistics In addition Kaukovirta-Norja (2011), stresses that more understanding of consumer values is needed so that food products meet consumer needs, because easier prediction of food consumption makes, the food chain more efficient.

Previous illustrations reflect the fact that personal values are capable of guiding consumer behaviour (Schwartz 1992). However, the postulation by Verplanken & Holland (2002) that relatively little is known about when and how values influence

such behaviour also affects food consumption. Brunso *et al.*, (2004) and Aertsens *et al.*, (2009) ascribe the difficulty to identify value effects to the fact that values are very abstract constructs and thus, many food-related actions are only indirectly linked to them. Food values, or food consumption motives, that reflect consumers' purchase and eating criteria, may be easier to detect than personal values, but also their role can be challenging to understand in different food choice and consumption situations, since consumers tend to prioritize different food values in different occasions. There are specific situations in which consumers need to solve value conflicts regarding food consumption. For instance, they might have to weigh whether to prefer taste or convenience over health (Connors *et al.*, 2001).

2.1.2 The Food Consumption Model

According to Marshall (1995), food consumption is influenced by a multitude of interacting factors that relate to the consumer, product and environment. Marshall (1995) further explains that past experiences, context and individual differences in interaction affect food consumption behaviours. These personal values represent psychological factors or ideals that guide food consumption. However, in many food choice and consumption cases, other personal factors and contextual influences can force the consumer to act against her/his personally important values. Therefore, personal values seem to have a relatively small role in explaining food consumption, since several other factors also influence the outcome. Instead, food values seem to have a greater role, because consumers tend to prioritize their needs and wants showing that dominant food values vary in different food consumption situations. As a result, food choice and consumption can be considered a process, in which decision making is needed to determine food consumption criteria and to evaluate the compatibility of the food, which is being considered for selection, with personal and

situational factors. The model of the food consumption process by Furst *et al.*, (1996) shown in Fig 1 illustrates these interrelating factors that relate to the consumer, product and the environment.

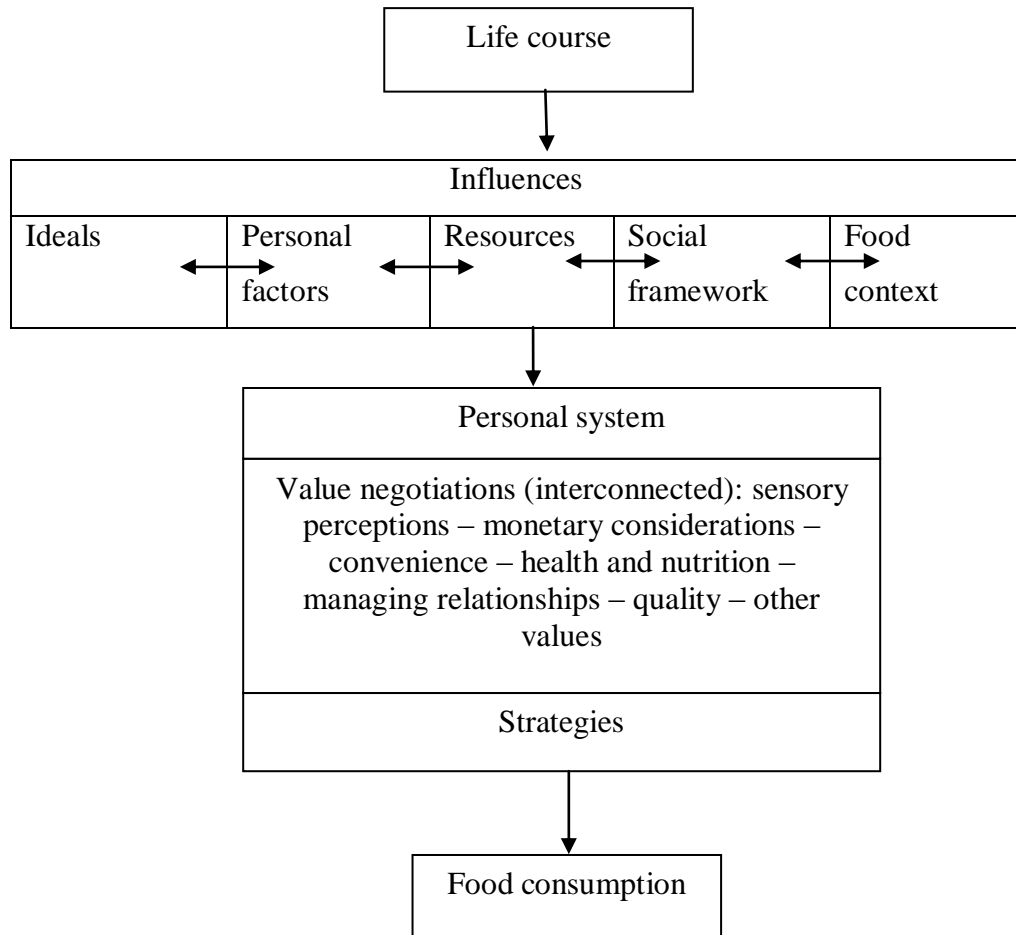


Figure 2.1: Model of the food consumption process (Furst *et al.*, 1996)

Life course refers to the influences of past personal experiences and historical eras. It includes personal roles and the social, cultural and physical environments to which a person has been and is exposed to. Results from a study by Devine *et al.*, (1998) showed that life course experiences affected consumers' current intake of fruits and vegetables. Such experiences generate influences that materialize in the form of ideals, personal factors, resources, social framework and food context. The ideals are

expectations, standards, hopes and beliefs, by which people judge and evaluate their food consumption choices (Furst *et al.*, 1996). They reflect cultural and symbolic meanings of food as well as aspirations, values and a sense of identity, and they describe how things should or could be. To illustrate the influence of values, Botonaki and Mattas (2010) found that consumers who embrace achievement values like personal success through competence, capability and ambition are typical convenience food users.

Personal factors are based on psychological and physiological traits, and may include likes and dislikes, individual food styles, food centeredness, mood, age, gender, sensory preferences and state of hunger (Furst *et al.*, 1996). For example, when a consumer is having a stressful period in her/his life, unhealthy food consumption choices become more salient (Oliver & Wardle 1999). Also, resources determine food choice options, since money, equipment, storage facilities, skills, knowledge and time are either available or unavailable, depending on the individual's outlooks and situations (Furst *et al.*, 1996). For instance, time scarcity has been found to correlate with food choices that favour fast food (Jabs & Devine 2006).

A social framework consists of interpersonal relationships such as those between family members, workmates and friends and social roles that may raise issues of conflicting priorities in households such as who provides food or what to eat together (Furst *et al.*, 1996). In a related study, Bevelander *et al.*, (2011) showed that young consumers' food choices are susceptible to peer influences. The food context includes the physical surroundings like availability of certain foods, market factors and social environment, in which food choices occur (Furst *et al.*, 1996). Temperature sounds

and lighting of the surroundings can also change consumers' food consumption preferences (Stroebele & de Castro 2004).

In their review, Furst *et al.*, (1996) continue to explain that the personal system for food consumption is formed by life course influences. Consumer values together with other personal and contextual influences affect how food values guide food consumption. People weigh and accommodate food values in a particular food consumption situation according to their personal system, The most important food values found to guide food consumption by Furst *et al.*, (1996) were sensory perceptions like taste, monetary considerations such as price and worth of food, convenience such as ease of access and preparation, health/ nutrition such as well-being and weight control, managing relationships, such as maintaining harmony in a household and quality such as levels of excellence. Similarly, other researchers also reported that these food values or food consumption motives were a major factor in food consumption decisions (Lappalainen *et al.*, 1998; Connors *et al.*, 2001; Steptoe, Pollard & Wardle 1995). Additionally, when a person ponders which of the food values is dominant and decisive in a given situation, negotiations or prioritizations are needed to solve value conflicts. An example of a value negotiation is a consumer's wish to eat healthily, but he or she may still choose convenience or indulgent food for a meal (Leipämaa-Leskinen 2007). Lastly, consumers develop strategies for making food consumption choices. Thus, food choices are typically made with the help of heuristics, habits or rules that simplify the choice task in different settings (Scheibehenne *et al.*, 2007).

2.1.3 The Relationship Between Values And Food Consumption Motives

Values have been said to have a motivational function (Rokeach, 1973). This indicates that values are closely related to motives. In fact, motives are a type of domain- specific value (Vinson *et al.*, 1977). Food consumption motives are relevant to the domain of food consumption. Therefore, some authors have considered them as food-related values (Connors *et al.*, 2001) and eating-related values (Simmons, 1989). Honkanen *et al.*, (2006) stated that ethical food consumption motives represent this level of the value construct, considering motives as more specific than personal values but more abstract than attitudes.

Only few studies have examined specifically the relationship between personal values and food consumption motives. This may derive from the fact that some food choice motives are tightly knit to certain personal values, leaving the analysis of this relationship unnecessary. For instance, those consumers who might report the food consumption motive “health” to be an important eating or purchase criterion (Steptoe *et al.*, 1995), are assumingly also likely to embrace the personal value “healthy” or not being sick physically or mentally (Schwartz ,1992). However, past research has shown some positive and negative correlations between central consumer values and food consumption motives.

Brunso *et al.*, (2004) studied the relationship between Schwartz’s values and food-related lifestyle, which is a mediating construct between values and behaviour as it pays attention to the underlying motives driving the way people perceive and experience food in their everyday life, among German and Spanish consumers. To illustrate the cultural similarities and differences in their results, the health motive was positively related to universalism and negatively related to power in both

countries, the convenience motive was positively related to stimulation (negatively to benevolence) in Spain but positively related to power (negatively to universalism) in Germany, and the taste motive was positively related to hedonism (negatively to tradition) in Germany but positively related to security (negatively to self-direction) in Spain. In addition, de Boer *et al.*, (2007) found that the taste orientation such as being proud of one's taste or eager to taste something new correlated positively with self-direction, stimulation and hedonism but negatively with security, conformity and tradition. This indicates that the taste motive or sensory appeal is more important to the hedonistic consumers.

2.1.4 The Effects of Consumer Values On Food Consumption

Consumer values have been shown to have an effect on various food consumption behaviours. A study by Aertsens *et al.*, (2009) showed that product choice, purchase and usage universalism relate to a more frequent consumption of organic foods (Aertsens *et al.*, 2009) and in general to an appreciation of high quality foods (Worsley *et al.*, 2010). In contrast, the same consumer values related to less frequent consumption of meat products (de Boer *et al.*, 2007) and white bread (Worsley 2003). In other similar studies, benevolence (Fotopoulos *et al.*, 2011) and security-values (Aertsens *et al.*, 2009) correlated with a higher level of healthy food consumption. Additionally, security and conformity values positively correlated with vegetable intake (Nijmeijer *et al.*, 2004). In a study by Goldsmith *et al.*, (1997) the social values of warm relationships, self-respect, security, accomplishment, self-fulfillment, and belonging correlated negatively with the use of convenience food such as microwave and take-home meals.

The relationship between personal values and food choices has also been linked to cultural differences. White *et al.*, (2004) when examining the consumption of convenience and freshly made Indian foods among English and Indian people living in the UK, found that the consumer groups' perceptions of Indian foods were guided by certain differences in values. Both groups shared the values of health and enjoyment, but good life, religion and culture were desirable value ends for the Indians, while the values of adventure, social life, and savings were important for the English respondents.

2.2 EATING ENVIRONMENT

The eating environment refers to the ambient factors associated with the eating of food, but that are independent of food, such as atmospherics, the effort of obtaining food, the social interactions that occur, and the distractions that may be taking place (Wansink 1996). Limited effort has been directed towards examining the relationship between taste and consumption when exogenous factors, such as variations in serving equipment or atmospherics, are present. However, recent findings, suggest that exogenous factors, such as mood (Gould 1997), the presence of others (Berry *et al.*, 1985), and size of serving equipment (Wansink 1996), might explain a large percentage of the variation in food consumption volume.

The impact of others on the amount of food an individual consumes is significant. According to Herman *et al.*, (2003) and Lumeng & Hillman, (2007) the theory of "social facilitation" suggests that an individual will increase certain behavior based on the sight and sound of others participating in the same behavior. Herman *et al.*, (2003) found that the amount of food an individual consumes during a meal is potentially evaluated and guided by others that are present. Studies have also shown

that an increased amount of food is eaten at meals with family and friendly people, basically, because they can help make a meal relaxing, more enjoyable, and prolong the eating period (Wansink 1996). These meals can also reduce an individual's ability or motivation to monitor consumption. On the other hand, Pliner (1990) reported that meals eaten with unfamiliar people suppressed food intake in situations where self monitoring and self-awareness was high, such as during job interviews or at first dates. Social facilitation during consumption affects people in different age groups including the elderly (De Castro, 2002).

The immediate eating environment such as lighting, odor and noise, that influence the immediate eating environment, has a more indirect or mediated impact on consumption (Westerterp 1999). People will tend to consume more foods during prolonged cold temperatures than during hot temperatures (Brobeck, 1990). This may be attributed to the need for the body to regulate its core temperature. by cooling when atmospheric temperatures are hot, leading to an increase in consumption of liquids (Westerterp, 1999). Depending on the type of atmospherics under study, atmospherics are also believed to increase consumption volume partly because they make it comfortable or enjoyable for a person to spend more time eating for example, Sommer. (1969) observed that dimmed or soft lighting could influence consumption by increasing eating duration or by increasing comfort and dis-inhibition. Bright illumination of light is said to decrease length of time people stay in a restaurant whereas soft or warm lighting generally causes people to linger and enjoy an unplanned dessert.

Odor influences food consumption through taste enhancement or through suppression. Unpleasant ambient odors are likely to shorten the duration of a meal and to suppress food consumption (Rozin 1982). Satiety occurs within a reasonably short time by simply testing or smelling of a food which suggests that although odors can have a depressing impact on consumption, they might not necessarily increase consumption (Stevenson *et al.*, 1999)

Music affects the rate of eating, duration of the meal and quantity of food consumed. According to Sommer (1969), soft music generally encourages a slower rate of eating, longer meal duration, and higher consumption of both food and drink. When preferred music is heard, individuals tend to stay longer, feel more comfortable and dis-inhibited, and are more likely to order more (Milliman, 1986). In contrast, when music or ambient noise is loud, fast, or discomforting, people sometimes spend less time in a restaurant (Sommer, 1969). An abbreviated meal can lead individuals to quickly clean their plates and overeat without monitoring the extent to which they are full (Milliman, 1986)

Increased Effort to obtain food is referred to as the ease, access, or convenience with which a food can be consumed. It is one of the strongest influences on consumption (Rozin, 1982). The effort it takes to obtain food often explains which foods people prefer and how much they will consume. Studies carried out show that people ate more ice cream when the lid of an ice cream cooler was left open than when it was closed drank more milk when the milk dispenser was placed close to the dining area (Wing 2001), and drank more water when a water pitcher was on their table than when it was further away (Rozin . 1982).

Distractions such as reading or watching television can increase consumption by initiating, obscuring, and extending consumption. Distractions can initiate script related patterns of food consumption that are uncorrelated with hunger by obscuring one's ability to monitor consumption hence they can extend the duration of a meal (Rozin, 1982). Studies have shown that majority of the consumers who consumed their meals in front of a television set, watching their favorite programme or while reading their favorite book, tended to stop consuming when whatever they were doing stopped or ended, hence influencing consumption of unknowing consumers (Rolls, 2002). Whereas part of overconsumption associated with distractions such as television and magazines can be related to longer meals, another part of it is due to how the distraction can obscure one's ability to accurately monitor how much has been eaten (Chandon , 2002).

2.2.1 The Influence of Other People's Body Type on Food Consumption

Rising obesity rates are a critical concern in almost every developed country. In the United States, approximately 66% of adults and nearly one-third of preschoolers are overweight or obese (NHANES, 2004). An increase in consumption is largely blamed for this epidemic, and consumers make over 200 food choices per day. Such choices are affected by numerous contextual cues (Wansink, 2006), and thus it is important to understand how these cues affect decision-making. Studies have found that depending on the situation, social influence can have either a facilitating or attenuating effect on eating behavior (Herman, Roth, & Polivy, 2003). Specifically, many studies have shown that the portion size one individual chooses can impact the quantity that others consume (give the examples of these studies with their references).

While it is known that others' consumption choices can impact what we eat, a matter of concern whether the body type of others are sufficient to alter our consumption. A study carried out by McFerran and Dahl *et al.*, (2003) examined how the interaction of another consumer's body type and food selection influences what we consume ourselves as consumers. Using a model of anchoring and adjustment, they found that when another consumer consumed or choose a large portion, participants in their study choose less when the other consumer was obese than when she was thin. Conversely, when the other consumer chose a small portion, participants selected a larger portion when the other was obese than when she was thin.

Some researchers claim that obesity is socially contagious (Christakis & Fowler, 2007) while others suggest that people want to avoid overeating if it is linked with an undesirable group (Berger & Rand, 2008). In many western countries, being thin is an ideal body standard, but obesity is associated with unhealthy eating and over consumption, a stigma that most wish to avoid (Crandall, 1994). It's therefore reasonable to predict that a heavier server might lead to less consumption (Berger & Rand, 2008) and should be less persuasive when recommending specific food consumption choices. Studies consistently show that more attractive people such as thinner females are more persuasive, suggesting people are more likely to follow their recommendations (Eagly, Ashmore *et al.*, 1991). However, past research has shown that dieters and non-dieters differ substantially in their food consumption. Contrary to this, an experiment carried out by (Berger & Rand, 2008) indicated that, rather than decrease consumption for dieters, an obese server actually increased the quantity of food consumed, and Instead of shunning the suggestion of the obese server, dieters

were more persuaded by her than a thin server, choosing both the healthy and the unhealthy snack relatively more often when she recommended it. Hence it is more beneficial for a firm to have greater diversity among its service providers (e.g., Matta & Folkes, 2005), as dieters, a recommendation from a heavier server is generally preferred more often than if they were thin.

The dieting industry is now worth over \$40 billion annually in the US alone and approximately one in four people is on a diet (Scott, Nowlis, Mandel, & Morales, 2008). Substantial research has shown behavioral differences between chronic dieters and non-dieters. Scott, *et al.*, (2008) found that dieters eat more rather than less from bite-sized food in small packages. In addition, dieters eat more in anticipation of an impending diet, following a “preload” of calories or after exposure to a food aroma (Herman & Polivy, 2004). This behavior is known as a “backfire effect.” Thus, unlike non-dieters, this research suggests dieters may actually increase their food consumption when with other obese, or be more influenced by an obese service provider's recommendation. Hence consenting to the argument that the body type of another individual may act as a relevant cue for food consumption to both dieters and non-dieters since one's body type can lead to inferences about the food consumption choices s/he makes

Research shows that people's behavior can be shaped by exposure to stimuli that may occur incidentally in the environment (Chartrand, 2005; Dijksterhuis & Bargh, 2001). This research posits that behavior is guided by the activation of associated constructs in memory and can occur outside of conscious awareness (Bargh & Chartrand, 1999). However, an individual's personal associations with the prime can moderate the

effects it has on behavior. For example, (Wheeler and Berger, 2007) found that a shopping prime led men to choose more purpose driven activities such as taking a direct route on a trip, whereas the same prime led women to choose more possibility-driven activities like wandering around a city, consistent with the different associations that “shopping” activated for men versus women. People's reactions to primes are determined in part by their personal identification (or perceived similarity) with the primed construct, resulting in assimilation towards similar primes but contrasting away from dissimilar primes (Mussweiler, Rüter, & Epstude, 2004); Since chronic dieters feel a constant desire to lose weight, it is possible that they identify more with those who are overweight or obese (rather than thin), resulting in assimilation towards behaviors associated with obesity (eating more) and selecting food choices that they explicitly recommend. However, non-dieters should assimilate to a greater degree towards a thin (vs. obese) server, resulting in the opposite effects.

2.3 FOOD ENVIRONMENT

The food environment refers to factors that directly relate to the way food is provided or presented to an individual, such as its salience, structure, package or portion size, and how it is served (Wansik, 2004). Food intake can often be related to the perceived taste or cravings associated with foods (Hill, 1984). Such cravings, especially for comfort foods, differ across gender and across age groups (Sommer, 1969). According to Rogers (1993) liking of a food can increase chewing and swallowing rates (Chandon, 2002), and it is generally correlated with greater consumption (Ellring, 1991). Despite the link between palatability and consumption, the availability of tasty, highly palatable foods is neither a necessary nor a sufficient cause for overconsumption (Mela & Rogers, 1993) as people can unknowingly over eat unfavorable foods as much as they do their favorites ones (Brian, 2004). This

aspect can be seen in the small variation of the food environment (Rolls, 1981). Increasing the variety of a food can increase the consumption volume of that food both across gender and age groups (Rogers, 1993). A study conducted by Rolls (1996), showed that consumers were likely to consume 23% more yogurt, when provided with an assortment of yogurts than when provided with a single flavor. The perception of assortment variety is influenced by the organization and the symmetry of the frequencies of the items in the set of the assortment. It is that perceived variety of the assortment that influences consumption utility and ultimately contributes consumption quantity (Rolls 1981).

The salience of food is believed to have an influence on consumption, as simply seeing or smelling a food is said to stimulate unplanned consumption or salient hunger (Ellring, 1991). An increase in intake of visible food occurs because; the noticeable nature of the food serves as a continuously tempting consumption reminder. While part of this may be cognitively based, part is also physiologically based. Simply seeing or smelling a favorable food can increase reported hunger (Ellring, 1991) and stimulate salivation (Hill, 1984), which can be correlated with greater consumption (Chandon, 2002). Recent physiological evidence suggests that the visibility of a tempting food enhances actual hunger by increasing the release of dopamine, a neurotransmitter associated with pleasure and reward (Sommer, 1969). The impact of these cues can be particularly strong with unrestrained eaters (Mela, 1993).

Package and portion sizes also have a considerable impact on consumption. In developed countries, food packaging and portion sizes have steadily increased over the past 30 years (Hill, 1984) contributing to the weight gain of consumers (Mela,

1993). Studies show that when packages are doubled in size, consumption generally increases by 18% to 25% for many meal-related foods such as spaghetti, and 30% to 45% for many snack related foods (Brian, 1996). Larger packages and larger serving sizes may encourage greater consumption at any one meal or eating episode through a variety of physiological or cognitive mechanisms (Brian, 1996). People may underestimate their intake as they purchase larger packages or are offered larger servings at restaurants. Experimental research shows that larger packages of familiar brand products encourage the consumption of greater quantities, in part due to perceived lower food cost (Brian, 1996). In naturalistic settings, larger packages are frequently priced less per ounce compared with smaller packages, so this perception is in fact correct.

Increase in variety of assortment also leads to an increment in food consumption volumes. Studies suggest that simply changing the structure of an assortment, for example, the organization, duplication, or symmetry, can increase how much is consumed. One reason this occurs is that increases in perceived variety make a person believe he or she will enjoy the assortment more (Brian, 2004). A second reason this occurs is that increasing the perceived variety can concurrently suggest an appropriate amount to consume (the consumption norm) in a particular situation.

The nature of the serving equipment also plays a role in food consumption levels. Studies have shown that, more than 71% of a person's caloric intake is consumed using serving aids such as bowls, plates, glasses, or utensils (Brian, 2004). For instance, when a person decides to eat half a bowl of cereal, the size of the bowl can act as a perceptual signal that may influence how much he or she serves and

subsequently consumes. Even if these perceptual signals are inaccurate, they offer cognitive shortcuts that can allow serving behaviors to be made with minimal cognitive effort (Brian, W, 1994). Larger service equipment encourages consumers to consume greater volume per usage occasion than smaller service equipment (Wertenbroch 1998; Folkes *et al.*, 1993), partially because foods or beverages in larger serving equipment are perceived to be less expensive per unit (Wansink, 1996).

2.3.1 The Effects of Consumer Physiological Values on Sensory Perception of Food

Sensory perception or evaluation of appearance, scent, flavour and texture of food and drink samples or products has been linked to personal values only infrequently in consumer and sensory studies. Allen *et al.*, (2008) analyzed the influence of certain central values on taste evaluation and found that congruity between consumers' values and product symbols led to an enhanced taste experience, whereas incongruity resulted in the deteriorated taste experience. Kihlberg and Risvik (2007) studied the liking of bread among two consumer segments that were formed according to subjects' age of under or above 30 years. The segments differed from each other by their value orientations. The consumers who were under 30 years old endorsed values such as true friendship, enjoying life and being successful, while the consumers above 30 years old endorsed values such as accepting life, wisdom and national security. They evaluated the liking of organic and conventional bread samples (five in total), and the taste of one conventional bread sample was rated significantly better among the younger consumers embracing more hedonistic values. In Lehtola *et al.*, 's (2008) study, those consumers with pro-organic values who were activated by value-congruent product information liked the taste and smell of an organic tomato product significantly more than their non-activated counterparts.

The scarcity of studies that examine the relationship between values and sensory perception indicates that most food researchers have probably not thought that there might exist a link between abstract consumer values and taste preferences. However, several studies have shown that product/brand attitudes and associations shape the sensory perception of foods, especially when consumers recognize the brand. For instance, revealing brand cues, in comparison to blind evaluation, has improved consumers' taste experience of a meat product (Vranesevic & Stancec 2003), convenience food (Robinson *et al.*, 2007), orange juice (Hoegg & Alba 2007), beer (Allison & Uhl 1964) and tomato puree (Di Monaco *et al.*, 2003).

2.4 SOCIAL CONSUMPTION NORMS

According to Bettenhausen (1985) social norms are the standards against which the appropriateness of a certain behavior is assessed. Norms are among the least visible, yet most powerful, forms of social control over human behavior. Bettenhausen (1985) further describes various types of norms which have an effect on human behavior. First, is the descriptive norm, which refers to people's beliefs about how commonly healthy behaviors are practiced in society in general or among their families and friends. Second, is the injunctive norm, which refers to the beliefs people have about what other people expect or encourage others to do with regard to healthy behavior.

Food-related estimation and consumption behavior can be based on how much one normally buys or normally consumes (Wansink, 2003). People can be very impressionable when it comes to how much they will eat. There is a flexible range as to how much food an individual can consume (Chandon, 2002), and one can often "make room for more" (Wansink, 2003). Consumption can also be unknowingly influenced by other norms or cues that are present in the environment, such as larger

packages in grocery stores, larger portions in restaurants, and larger kitchenware in homes which all suggest a consumption norm that very subtly influences how much people believe is appropriate to eat.

According to Chandon (2002), large-sized packages, large-sized restaurant portions, and large-sized dinnerware, tend to perceptually suggest to a consumer that it is more appropriate, typical, reasonable, and normal to serve and to eat more food than smaller plates or smaller packages would instead suggest. Hence consumption norms are in many situations used as normative benchmarks to estimate how much an individual will consume.

According to Herman *et al.*, (2003) social norms have linked a negative stereotype to excessive consumption, hence while consuming food in the company of others, individuals tend to turn to the intake of their eating companions, as a guide for how much can be eaten without appearing excessive. Among strangers, individuals tend to turn to minimal eating as default norm, in situations where impression management concerns are salient or one of matching, in the absence of other guides to consumption. Among friends, the primary influence on eating may be the social norm set by the group (Herman *et al.*, 2003), which theoretically could function to either promote or inhibit restrictive eating. A social norm explanation for how familiar others influence eating is also consistent with research on social identity and health behaviors, which demonstrate that perceptions of group norms and behaviors can guide healthy decisions, as individuals are more likely to match their eating to that of a friend than to that of a stranger (Oyserman, Fryberg, & Yoder, 2007).

The theory of planned behavior proposes that human action is guided by beliefs about the likely outcomes of the behaviour, normative expectations of others and the presence of factors that control the performance of the behaviour. These beliefs or values that are considered as enduring beliefs (Vinson *et al.*, 1977) discrimination of belief levels produce an attitude toward the behaviour, and this attitude together with social pressure and control behavioural constitute an intention that is assumed to be the antecedent of behaviour. In general, the more favourable the attitude and subjective norm, and the greater the perceived control, the stronger should be the person's intention to perform the behaviour (Ajzen 2002). For instance, Maio and Olson (1995) found that altruistic values were positively related to attitudes toward donating and intentions to donate. They also emphasize that both value-attitude and value-intention relations are stronger when people have value-expressive attitudes that express central values and the self-concept) than when they have utilitarian attitudes that express some other goals, like maximizing personal rewards.

In the arena of food consumption, the theory of planned behavior has been tested. In their review concerning personal determinants of organic food consumption, (Aertsens *et al.*, 2009) stated that values are stable motivators for behaviour and that the relations between values and attitudes are moderated by beliefs. They concluded that organic food purchases are positively and significantly related to purchase intentions together with perceived behavioural control. Further, intentions are influenced by attitudes, (personal and subjective) norms and (perceived) behavioural control. Tarkiainen and Sundqvist (2005), found that consumers' intentions to buy organic food can be predicted from their attitudes, which, in turn, can further be predicted from subjective norms, and that behavioural intentions reliably predict self-

reported behaviour. Vermeir and Verbeke (2008) reported findings related to sustainable (i.e. economically, ecologically and socially responsible) dairy product consumption confirmed that attitudes and perceived behavioural control are significant predictors of behavioural intentions, irrespective of consumer values. These findings and the theory of planned behaviour indicate that because of attitudes and other moderators in this context, values often have an indirect influence on \ behavioural intention. Therefore the value-attitude and attitude intention - relationships are thought to be stronger than the value-intention -relationship.

2.5 CONSUMPTION MONITORING ACCURACY

According to a review by (Brian, 2004), closely monitoring how much food one consumes reduces discrepancies between perceived and actual consumption. A distracting environment can reduce a person's ability to accurately monitor how much they eat (Polivy, 1986), and may lead them to over rely on visual cues such as the fill level in a bowl to determine when to stop eating. Overreliance on such visual cues may lead consumers to over consume because they ignore other factors like amount of food eaten or the feeling of satisfaction. For example, studies have shown that a person intending to eat half a bowl of soup, may use the amount of soup left in the bowl as a visual cue that indicates whether he or she should continue eating or should stop. If that cue is inaccurate, it could unknowingly lead one to overeat (Brian, 2004).

Visual cues can lead a person to underestimate how much they have consumed or to overestimate how much they have consumed, leading them to consume either more than they intended or less than they intended. It has been shown that people consistently underestimate and over consume the amount of liquid they pour into short, wide drinking glasses compared with tall, narrow glasses that hold the same

volume (Wansink, 1996). Size contrast illusion leads a person to underestimate and over consume the amount of food on a large plate or to overestimate and under consume the amount of food on a small plate (Wansink, 1996).

An individual's sight may influence how much they consume, leading them to be less influenced by physiological cues of satiation. As a result, their estimate of how much they have consumed and how sated they are may have to do more with what they believe they saw themselves eat and less with how much they actually ate (Wansink,, 1996).

2.6 THEORETICAL FRAMEWORK

2.6.1 Positive Incentive Theory of Hunger and Eating

The major focus for this study was to investigate the influence contextual factors such as eating in the company of others, eating atmospherics and the salience of food, have on food consumption. This influence can be explained by the positive incentive theory of hunger and eating. The positive incentive concept of hunger and eating has been applied since its early use to explain how warm blooded animals adopted to their feeding environments, an environment that was characterized as having intense competition for limited and unpredictable food resources (Collier, 1986). The main proposition of the positive incentive theory of hunger and eating is that, humans and other animals are not driven to eat by energy deficits but are drawn to eat by anticipated eating pleasure that is, by the food's positive incentive value (Brown, 1993), People will tend to consume high palatable foods when such foods are available because they have evolved into that behavior (Brown, 1993).

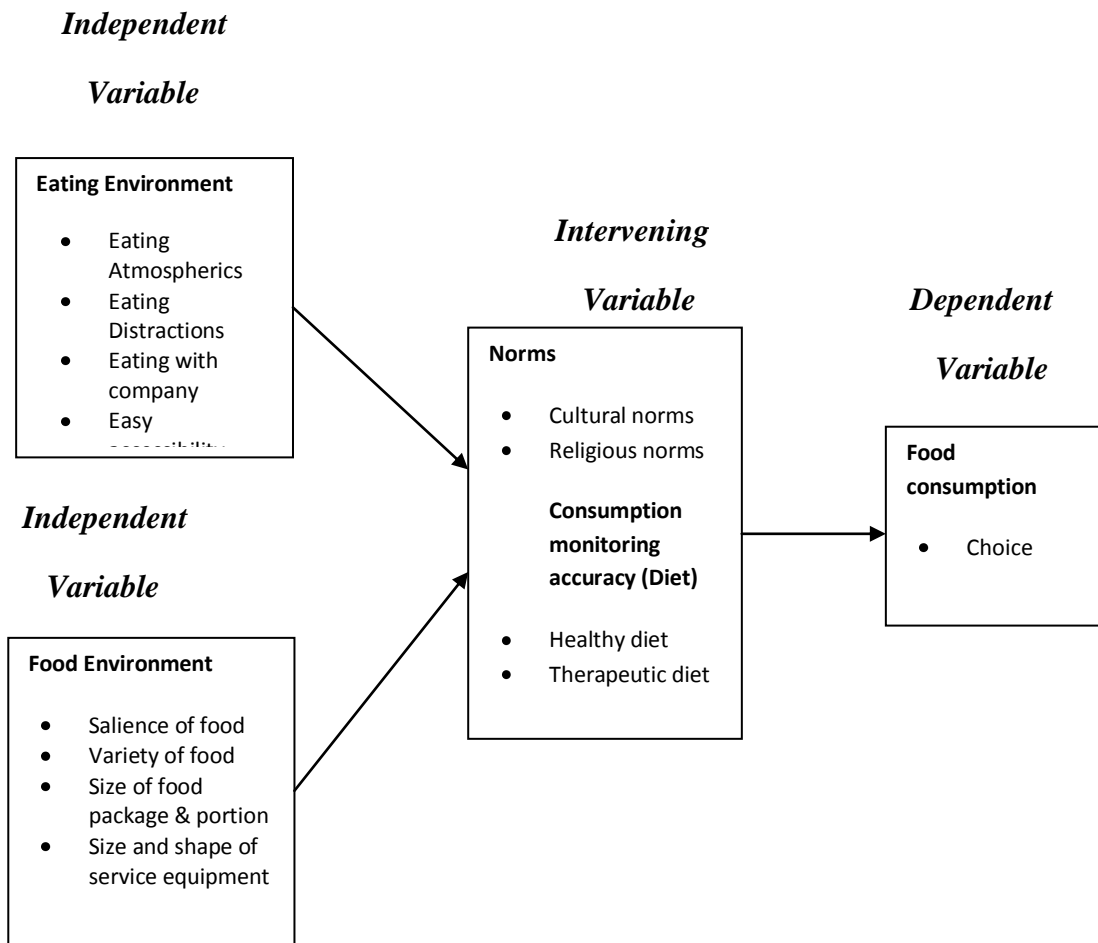
Anticipated taste of the available food is held to be one of the main factors influencing consumption (Rolls, 1996). According to Scalafini (1990), people eat

because they normally develop through the interaction of their genetic program and their experience a relish for particular taste that are in nature associated with foods that promote human survival. For instance humans normally develop a liking for sweet, fatty, and salty tastes that in nature are usually characterized by foods that are rich in energy. The positive incentive value for bitter tasting substances is low in nature as these are normally associated with toxic chemicals.

Other factors other than taste that can influence the positive value of food, include the time of day in relation to usual mealtimes (Weingarten, 1993), the type and quality of food in the gut (Geiselman 1987), whether other people are present during meal times (Redd, 1991) and whether blood glucose levels are within the normal range, hence the feeling of hunger (Rowland, 1989). According to the positive incentive theory, major decreases in the body's energy resources increase hunger by increasing the positive incentive value of food (Brown, 1993). Therefore this discussion proposes that food consumption is greatly influenced by environmental factors and the act of food consumption is based on the pleasures obtained from food during consumption. An increase in hunger is caused by an increase in the deprivation of consumption pleasures.

2.7 CONCEPTUAL FRAMEWORK

Figure 2.2: Conceptual Framework



Source: *adopted and modified from Wansink, (2004)*

Figure 2.2, shows the conceptual framework adopted from Wansink (2004) with modifications to suit the current study. The independent variables are made up of two aspects, the eating environment and the food environment. The eating environment addresses those factors that are associated with the eating of food, but that are independent of food. They include eating atmospherics, distractions while eating, eating with company and easy accessibility of food. The food environment refers to those factors that directly relate to the way food is provided or presented to an individual and include the salience of food, package or portion size, and how it is

served. Both the aspect influence food choice and consumption volume of consumers in the food service industry.

The intervening variables are also made up of two aspects, norms and the consumption monitoring accuracies (diets), norms include factors such as cultural and religious norms which are forms of social control over human behavior and that tend to mediate food consumption. Consumption monitoring accuracies are visual cues that lead a person to estimate how much they have consumed, and tend to also mediate food consumption. Lastly, the dependent variable is also made up of one variable namely, food consumption, which will vary among consumers depending on different situations where, either independent variables or the intervening variables will be in play.

CHAPTER 3

RESEARCH METHODOLOGY

3.0 INTRODUCTION

This section describes the study area, research design, target population, sampling procedures and sample size. Further, it discusses the data types and sources, research instruments, validity and reliability, data collection procedures the data analyzing techniques and ethical issues.

3.1 STUDY AREA

Nairobi is the capital and largest city of Kenya. The city and its surrounding area also form the Nairobi County. The name "Nairobi" comes from the Maasai phrase *Enkare Nyirobi*, which translates to "the place of cool waters". However, it is popularly known as the "Green City in the Sun" and is surrounded by several expanding villa suburbs. Founded in 1899 as a simple rail depot on the railway linking Mombasa to Uganda, the town quickly grew to become the capital of British East Africa in 1907 and eventually the capital of a free Kenyan republic in 1963. During Kenya's colonial period, the city became a centre for the colony's coffee, tea and sisal industry. Nairobi is also the capital city of Kenya and the headquarters of Nairobi County, the city lies towards the south of the nation, and has an elevation of 1795 m above sea-level. (Republic of Kenya, 2000)

The city is located at 1°17'S 36°49'E/ 1.283°S 36.817°E and occupies 684 square kilometers (260 sq mi). Nairobi is situated between the cities of Kampala and Mombasa. As Nairobi is adjacent to the eastern edge of the Rift Valley, minor earthquakes and tremors occasionally occur. The Ngong hills, located to the west of the city, are the most prominent geographical feature of the Nairobi Area. Mount

Kenya is situated north of Nairobi and Mount Kilimanjaro is towards the south-east.

Both mountains are visible from Nairobi on a clear day. (Republic of Kenya, 2000)

Nairobi is home to some of the most luxurious hotels in the country, including; The Hilton, Inter-Continental Hotel, Sarova Stanley, Nairobi Serena. Most of the hotels in Nairobi are dependent on business clients from all over the world. Nairobi hotels have business all year round as the business clients have transactions all year round and don't have a recesses period

Nairobi was suitable for the study, as it is home to some of the most luxurious hotels in the country and an assortment of hotels ranging from five star hotels to fast food franchises. All these hotels and food outlets are densely populated in the area, resulting in stiff competition among the food outlets. The area is also largely populated by urban dwellers as over 3.1million people live in Nairobi and over 30% percent of this population comprises the upper and middle class. Hence giving a comprehensive population for the study, this study sought to find out the influence of contextual factors on food choice and consumption volumes on regular consumers of the food outlets in the region.

3.2 RESEARCH DESIGN

The study employed descriptive Survey design, since it allowed respondents to give their opinions and perceptions on the influence of contextual factors on food consumption, as the researcher collected data from members of a sample population from 4 selected food outlets in Nairobi by use of questioners. The study collected information from respondents, on how contextual factors influenced or affected their food consumption.

3.3 TARGET POPULATION

The target population comprised of food service consumers of different ages, preferably eighteen year olds and above in selected popular food outlets in Nairobi. This was because this age group tends to be more independent and will tend to visit food service outlets depending on their tastes and preferences, unlike children aged 17 years and below who depend greatly on their parents and visit food service outlet with their parent who influence their tastes and preference.

3.4 SAMPLING PROCEDURE

According to Wegner (2007) sampling is the process of selecting a representative subset of observation from a population to determine the characteristics of the random variable under the study. Several sample designs were used; Purposive judgmental sampling technique was used to select the food service outlets in Nairobi area. This was done based on the researcher's knowledge of the food outlets in Nairobi. Most importantly the food outlets were chosen on the basis of how popular they were among consumers of different ages and also their turn out during meal times. Lastly, systematic random sampling technique was used to select particular respondents, every tenth respondent who entered any of the 4 selected food outlets was chosen as a respondent to the study.

The sample population was derived from the target populations as shown in table 3.1

Table 3.1: Number of consumers per food outlet

Food Outlets	No. Of Consumers per Food outlet
Food outlet A	110
Food outlet B	125
Food outlet C	90
Food outlet D	125
Total	450

Source: (Authors own compilation, 2013)

3.4.1 SAMPLING DISTRIBUTION

Samples were drawn from the target population of food outlet consumers' total of 450.

$$nf = \frac{n}{1 + n) / N}$$

Where:

nf = the desired sample size (when the population is less than 10,000).

n = the desired sample size (when the population is more than 10,000).

N = the estimate of the population size.

$$nf = \text{less than } 10,000 = 384$$

$$1 + 384) / 300 = 207 \text{ respondents}$$

According to Kothari, (2004), the researcher should usually follow the method of proportional allocation under the sizes of the samples from the different strata keeping them proportional to the sizes of the strata. That is, if P_i represents the

proportion of population included in stratum i , and n represents the total sample size, the number of elements selected from stratum i is $n \cdot P_i$. We specify the sample of size to be drawn from the population of size N which is divided into strata of different sizes. Adopting proportional allocation, the researcher got the sample sizes as under for the different strata. In this case, $n=207$, as shown in table 3.2

Table 3.2: Sample Size Determination

Food Outlets	Proportions	Samples
A	$110/450 \times 207$	51
B	$125/450 \times 207$	57
C	$90/450 \times 207$	42
D	$125/450 \times 207$	57
Total		207

Source: (Authors own compilation,

2013)

3.5 DATA TYPES AND SOURCES

This research study obtained two types of data sources; primary and secondary data.

Primary data was collected by the use of questionnaires, while secondary data was gathered from a variety of sources including analysis of archival materials, evaluation of original and existing case studies, reviewing websites, newsletter, books, and journals, regarding food consumption in food service outlets.

3.5.1 QUESTIONNAIRES

Questionnaires are a collection of items to which a respondent is expected to react to usually in writing (Kothari, 2004). The questionnaires were self administered and in some cases the questionnaire was researcher administered, especially in situations

where respondents did not understand what was required of them. Questionnaires were both structured (closed-ended) and unstructured (open-ended), and were administered to 189 consumers in the few selected popular food outlets in Nairobi. Data collected was directly obtained from the respondents and represented the respondent's perception. Closed-ended questions in the questionnaire were used to standardize qualify responses from the research. The open-ended questions in the questionnaire were used to ensure that in-depth responses of the respondents were taken in to account.

3.5.2 DATA COLLECTION PROCEDURES

Piloting was conducted before carrying out the final research, as it analyzed how appropriate the method of analysis was or how suitable the proposed method of analysis was. Piloting was necessary as it assisted the researcher to verify whether the research instrument (questionnaires) were set out to collect relevant data, that was suitable for the study

3.5.3 VALIDITY AND RELIABILITY

Reliability is a measure of the degree to which a research instrument yields consistent results or data after repeated trials, (Mugenda and Mugenda, 1999). Validity is the extent to which differences found with a measuring tool reflect true differences among the respondents being tested (Kothari, 2004).

Reliability, which entails the accuracy and precision of the measurement procedure, was carried out using the Cronbach's alpha test. Cronbach's alpha generally increases as the inter-correlations among test items increase, and is thus known as an internal consistency estimate of reliability of test scores. Because inter-correlations among test items are maximized when all items measure the same construct, that is, the higher the coefficients, the better the measuring instrument (Zinbarg *et al.*,

2005). Cronbach's alpha is widely believed to indirectly indicate the degree to which a set of items measures a single uni-dimensional latent construct.

Validity was done through piloting of instruments to improve their efficiency in data collection. This helped to improve the familiarity of the researcher with the research instruments and improve on the clarity of the questions and comprehension by the respondents. It was done at both Poa place and prime chick in Eldoret town, where 15 questionnaires were administered to food consumer of different ages and managers for both food outlets. Subsequently, questions which did not elicit the right responses were removed from the questionnaires.

3.6 DATA ANALYSIS AND PRESENTATION

The data collected was analyzed using descriptive statistics, correlation, step-wise and multiple linear regression and T-test techniques with the help of Statistical Package of Social Sciences (SPSS). Descriptive and inferential statistics were performed. Descriptive statistics included frequencies and percentages and enabled the researcher to meaningfully describe distribution of measurements using a few indices or statistics. Correlation was important in determining the nature and magnitude of the relationship between contextual factors and consumer food consumption. Regression analysis was used to show the effect environmental factors on consumer food consumption. In this regard, linear multiple regression was used to determine whether a group of independent sub variables (environmental factors) affect the dependent variable (food consumption). From the final regression analysis, the co-efficient of determination (R^2) was calculated to assist in establishing the amount of variation explained by the independent variables

The following equation was used to develop the model:

$$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \dots + \beta_n X_n + \epsilon \quad (\text{equation 1})$$

Where:

Y = Food consumption

α = Y-intercept (a constant term)

$\beta_1, \beta_2, \dots, \beta_n$ = Slope parameters (partial coefficients)

X_1 = Eating environment

X_2 = Food environment

X_3 = Food mediators

ϵ = Residual (error term)

Additionally, T-test parametric test was used to test the hypotheses. The processed data was presented using frequency tables, pie charts and bar graphs.

3.7 ETHICAL CONSIDERATIONS

The study was undertaken with special considerations of all ethical concerns and to the best of the researchers capabilities attempted to uphold them. The major ethical issues that were addressed by the study included informed consent, privacy and confidentiality, anonymity and researchers' responsibility (Yuko and Onen 2005; Mugenda and Mugenda 2003).

The study respected privacy of the respondents and maintained confidentiality of all data collected to the extent agreed between the two parties. , all data collected and analyzed was used for the purpose for which the study was undertaken and was not divulged to unauthorized persons. The research also refrained from collecting data

that pertained to the identity of the respondents. Where cases had to be discussed, real names of the respondents were not be used.

CHAPTER FOUR

DATA RESULTS AND PRESENTATION

4.0 INTRODUCTION

This chapter gives an analysis of the data collected from the field on the influence of contextual factors (the eating and food environments) on food consumption among consumers in selected food outlet in Nairobi. The analysis was based on food consumers in selected food outlets in Nairobi. Both open ended and close ended questionnaires were used to collect data. The analysis was done with particular reference to three specific objectives using both descriptive and inferential statistics. Descriptive statistics were used to describe distribution of scores using indices while inferential statistics were used to make inferences about the population based on the results obtained from the sample. This chapter contains; section one which has, demographic information, descriptive analysis for objective one, two and three, the influence of the eating and food environment on food consumption, as well as the influence of consumption mediators on food consumption data; section two presents descriptive and inferential analysis for first, second and third objective.

4.1 DESCRIPTIVE ANALYSIS

4.1.1 Demographic Characteristics of Respondents

Whilst, the majority of the respondents in the study were male (50.8%), a sizeable percentage (49.2%) were female. Majority of the respondents were aged between 26 to 30 years, while a small percentage was 66 years old and above. Well below a quarter of the study sample (38.6%) had attained diploma certificates as their highest form of education level, while a decimal (5.8%) had attained masters as their highest form of education. In addition majority of the respondents were married (41.8%),

while a small percentage of (2.1%) were widowed. Table 4.1 shows the rest of the results.

Table 4.1: Respondents characteristics

VARIABLES		PERCENT
Gender	Male	50.8%
	Female	49.2%
Age	18-25 years	11.6%
	26- 35 years	53.4%
	36- 45 years	21.2%
	46- 55 years	9.5%
	56- 65 years	3.2%
	66 and above years	1.1%
Highest education level	Primary school	6.3%
	High school	32.3%
	Diploma	38.6%
	Bachelor	16.9%
	Masters	5.8%
Marital status	Single	20.6%
	Married	41.8%
	Separated	23.3%
	Divorced	12.2%
	Widowed	2.1%
Occupation	Student	11.1%
	Employed	42.9%
	Self employed	31.2%
	Retired	13.8%
	Not working	1.1%

Source: Researchers' data, 2014

4.1.2 Extent to Which the Eating Environment Influences Food Consumption (Objective One)

The study sought to investigate the extent to which the eating environment influences the food consumption. This was important as it would lay the basis to investigate the effect of exogenous factors on food consumption.

4.1.3 Most Preferred Aspect in a Favorite Food Outlet

Majority of the respondents (34.4%) indicated that they liked the ambience of their favorite food outlet as most preferred eating in a serene and comfortable environment.

Another (34.7%) of the respondents affirmed that they liked their favorite food outlets because either their friends or families also liked the same place or they were introduced to that particular food outlet by either their friends or family. Thirty two point two percent of the respondents mentioned that they were neutral about the convenience of the place; an additional (32.2%) indicated that they extremely liked the type and variety of food at their favorite food outlet, a majority of whom mentioned that this was partly the reason why those specific places were their favorite place. Another (34%) of the respondents were neutral about the portion sizes served at their favorite food outlets, as this varied among men and women. Women preferred better food quality to portion sizes, while men preferred the bigger portion size. Majority of the respondents (32%) were neutral about the prices offered at their favorite food outlet, while (34%) of the respondents liked the hospitality of the staff. A sizeable portion of the respondents (4%) strongly disagreed with the prices offered at their favorite food outlet, this is because majority of these people really preferred expensive food outlets and had to save up in order to afford food from these outlets. Table 4.2 below, highlights the response from the respondents, when asked what they preferred most about their favorite food outlets.

Table 4.2: The Most preferred aspect in favorite food outlet

Percentage contribution					
	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
Atmosphere around	6	20	29	34	11
Friends and family	6	19	30	34	11
Convenience of the place	4	28	33	22	13
Type and variety of food	6	10	30	22	32
Food portion	9	21	34	28	9
Food quality	9	14	29	36	12
Price	4	26	32	27	12
Hospitality of the staff	9	19	24	34	14

Source: Researcher's data, 2014

4.1.4 Frequency of Visiting a Food Service Outlet

Most of the respondents (30.2%) indicated that they visited their favorite food outlets 2-3 times a week. Since a majority of the respondents interviewed were youth, many of them indicated that the number of times they went to the favorite food outlet was greatly influenced by their friends or families. A small portion of the population (8.5%) indicated that they went to their favorite food outlet on a daily basis.

4.1.5 Aspects of Ambiance Most Preferred In an Eating Environment

A majority of the respondents (38.5%) agreed that ambient odor was the aspect preferred most in the eating environment, as they all affirmed, ambient odor doesn't influence amount of food consumed but initiates the consumption of food. Of the respondents, (36%) agreed that a serene environment was also another aspect that was

most preferred in the eating environment, while (32.2%) preferred eating in an environment that had music to their liking, as the music enhanced the eating experience by making the environment more comfortable hence better enjoyment of the meal . Another (37%) of the participants indicated that suitable lighting was neutral as this depended on the type of meal, also (38.9%) of the respondents affirmed that comfort was relative, as women tend to prefer more comfortable environments as compared to the men. A further (35%) of respondents were neutral about décor and finishing being the most preferred aspect of an eating environment. As women tend to prefer it more as compared to the men, for women ambient décor and finishing is a statement on the level of service offered, and the class or standard of the food outlet.

A decimal percentage of the respondents (6.3%) strongly disagreed that ambient décor and furnishing was the most preferred in an eating environment. Most of these respondents mentioned that, some eating environments have all the other factors mentioned but lacked ambient décor and furnishings yet still offered excellent food quality and service to their clients. Figure 4.1 shows response from respondents, when asked what aspect of ambiance they preferred most in an eating environment.

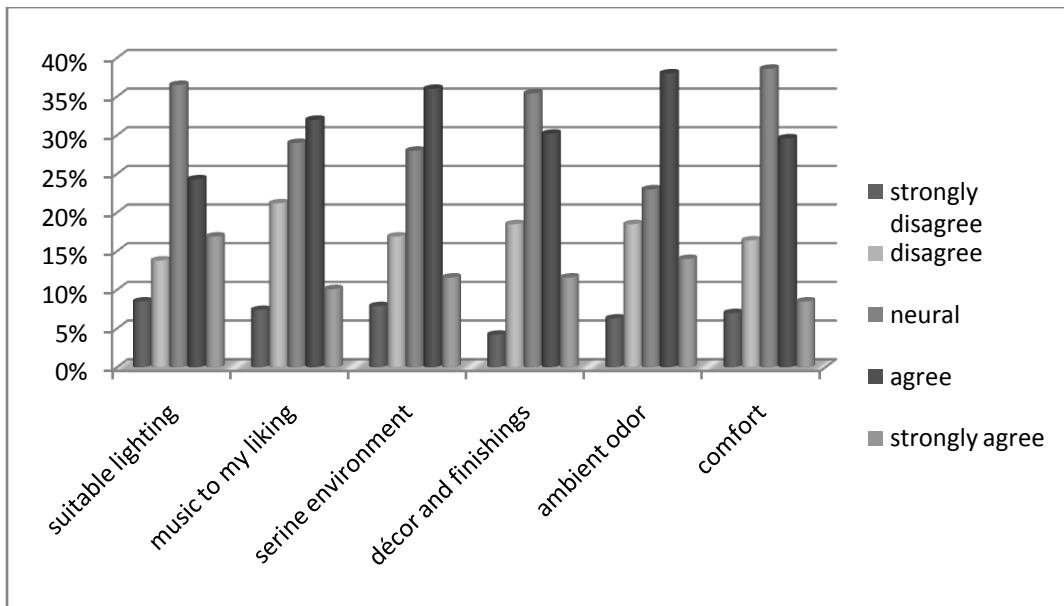


Figure 4.1: Aspects of ambiance most preferred in an eating environment

Source: Researcher's data, 2014

4.1.6 Influence of the Environment on Food Consumption

Most participants (37%) agreed that a comfortable or ambient environment would make them stay longer and unknowingly consume more. This was especially so with the presence of friends or family. Another (35%) of the respondents also agreed that the eating environment would make them try new dishes, especially if, the eating environment was new to the consumer. Majority (36%) were neutral on the aspect that the eating environment would change ones initial food choice while (34%) of the respondents were neutral on the influence of the eating environment on consumption of a wider variety of food. A further (28%) of the respondents disagreed that the eating environment would make them consume less, as many indicated depending on the condition of the eating environment they as consumers would decide either to consume or not to consume at that particular food outlet. Table 4.3 highlights the response from respondents, when asked how the environment or their surroundings influenced their food consumption.

Table 4.3: Environment versus food consumption

Percentage contribution					
	Strongly disagree	disagree	Neutral	Agree	Strongly agree
Try new dishes	8	18	30	35	9
Change initial food choice	6	23	36	27	8
Stay longer and order more	8	19	28	37	8
Eat a wider variety of food	5	27	32	25	12
Eat less	12	28	25	25	10

Source: Researcher's data, 2014

4.1.7 Influence of Company While Eating

Most participants (70%) agreed that they enjoyed having their meals with company, while (30%) did not. Consumers were also asked how often they entertained company while eating, and a majority, (35%) responded that they often had their meals with company, while (18%) rarely had company. Figure 4.2 shows results on whether respondents preferred company or not during meal times

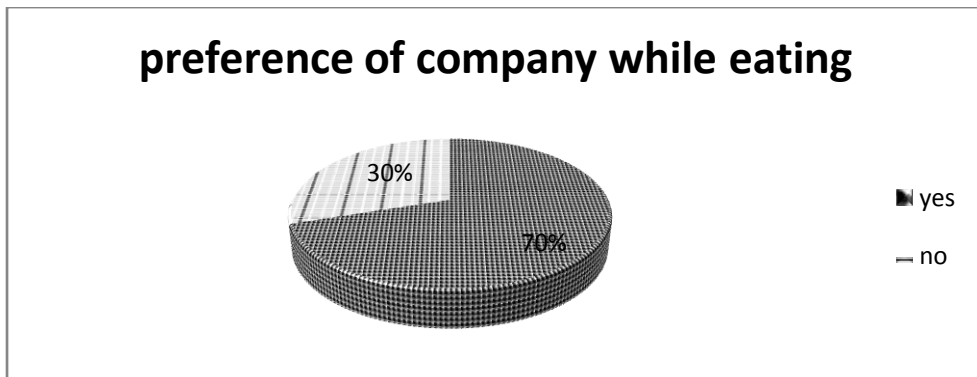


Figure 4.2 preference of company while eating

Source: Researcher's data, 2014

4.1.8 Company Preferred Most during Meal Times

A majority of the consumers (38.2%) agreed that they enjoyed sharing meal times with their families. Most of the respondents indicated that whenever they were not spending time out with their friends they were spending it with their families. A further (38%) of the participants also agreed to sharing most of their meal times with their workmates who also doubled up as friends, since most spent a lot of time at work, precisely 5 out of 7 days, hence spent a lot of time with their work mates including meal times. An additional (32%) of the participants also agreed to sharing most of their meal times with friends, other than workmates, while (33%) of the respondents were neutral about sharing most of their meal times with their partners or companions who included girlfriends, boyfriends or fiancées.

4.1.9 Influence of Company on Food Consumption

Most of the respondents (36.4%) strongly agreed that the company they enjoyed sharing their meal times with, greatly influenced where they went to have a meal. Majority mentioned that when they were with their families especially, children they were forced to go to certain specific places, as compared to going out with friends who also depended on the type of friends they were out with, for instance, some

friends preferred stylish, and classy looking food outlets, while others preferred the quality of the food more and less of the ambience hence preferred places where for example, meat was roasted. Another (35%) of the participants agreed that the type of company they shared their meal times with also influenced the types of food they ate. An additional (36.2%) of the consumers were neutral concerning the amount of food one may consume with regards to the type of company one shared a meal with, A further (34%) of the respondents agreed that the type of company one had during a meal influenced the meal duration. For instance some participants mentioned that some meal durations were even extended over the whole 90 minutes of a football match. Figure 4.3 shows response from respondents, when asked the influence, company had on their food consumption.

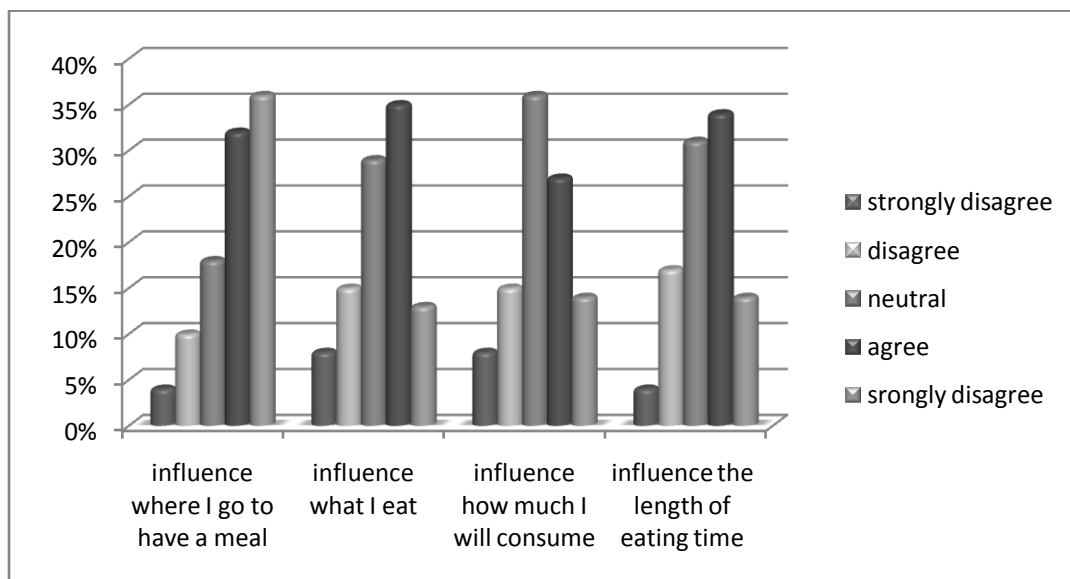


Figure 4.3: Influence of company on food consumption

Source: Researcher's data, 2014

4.1.10 Eating Distractions and Its Influence on Food Consumption

Most of the respondents (31.4%) extremely liked chatting with either friends or family while eating. They affirmed that this was especially the case with colleagues at

the work place who also doubled up as friends, and it was only during meal times that they were free enough to mingle and chat. A sizable portion (38.2%) liked watching television while eating. A slightly lower percentage (35%) mentioned that they were neutral about, doing assignments or office work while eating. Many of them indicated that it depended on the amount of work and deadlines they had to meet, hence they ate while working. Of those interviewed, (33.4%) were also neutral about reading either a book or a news paper while eating, and a lower percentage (31.4%) were also neutral about playing video games while eating. A sizeable population of (9%) totally disliked both playing video games and doing assignments or office work while eating, these activities required high levels of concentration.

4.1.11 Effects Eating Destructions Have On Food Consumption

Majority of the participants, (38.4%) strongly agreed that they tend to adapt to the eating pattern of the people they ate with. Most of the respondents mentioned that the company they ate with greatly influenced how fast they consumed food, and in some instances how much they ate. A slightly lower percentage (35.4%) agreed that they tend to stop consumption when whatever activity they were doing was done, as this was the case especially if they got too engrossed in whatever they were doing that they didn't concentrate much on eating. Of those interviewed (33%) of the respondents also agreed to the fact that whatever activity they enjoyed doing while eating, made them enjoy the meal more and in some instances even led to extras. A sizeable percentage of the respondents (9%) totally disagreed with that idea that they completely got distracted with whatever they were doing that they barely ate. Table 4.4 highlights the response from respondents, when asked the influence eating distractions had on their food consumption

Table 4.4: Influence of eating distractions on food consumption

Percentage contribution					
	Dislike extremely	Dislike	Neutral	Like	Like extremely
Watching T.V	5	16	27	38	14
Reading books or news paper	8	25	33	24	10
Playing video games	9	22	31	30	8
Assignments or office work	9	18	35	25	13
Talking with friends or family	11	12	21	26	31

Source: Researcher's data, 2014

4.2 EXTENT TO WHICH THE FOOD ENVIRONMENT INFLUENCES FOOD CONSUMPTION (OBJECTIVE 2)

4.2.1 Descriptive Analysis

The study sought to examine the extent to which the food environment influences food consumption. This was important as it would bring to light food related environmental factors that influence consumption to consumers but are unrelated to palatability.

4.2.2 Frequency of Consumption in a Single Day

Majority of the respondents (35%) stated that they ate thrice a day, (28%) 4 times, (19%) twice (13%) 5 times and a decimal (7%) once a daily. Figure 4.4 highlights the responses from respondents when asked how often they ate in a single day.

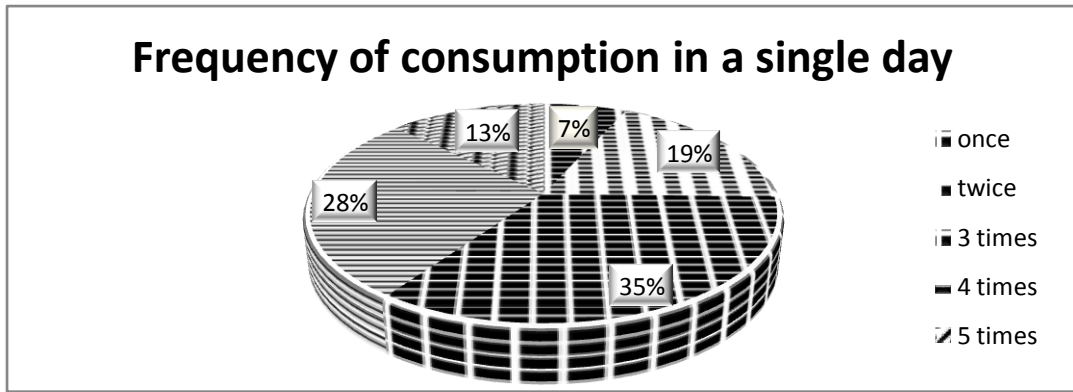


Figure 4.4 *Frequency of consumption*

Source: Researcher's data, 2014

Participants were also asked to state the reasons why they ate as much as they did. The site and aroma of food especially during meal times was a great influence to the number of times most of the respondents (46%) ate. This was especially the case in those areas where the working area or place, for example. Office was closely located to food outlets. A further (31%) agreed that, the number of times they ate or had a snack was greatly influenced by people and friends around them. a lower percentage (29.4%) affirmed that depending on the type of health condition one had it greatly influenced the number of times one ate. For instance a person with diabetes will tend to eat more times than a person without.

A substantial proportion of respondents (37%) were neutral, about being on a diet and how much it influenced the number of times they ate. This was especially the case with women who were more committed to diets and it tended to regulate their food choices they made and the number of times they ate in a particular day as opposed to men who couldn't really commit to a particular diet. An almost similar portion (36%) of respondents were also neutral on the affordability and the accessibility of food, as factors that influenced how many times they ate in a particular day. A substantial amount of the respondents (6%) strongly disagreed that the number of time they ate

was greatly influenced by lack of adequate time to consume. Another (8%) of the respondents also strongly disagreed that the number of time they ate in a particular day was greatly influenced by hunger. Table 4.5 shows the results when respondents were asked why they ate as much as they did.

Table 4.5: Reasons for food consumption

Percentage contribution					
	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
I get hungry often	9	21	34	28	8
Food is easily accessible	4	18	35	31	12
Affordable food	7	14	36	29	14
Influence of people around	4	22	30	31	13
The site and aroma of food	7	14	21	46	12
Inadequate time to eat	6	25	32	29	8
On a diet	9	18	37	26	10
Health condition	10	24	27	29	10

Source: Researcher's data, 2014

4.2.3 Factors Influencing Food Choice and Consumption

The study explored the factors that would instantly cause a consumer to instantly change their mind on what to consume. Majority of the respondents (41.2%) agreed that a celebratory mood or feel would instantly cause them to change their mind on what they were going to consume. Most participants mentioned that this came as a fact that there was a strong argument to rewarding one's self on accomplishing a

certain task. A further (38.2%) of the consumers agreed that a meal offer from a friend, colleague or a date would instantly cause them to change their mind on what to consume. An almost similar portion (37.1%) of the respondents also agreed that a craving would also instantly cause them to change their mind on what they were going to consume. This was especially the case if one had craved for a certain food for a long time and cravings were aroused by the aroma of the particular food. Another (32%) of the respondents agreed that the convenience of a food outlet would instantly cause them to change their mind on what to consume. This was especially the case with respondents who worked at offices that were near food outlets. A similar portion (32%) of the respondents also agreed that the site and smell of food would influence one to instantly change their food choice. A substantial proportion of respondents (36%) both agreed and strongly agreed that bumping in to company would instantly cause change to ones food choice. A further (40%) were neutral concerning the affordability of a meal causing instant change to ones food choice. Table 4.6 highlights the response from respondents, when asked what factors influenced their food consumption

Table 4.6: Factors influencing food choice and consumption

Percentage contribution					
	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
Convenience	7	19	28	32	14
Site and smell of food	5	23	23	35	14
A celebratory feel	6	11	15	41	27
A craving	3	23	27	37	10
Affordability	10	14	40	26	10
Bumping in to company	10	25	29	29	7
A meal offer	7	19	24	28	12

Source: Researcher's data, 2014

4.2.4 Factors That Would Cause Over Consumption

The study sought to find out what factors would influence over consumption among consumers. Thirty eight percent of the study sample agreed that the sizes of the serving equipment would influence how much they would consume. A slightly higher portion of participants, (39%) agreed to availability of a wide variety of food influencing how much they consumed. This was because most of them indicated that especially in the cases of buffet style service, they would try to taste everything offered particularly if dishes were exquisite. However, (34.4%) did not agree that the package or portion sizes served or provided would influence the amount of food they consumed. Figure 4.5 highlights the response from respondents, when asked what factors would likely cause them to over consume

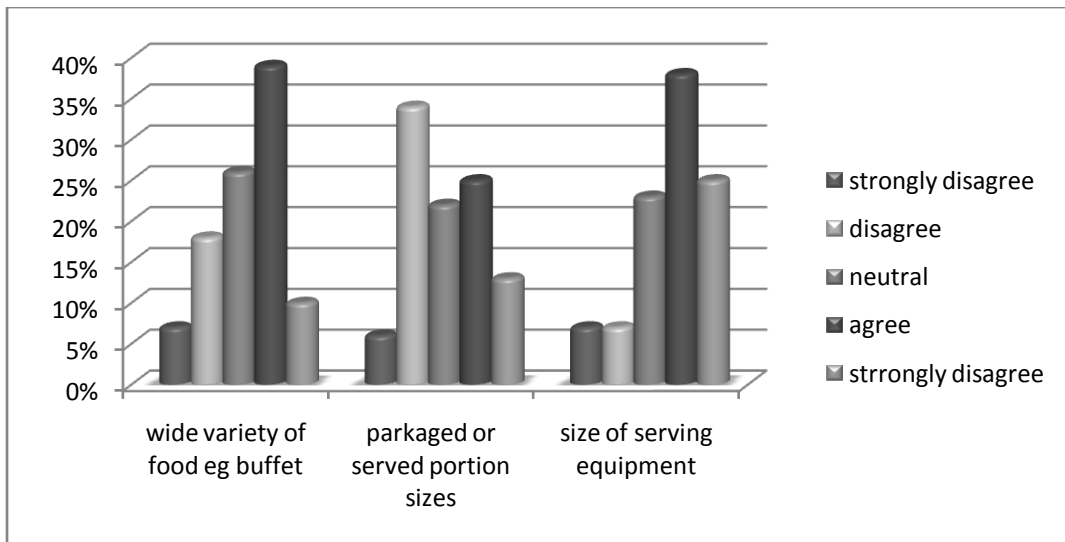


Figure 4.5: Factors Influencing Overconsumption among consumers

Source: Researcher's data, 2014

4.3 EXTENT TO WHICH FOOD MODERATORS INFLUENCE FOOD CONSUMPTION (OBJECTIVE 3)

The study sought to find out to what extent the natural food moderators influenced food consumption to consumers. This was important as it gave the study other arrays of factors that influenced food choice and consumption to consumers that were unrelated to both the eating and food environments.

Most respondents, (34%) agreed that culture influenced their food choice and consumption. They mentioned that people from different cultures had different levels of preference for certain types of foods, but the level of influence varied from one culture to another. Another (33%) of the study sample agreed that religion also played a significant role in influencing consumer food choice and consumption. They pointed out that there are certain religions that prohibit followers to consume certain types of food, for instance Muslims being prohibited from eating pork. Of the respondents (32%) were neutral concerning the influence of tradition on food consumption. Another (31%) were neutral concerning ethnicity having an influence

on food choice and consumption. Figure 4.6 shows the responses when consumers were asked how factors such as culture, tradition, ethnicity and religion influenced their food consumption.

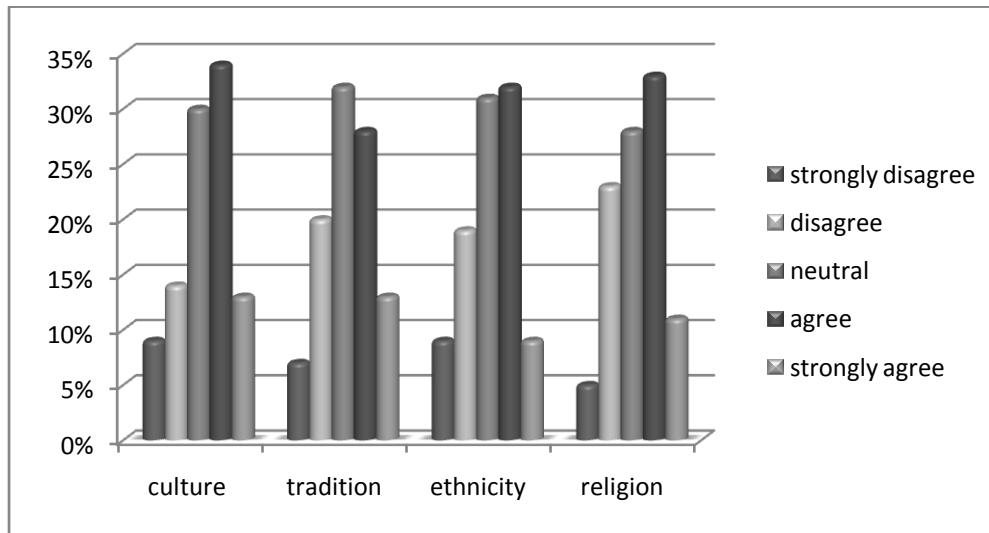


Figure 4.6: Influence of norms on food consumption

Source: Researcher's data, 2014

Respondents were further asked what or who influenced them to stick or maintain their food choices and consumption as per (culture, tradition, ethnicity,) or as per a diet plan. Majority of the respondents (39.2%) agreed that a health condition really influenced them to stay on track with their diets; this was so as most of the respondents mentioned being afraid of the repercussions such as pain if they did not adhere to the diet. A lower percentage of participants (34%) also agreed that family greatly helped them to maintain their food choice and consumption as per (culture, tradition and ethnicity). A further (40%) of the respondents were neutral about one's own self conscience aiding to maintain food choice and consumption as per (culture, tradition and ethnicity). Many of the respondents mentioned that it greatly depended on ones mood. However (38%) and (37%) of the respondents disagreed that partners

and friends, respectively helped them stick to or maintain their food choices and consumption.

Slightly above half (65%) of the entire population agree to the fact that, culture, tradition ethnicity and religion played a major fact to their food choice and consumption. Table 4.7 shows the responses from respondents were asked what or who influenced them to stick or maintain their food choices and consumption as per (culture, tradition, ethnicity,) or as per a diet plan

Table 4.7 Influence of company on (culture, tradition and ethnicity)

Percentage contribution					
	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
Friends	6	37	29	22	6
Yourself	10	18	40	22	10
Family	7	22	28	34	9
Health condition	6	20	29	39	6
Partner or companion	7	38	34	16	5

Source: Researcher's data, 2014

4.4 INFORMATION ON FOOD OUTLET MANAGERS CONCERNING CONTEXTUAL FACTORS IN RELATION TO FOOD CONSUMPTION

The study sort to find out from managers of different food outlets the intended purpose of a well built and designed eating and food environment. This was important to the study as it would shade light on such aspects as, manager's knowledge on contextual factors and its influence on food consumption, and is a well built and designed eating and food environment accidental, or was it created with the

purpose of gaining competitive advantage by creating a target market and increasing ones market share.

Majority of the managers (70%) agreed to have themes at their food outlets, while the other (30%) mentioned that they did not have any theme at their food outlet. The managers were further asked what inspired their chosen themes and 68% of them stated that their themes were inspired by the type of menus they served. Majority mentioned that they always designed themes in their food outlets according to the types of menu they offered so as to offer and sell an experience to their clients. For instance, the Chinese experience from the food that was served to the décor and the ambience were sold to a client visiting a Chinese restaurant. A lower percentage (42%) chose themes according to the type of clients they intended to attract, For instance a romantic theme to attract couples, or an adult theme with no appeal to children and teenagers keeping them away but at the same time attractive to adults.

The managers were asked to suggest what aspect of their themes consumers enjoy. Most managers (80%) thought the particular ambience that their themes provided was what consumer enjoyed the most. The ambience comprised of; the lighting, the décor, odor and the level of comfort. Further, 70% of the managers thought that the theme they had in their food outlet influenced their consumer's food consumption. They indicated that the theme allowed consumer to anticipate the type of food they would expect, and encouraged them to try new foods. Lastly, it made the clients stay longer and inevitably consume more, hence increasing revenue.

Lastly the managers were asked what they think made their food outlet most popular among their clients and (52%) of them pointed at ambience, décor and theme offered that made their food outlet unique and most popular among their clients. Some (25%)

mentioned the types of meal and prices they offer and a lower percentage (23%) attributed it to the level of service they offered, which made their food outlets most popular among their clients.

4.5 INFERENCE DATA ANALYSIS

From the foregoing results presentation, it is apparent that food consumption is greatly influenced by the eating environment, the food environment and also the food monitoring accuracies which tend to mediate consumption and include such aspect as norms and diets. All the objectives in the study were aimed at investigating the effect of all the above three dependant variables on food consumption. It is therefore, germane to determine the nature and magnitude of the relationship between, the eating environment, the food environment and consumption mediators on one hand and the influence it has on food consumption on the other hand. This is crucial in determining the extent to which a consumers background and environment has an influence on the food consumption in terms of choice and volume consumed. This study hypothesized that, the eating environment, the food environment and the consumption moderators did not have an effect on food consumption. If the independent variable (the eating environment, food environment and the consumption mediators) affect the dependant variable (food consumption) then it was theorized that they would be expected to correlate significantly with the independent variable and could be used to predict it. In the case that the independent variables were not related with the dependent variable, then the null hypotheses of the study would have to be accepted. In this study, Pearson correlation, multiple liner regression and t- test were used to analyze the data obtained from the field.

4.5.1 THE INDEPENDENT AND DEPENDENT VARIABLES

4.5.1.1 Independent Variables

The independent variable was divided into three categories, which included eating environment, food environment and an intervening variable, food consumption mediators. The eating environment had four sub variables; namely 'eating atmosphere', 'eating with company', 'eating destruction', and 'easy accessibility'. These four indicators were summed up and averaged to obtain the independent variable eating environment. Likewise, for food environment, four sub variables that made up the variable, namely, 'the salience of food', 'variety of food', 'size and shape of the serving equipment', and 'size of food package and portion'. The indicators were all summed up and averaged to create food environment. Lastly for the intervening variable, 'consumption mediators', two indicators that made up the variable were also summed up and averaged to create the independent variable consumption mediators, which were, 'norms' and 'diets'. This was important as it allowed a regression analysis to be carried out to reveal the most and least effective variables on food consumption, information that may be relevant to both consumers and hotel entrepreneurs, on factors influencing consumer food consumption.

4.5.1.2 Dependent Variables

A regression analysis being an example of a univariate analysis, demands only one dependent variable (Cooper and Schindler, 2008). The dependent variable was measured by two sub variables, 'food volume' and 'food choice'. Therefore, a composite variable, called 'food consumption', was computed by adding the two sub components for every respondent and then taking an average. To test the reliability of the set of the two sub variables, a Cronbach's alpha was calculated and found to be

0.802. Since this was above the threshold of 0.7, the set making up the dependent variable was taken to be reliable.

4.5.2 Correlation Results

A Pearson correlation was calculated to establish the degree of the relationship between dependent variable (food consumption) and the three independent variables. The Pearson correlation coefficient ranges from 0 - if no relationship exists to 1 - for a perfect relationship (Mugenda and Mugenda 2003). All the three independent variables in this study were significantly related (all had $p < 0.001$) with the dependent variable. This means that all are likely to affect food consumption. The relationship between each independent variable and dependent variable are all positive. This means that the variable move together in the same direction, that is, they increase or decrease together. For instance, with an increase of positive eating environmental factors, food consumption will also increase and vice versa. Eating environment is the variable that was strongly related with food consumption (69%), followed by, food mediators (61%). The variable with the least correlation to food consumption was 'food environment' (53%). The results are shown in table 4.8

Table 4.8; Correlation results

	Food consumption	Eating environment	Food environment	Food mediators
Pearson correlation	1	.690 ^{**}	.533 ^{**}	.605 ^{**}
Sig. (2-tailed)		.000	.000	.000

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

Source: Researcher's data, 2014

4.5.3 Regression Analysis

The objectives were analyzed using multiple linear regression (MLR). MLR allows for the prediction of a dependent variable (Y) from several independent variables (Xs). The linear prediction equation produced by MLR procedure helps to know Y provided the Xs are known (Yuko and Onen, 2005). It also reveals the relative magnitude of the contribution of the Xs to the variation in Y.

4.5.3.1 The Regression Model

To determine the variables that could significantly predict food consumption, it was necessary to build a regression model, in which food consumption was regressed on the three independent variables. The following equation was used to develop the model:

$$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \dots + \beta_n X_n + \epsilon \quad (\text{equation 2})$$

Where:

Y = Expected value of food consumption (average)

α = Y-intercept (a constant term)

$\beta_1, \beta_2, \dots, \beta_n$ = Slope parameters (partial coefficients)

X_1 = Eating environment

X_2 = Food environment

X_3 = Food consumption mediators

ϵ = Residual (error term)

The dependent variable and all the three independent variables were entered in to the regression model in a stepwise manner, to allow a removal if any of non-significant variables. Reduction in the model is equivalent to the final model because omitting an effect does not increase the degree of freedom. Hence no reduction was made, and the initial model is equivalent to the final model.

R is the multiple correlation co-efficient between all the predictors and the dependant variable (food consumption) (Mugenda and Mugenda 2003). Since its value ranges between 0 and 1, an R of .895 shows that the predictors in the model were highly correlated to the dependent variable. Therefore, the specification of the initiatives to be included in the model was appropriate.

R square measures how much variability in the dependent variable the predictors account for. The R^2 in this model was found to be 0.801, which means that the three predictors could explain about 80% of the variation in food consumption. Since R^2

values are above 40% they are considered high, this model could therefore explain a lot of variations in the dependent variable. In other words, food consumption can be predicted to a great degree by the use of all the independent sub variables. The remaining variation in food consumption could partly be attributed to other factors not specified in the model and partly to the error term in the regression equation

Adjusted R square provides information on how well a model can be generalized in the population. If this model had been derived from the population rather than the sample, then it would have accounted for approximately 79.8% of the variance in the dependent variable, which is just about 0.5% less than what the model explains.

The standard error of the estimate, also known as the standard deviation of Y about the regression line, was 0.271. Since its value was small, it means that the observed Y- values in this study did not differ greatly from the values on the regression line. The change statistics show the effect. Table 4.9 highlights the regression model summary

Table 4.9; Regression model summary

Model		R	R Square	Adjusted R Square	Std. Error of the Estimate
Dimension	1	.895 ^a	.801	.798	.27055

a. Predictors: (Constant), Eating environment, Food environment, Consumption mediators

Dependent Variable: Food consumption

Source: Researcher's data, 2014

4.5.3.2 Regression Coefficients

Using the constant and the coefficient of, Eating environment (X_1), food environment (X_2), consumption mediators (X_3), an estimated predictor (regression) equation for this model can be written as follows:

$$\hat{Y} = -5.499 + 1.551X_1 + 1.555X_2 - 0.93X_3$$

The partial regression coefficient (β values) indicates the individual contribution of a predictor to a model. The β value for a variable shows how much that value of the dependent variable changes when the value of that independent variable increases. For instance, in the model the β value for food environment was 1.551, which is a sample estimate of the population parameters. It shows that when the cumulative factors related to food environment increase by 1.551 units, food consumption increases by about 1 unit, in terms of percentages, an increase of 155.1% in the food environment factor increases consumption by 100% when the other independent variables are kept constant. The same applies to the rest of the independent factors as per their coefficients.

The standardized versions of the β values are measured in standard deviation units and are therefore better at showing the relative importance of the variables. In absolute terms, the greatest contributor to food consumption is, food environment (1.56 units) followed by, eating environment (1.55 units), and lastly food environment (0.93 units) in predicting food consumption. Table 4.10 highlights the regression coefficient

Table 4.10 Regression coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	-5.499	.401		13.422	.000
	Eating environment	1.551	.079	.742	19.742	.000
	Food environment	1.555	.060	.974	25.959	.000
	Food moderators	-.093	.071	-.043	-1.311	.191
a. Dependent Variable: Food consumption						

Source: Researcher's data, 2014

4.5.4 Test of Research Hypothesis

T-tests were used to test the significance of each of the β coefficients obtained, and hence allow the rejection or the acceptance of the null hypotheses. If the test was not significant, then the β coefficients of that particular variable in the population might have been zero, and therefore the null hypothesis was accepted. If the test was significant, then the β coefficient was not zero, that is, there was likely to be a relationship between that particular variable with the dependent variable.

For the food environment, the variable was analyzed and was found to be significant: $t = 25.959$, $p < 0.005$. It was therefore highly unlikely that the population β coefficient

for the variable was 0. The 95% confidence interval for the coefficient was between 0.123 and 0.254. Thus, 95 times out of 100, when the population is sampled, there is 95% chance that these intervals will cover the β coefficient for the variable. Since the confidence interval do not include a value of zero, it further buttressed the conclusion that the β coefficients were likely to be significant. Hence, the null hypothesis that the eating environment does not significantly influence food consumption was soundly rejected.

The eating environment variable, was analyzed and was found to be significant; $t = 19.742$, $p < 0.005$. Since the partial coefficient of all the variables do not cover zero, it further showed that the β coefficient for the variables were unlikely to be zero. Hence, the null hypothesis that, the food environment does not significantly influence food consumption was rejected.

Lastly the variable food consumption mediators, was analyzed and was found to be insignificant $t = -1.311$, and $p > 0.005$. Food consumption mediators, both the β coefficient and the t value had negative values; this means that the consumption mediators exhibit a negative relationship with food consumption. Therefore, if the moderating variables (cultural influence, religion, traditions and healthy dieting practices) increase within the population, then the general food consumption would reduce. Therefore, with all other independent variables being kept constant, an increase in moderating factors would see a decrease in food consumption. Since the partial coefficient of the variable covered zero, it further showed that the β coefficient for the variable was likely to be zero. Hence the null hypothesis that, Consumption mediators do not significantly influence food consumption was accepted.

CHAPTER FIVE

SUMMARY OF FINDINGS, DISCUSSION, CONCLUSIONS AND RECOMMENDATION

5.0 OVERVIEW

This chapter presents discussion, conclusion and the recommendations for the study. The chapter contains; summary of research findings, discussion, conclusion, recommendation and areas for further research.

5.1 SUMMARY OF FINDINGS

Factor analysis derived specific component of significant factors that determined the expected value of food consumption. Eating environment (X_1) consisted of sub variables such as eating atmosphere, eating distraction, eating with company and easy accessibility, had a correlation of 1.551. The second independent variable, food environment (X_2) consisted of sub variables such as, salience of food, variety of food, size of food and portion, and size and shape of service equipment. It had a correlation of 1.555. The last independent variable consumption mediators (X_3) consisted of two sub variables norms and consumption monitoring accuracies (diets), had a correlation of -0.93.

The correlation coefficients of two of the variables (food environment and eating environment) in the study were positive which was in agreement with the conceptual framework that such aspects as the eating environment and food environment contributed positively to food consumption. However, and to much surprise, the data analysis has shown that food moderators (in isolation from the effects of the other independent variables) exhibit a negative relationship with food consumption. It was therefore concluded that the food environment (X_2) was the most significant

determinant of food consumption, followed by the eating environment (X_1), and the lastly was the moderating factors (X_3). Hence, Consumer food consumption in terms of choice was greatly influenced by first, the food environment in which a meal is consumed, the eating environment in which the consumers found themselves in, followed by consumption mediators, which included aspects such as norms and diets. Of all the three null hypotheses that were tested using the T- test, two were rejected; they included those that were related to the food and eating environment, and the one related to eating mediators was accepted.

Table 5.1: Summary of results of the hypothesis testing

HYPOTHESIS	STATEMENT	RESULTS
Ho₁	The eating environment does not significantly influence food consumption	Rejected
Ho₂	The food environment does not significantly influence food consumption	Rejected
Ho₃	Consumption mediators do not significantly influence food consumption	Accepted

Source: Regression analysis 2014

5.2 DISCUSSION

5.2.1 THE EATING ENVIRONMENT

5.2.1.1 Eating Atmosphere on Food Consumption

Consumers strongly agreed that, such aspects as suitable lighting, ambient odor, and music played to ones liking, and a serene environment in terms of ambience, décor and comfort have a significant influence on food consumption. This findings were consistent with (Westerterp 1999), who stated that, the immediate eating

environment such as lighting, odor and noise, that influence the immediate eating environment, has a more indirect or mediated impact on food consumption. He further stated that, depending on the type of atmospherics under study, atmospherics are also believed to increase consumption volume partly because they make it comfortable and enjoyable for a person to spend more time consuming food.

The study found that ambient odor was most preferred in an eating environment, as it was among the first things the consumer interacted with in an eating environment and played a role in decision making on whether the environment was conducive for food consumption or not. The study also found out that ambient odor initiated food consumption, but did not influence the amount of food consumed. These findings were in line with (Rozin 1982) who stated that, Odor influences food consumption through taste enhancement or through suppression. Unpleasant ambient odors are likely to shorten the duration of a meal and to suppress food consumption. In another study, Stevenson *et al.*, (1999) also established that Satiety occurs within a reasonably short time by simply testing or smelling of a food, suggesting that although odors can have an impact on consumption, they might not necessarily increase consumption.

The study also found that consumers enjoyed having a meal in an environment that had music, as the music enhanced the meal experience by making their surroundings more comfortable hence better enjoyment of the meal. These findings were consistent with (Milliman, 1986) who confirmed that when preferred music is heard, individuals tend to stay longer, feel more comfortable and dis-inhibited, and are more likely to order and consume more. Similarly, Sommer (1969) further clarifies that, music affects the rate of eating, duration of the meal and quantity of food consumed. Soft music generally encourages a slower rate of eating, longer meal duration, and

higher consumption of both food and drink. In contrast, this researcher also found that when music or ambient noise is loud, fast, or discomforting, people sometimes spend less time in a restaurant.

The study discovered that lighting being part of the environment also influenced food consumption. Depending on the type of meal, consumers indicated that perfect lighting created a mood, which in turn enhanced comfort in an eating experience making consumers stay longer and consume more. These findings are in line with (Sommer, 1969) who observed that dimmed or soft lighting could influence consumption by increasing eating duration or by increasing comfort and disinhibition. Bright illumination of light is said to decrease length of time people stay in a restaurant whereas soft or warm lighting generally causes people to linger and enjoy an unplanned dessert.

5.2.1.2 Eating With Company on Food Consumption

Eating in the company of others or in the presence of other people influences not only what is eaten, but also increases how much is eaten (Herman *et al.*, 2003). The study found that, the presence of company influenced where one went to have a meal, it also influenced the type of meal one ate and lastly it influenced how much one ate since it greatly influenced the meal duration. These findings are similar to Herman *et al.*, (2003) and Lumeng & Hillman (2007) with the theory of “social facilitation” which suggests that an individual will increase certain behavior based on the sight and sound of others participating in the same behavior. Herman *et al.*, (2003) also, found that the amount of food an individual consumes during a meal is potentially evaluated and guided by others that are present. Studies have also shown that an increased amount of food is eaten at meals with family and friendly people,

basically, because they can help make a meal relaxing, more enjoyable, and prolong the eating period (De Castro, 2002). (Pliner 1990) also noted that meals eaten with unfamiliar people suppressed food intake in situations where self monitoring and self awareness was high, such as during job interviews or first dates.

5.2.1.3 Eating Distraction on Food Consumption

The study found, that majority of the consumers took food consumption or meal time as a complementary activity to other activities. Many consumers mentioned that they enjoyed chatting with friend, family or colleagues over meals, they enjoyed watching television during meal time while others mentioned reading books or news paper while eating, or doing office work or assignments while eating. All these activities had profound effects on their food consumption. Consumers mentioned that, they tended to adopt the eating patterns of the people they ate with, others admitted that whatever activity they enjoyed doing while eating, made them enjoy the meal more and in some instances even led to extras, while others stopped consumption when whatever they were doing was done, which was the case especially when they got so engrossed in whatever they were doing that they didn't concentrate much on their eating.

These finding are consistent with (Chandon, 2002) who reported that, distractions such as reading or watching television can increase consumption by initiating, obscuring, and extending consumption. Distractions can initiate script related patterns of food consumption that are uncorrelated with hunger; they can obscure one's ability to monitor consumption; and can extend the duration of a meal. This researcher further conducted a diary survey of obese people, which indicated that some had stopped eating simply because a television program had ended or because they had

finished reading a magazine. Studies conducted by (Rozin, 1998) have also shown that majority of the consumers who consumed their meals in front of a television set, watching their favorite program or while reading their favorite book, tended to stop consuming when whatever they were doing stopped or ended, hence influencing consumption of unknowing consumers

The findings of this study support the sub variables discussed above and signify a positive relationship with the eating environment and food consumption, hence a rejection of the hypothesis: *The eating environment does not significantly influence food consumption*

5.3 FOOD ENVIRONMENT

5.3.1 Salience of Food

The study found out that a majority of the consumers strongly agreed to the fact that, the salience of food or the site and aroma of food greatly influenced their food choice and consumption. Respondents also agreed to the fact that other than the site and aroma of food aroused cravings and instantly changed consumers' initial food choices, the salience of food also influenced the number of times they snacked in a single day. These finding were consistent with (Ellring, 1991) who suggested that, the salience of food is believed to have an influence on consumption, as simply seeing or smelling a food is said to stimulate unplanned consumption or salient hunger. Ellring further explains that, an increase in intake of visible food occurs because; the noticeable nature of the food serves as a continuously tempting consumption reminder. While part of this may be cognitively based, part is also physiologically based. Chandon (2002) states that, simply seeing or smelling a favorable food can increase reported hunger and stimulate salivation, which can be

correlated with greater consumption. Physiological evidence also suggests that the visibility of a tempting food enhances actual hunger by increasing the release of dopamine, a neurotransmitter associated with pleasure and reward (Sommer, 1969). The impact of these cues can be particularly strong with unrestrained eaters (Mela, 1993).

5.3.2 Variety of Food

An adequate section of the consumers agreed that a wide variety of food or a wide assortment of food, for example, a buffet influenced how much they consumed. This was especially the case if the buffet was an exquisite buffet. Majority of the consumers mentioned that, this came as a result of trying to test or consume a bit of everything available in a buffet. These findings are in agreement with, (Rolls, 2003) who posits that the basic notion that increasing the variety of food can increase the consumption volume of that food. This has been found to have influence across a wide range of ages and also, across both genders. These findings came as a result of Rolls and her colleagues having carried out an experiment, by offering three different flavors of yogurt to consumers. Consumers consumed 23% more yogurt than if offered only one flavour. (Kahn and Wansink 2006) also reported that, increasing the perceived variety of an assortment can also increase consumption. They further state that increase in perceived variety makes a person believe, he or she will enjoy the assortment more. Wansink and Kahn (2006) further explain that another reason why over consumption may occur is that, increasing the perceived variety can concurrently suggest an appropriate amount to consumer in a particular situation.

5.3.3 Size and Shape of Serving Equipment

Majority of the consumers agreed to the fact that the size and shape of the serving equipment influenced how much they would consume. Consumers mentioned that it

came as a result of the different sizes of eating equipment available. These findings are in agreement with (Wansink and Cheney, 2005) who established that the nature of the serving equipment also plays a role in food consumption levels. Studies have shown that, more than 71% of a person's caloric intake is consumed using serving aids such as bowls, plates, glasses, or utensils. Wansink and Cheney further explain that not only do people serve themselves large food portions in large plates, bowls or containers, they also eat more when they are served food portions of similar sizes in large containers. For instance, when a person decides to eat half a bowl of cereal, the size of the bowl can act as a perceptual signal that may influence how much he or she serves and subsequently consumes. Even if these perceptual signals are inaccurate, they offer cognitive shortcuts that can allow serving behaviors to be made with minimal cognitive effort (Brian, W, 1994). Larger service equipment encourages consumers to consume greater volume per usage occasion than smaller service equipment (Wertenbroch 1998; Folkes *et al.*, 1993), partially because foods or beverages in larger serving equipment are perceived to be less expensive per unit (Wansink, 1996).

This study found that the measures were adequate indicators of the food environment and the variable was a significant determinant of food consumption and this informs the rejection of the hypothesis: *The food environment does not significantly influence food consumption*

5.4 FOOD CONSUMPTION MEDIATORS

According to Bettenhausen (1985) social norms are the standards against which the appropriateness of a certain behavior is assessed. Norms are among the least visible, forms of social control over human behavior. Few consumers in the study agreed to

the fact that consumption mediators had a significantly strong influence on their food choice and consumption. Some factors consumers mentioned included culture and religion which played a role in influencing consumers on what to choose and consume. Consumers stated that culture as a norm was relative to the type of culture, as different cultures had different levels of preference for certain types of foods. Religion as a norm has also played a role in influencing consumer food choice and consumption as it may prohibit followers from consuming certain foods and promotes the consumption of others. These findings are consistent with the findings of (Wansink, 2003) who acknowledged that, consumption can also be unknowingly influenced by other norms or cues that are present in the environment, such as larger packages in grocery stores, larger portions in restaurants, and larger kitchenware in homes which all suggest a consumption norm that influences how much people believe is appropriate to eat.

According to Chandon (2002), large-sized packages, large-sized restaurant portions, and large-sized dinnerware, tend to perceptually suggest to a consumer that it is more appropriate, to serve and to eat more food than smaller plates or smaller packages would instead suggest. Hence consumption norms are in some situations used as normative benchmarks to estimate how much an individual will consume.

According to Herman *et al.*, (2003) social norms have linked a negative stereotype to excessive consumption, hence while consuming food in the company of others, individuals tend to turn to the intake of their eating companions, as a guide for how much can be eaten without appearing excessive. Among strangers, individuals tend to turn to minimal eating as default norm, in situations where impression management

concerns are salient or one of matching, in the absence of other guides to consumption. Among friends, the primary influence on eating may be the social norm set by the group (Herman *et al.*, 2003), which theoretically could function to either promote or inhibit restrictive eating. A social norm explanation for how familiar others influence eating is also consistent with research on social identity and health behaviors, which demonstrate that perceptions of group norms and behaviors can guide healthy decisions, as individuals are more likely to match their eating to that of a friend than to that of a stranger (Oyserman, Fryberg, & Yoder, 2007). The findings of this study support this statement and signify a negative relationship between food mediators and food consumption. Some moderators, especially concerning the “accepted” social norms would reduce food consumption in terms of portions consumed as consumers try to avoid being identified by socially unacceptable behaviors such as gluttony and lack of self control. On the other hand, strong cultural and/or religious influences negatively affect food consumption by limiting the consumers’ scope in terms of choice. If one’s religious beliefs and/or cultural practices identify certain foods as taboo, then the consumer’s general food consumption (especially as it concerns commercial food establishments) is negatively affected. It should however be noted that the findings in this study suggest that when the food and eating environment come into play, they overshadow food moderators. Additionally, Kenyans are becoming more westernized reducing the effects of culture and tradition. Hence, due to the negative relationship exhibited between food moderators and food consumption, there is an acceptance of the hypothesis: *Consumption mediators do not significantly influence food consumption*

5.5 CONCLUSION

From the research findings, conclusions can be drawn based on the independent variables, the eating environment, the food environment and the consumption mediators and their effect on the dependent variable, food consumption. With better knowledge or understanding of the determinants of contextual factors, it would likely result into improved or better food consumption.

First, the eating environment affects food consumption. This conclusion is drawn from the fact that majority of the respondents felt that most of the indicators of the eating environment affected their food consumption as consumers. They put emphasis on the eating atmosphere which included lighting, odor, décor, comfort, and music played during meal times and also eating with company which included eating with family, friends, and colleagues

Secondly, the food environment affected food consumption. This conclusion was drawn from the fact that majority of the respondents felt that aspects of the food environment affected their food consumption as consumers. The extent to which factors that directly relate to the way food is provided or presented to the consumer such as the salience of food and the variety of food, greatly influenced food consumption. In addition, regression results indicated that the food environment indicators were a significant determinant of food consumption.

Thirdly, food mediators insignificantly affected food consumption. The natural regulator that regulates the type and amount of food consumer consumes such as norm and diets insignificantly determine food consumptions. Regression results further indicated that food mediators negatively affected food consumption.

Based on the above arguments, it can be concluded that the determinants of contextual factors affect food consumption. Also, it is evident that the factors that influence food consumption towards contextual factors are varied; it is fundamental for consumers to learn their environment and know how their environment influences their food consumption whether positively or negatively and try to adjust accordingly. It is also important for all the food outlets to learn the influence contextual factors have on consumer food consumption, so that other than just providing a meal they provide their consumers with a meal experience, hence acquiring better competitive advantage in comparison to their competitors.

5.6 RECOMMENDATIONS

Based on the findings from this study, the researcher recommends the following.

1. Health experts and nutritionist need to educate consumer about factors that promote overconsumption, such as peer influence, cultural and religious influences as well as environments that encourage excessive consumption which is detrimental to their health. This can be done through campaigns, seminars, information systems, radios and television.
2. Given the negative relationship between food moderators and consumption, commercial food vendors need to understand the moderating factors that strongly influence the majority of their clientele in order to boost their food consumption. With this understanding, the seemingly negative effects of food moderating factors can not only be countered, but harnessed towards improving food consumption. If the majority of the clientele prefers healthier eating options, the establishment could alter their menu to include healthier dishes and increase the diversity of the vegetarian dish offerings. If the

majority of the clientele are influenced by certain religious and/or cultural factors, it is important to identify the alternative dishes to offer them to balance out the reduced consumption in the meal options that they consider to be taboo.

3. When structuring or redecorating the interior of hotels or restaurants, food outlet owners should create a balance between their financial gain and meeting customer health requirements, with reference to, seat comfort, light regulation, music played, plate size and other forms of entertainment.

5.7 AREAS FOR FURTHER STUDIES

1. This study was only conducted in Nairobi a similar study country wide in Kenya would provide an insight into the differences among the various regions and ethnic groups in Kenya.
2. A similar study should be carried out with different variables in play, such as income, prices, individual preference and location, so as to get an insight of the different opinions, perceptions and the various effects it will have on consumers and food outlet owners with regards to food consumption
3. A similar study should be conducted but with children as the respondents because children also visit food service establishments which have factors that influence their food consumption

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APPENDICES

APPENDIX 1

QUESTIONNAIRE FOR FOOD SERVICE CONSUMERS

Questionnaire Number []

Dear respondent,

I am a graduate student from Moi University, undertaking a Masters of Philosophy degree in Hospitality Management. I am carrying out a research study on **“The Influence of contextual Factors on Food Consumption among Consumers in the Food Service Industry”**. Any information you give is purely intended for academic purposes and will be handled with utmost confidentiality. Your contribution, participation and co-operation will be highly appreciated.

Thank you for your assistance.

Kevin Serrem

Please tick where appropriate:

SECTION A: DEMOGRAPHIC INFORMATION

1. Gender Male [] Female []

2. Age

13- 19 years [] 20-29 years [] 30-39 years [] 40-49
years []

50 - 59years [] Above 60 []

3. Highest Education level

Primary school [] High school [] Diploma [] Bachelor“ s []
Master“ s [] PhD []

4. Marital status

Single [] Married [] Separated [] Divorced [] Widowed
[]

5. What is your occupation?

.....

SECTION B: FOOD AND EATING ENVIRONMENT

Tables and statements; with the use of a tick, Please indicate the extent to which you agree with the statements presented

1. a) Using the scale where (1=Like extremely, 2= Like, 3= Neutral 4= dislike 5=dislike extremely), what do you like most about your favorite food outlet?

Statement	1	2	3	4	5
The atmosphere around you (Ambience)					
My friends/ Family/ Partner, Like the place					
The convenience of the place					
The type and variety of food offered					
Food portion sizes served					
The Food quality					
The Prices					
Hospitality of the staff					

Any other.....

- b) How often do you visit your favorite food outlet, (hotel, restaurant or fast food?)

Daily Once a week 2-3 times a week 4-6 times a
 week once per fortnight once per month
 other.....

2. a) Do you like company while eating? Yes No

- b) If yes, how often do you have company while eating?

Always Often Rarely Others

- c) Using the scale where (1= strongly agree 2= agree 3= neutral 4= disagree and 5= strongly disagree) which company do you enjoy sharing most of your meal times with?

Statement	1	2	3	4	5
-----------	---	---	---	---	---

Family					
Friends					
Work mates					
Partners or companions					

Any other.....

d) Using the scale where (1= Strongly agree 2= agree 3= neutral 4= disagree and 5= Strongly disagree) what influence does the company you enjoy sharing your meal times with have on your food consumption?

Statements	1	2	3	4	5
They influence where I go have a meal					
They influence what I eat					
They influence how much I will consume					
They influence the length of eating time					

Any other.....

3. a) Using the scale where (1= strongly agree 2= agree 3= neutral 4= disagree and 5= strongly disagree) what aspect of ambience do you prefer most while in an eating environment?

Statement	1	2	3	4	5
Lighting to my suitability					
Music played to my liking					
A Silent and serene environment					
Ambient décor and furnishing					
Ambient odor					
Comfort					

Any other

b) Using the scale where (1= Strongly agree 2= agree 3= neutral 4= disagree and 5= Strongly disagree) what effect do you think the eating environment has on your food consumption?

Statement	1	2	3	4	5
Makes me try new dishes					
Makes me change my initial food choice					
Makes me Stay longer and order for more					
Makes me eat a wider variety of foods					
Makes me eat less					

Any other

4. a) Using the scale where (1=Like extremely, 2= Like, 3= Neutral 4= dislike and 5=dislike extremely), what do you like or enjoy doing while eating?

Statement	1	2	3	4	5
I like watching television					
I like reading a book or the news paper					
I like playing video games					
I like doing assignments or office work					
I like chatting with family or friends					

Any others

- b) Using the scale where (1= Strongly agree 2= agree 3= neutral 4= disagree and 5= Strongly disagree) what effect do you think the activities you enjoy doing while eating have on your food consumption?

Statement	1	2	3	4	5
I tend to stop consumption when whatever am doing is done					

I tend to enjoy my meal more leading to extras					
I tend to consume not only my favorite food but also my not so favorite foods					
I tend to adopt to the consumption pattern of the people I am eating with					
I get distracted and I barely eat					

Any others.....

5. a) How often do you eat in a single day?

Once twice 3 times 4 times 5 times

b) Using the scale where (1= Strongly agree 2= agree 3= neutral 4= disagree and 5= Strongly disagree) Why do you eat as often as you do?

Statement	1	2	3	4	5
Because I get hungry oftenly					
Food is easily accessible					
Food is affordable					
Influence of friends and people around me					
The site and the aroma of food					
Inadequate time to eat					
On a diet					
Health condition					

Any others.....

c) What is the highest number of times you have ever eaten in a single day?

(Including snacks)

3 times 4 times 5 times 6 times 8 times

Any other

d) Using the scale where (1= Strongly agree 2= agree 3= neutral 4= disagree and 5= Strongly disagree) what made you eat as often as you did?

Statement	1	2	3	4	5
Food was easily accessible					
Availability of a wide variety of food					
The site and smell of food					
I was In the company of others who ate as much					
I had nothing to do but eat					
I love eating					
Because I was hungry					

Any others

6. Using the scale where (1= Strongly agree 2= agree 3= neutral 4= disagree and 5= Strongly disagree) what might cause you to instantly change your mind on what to eat?

Statements	1	2	3	4	5
Convenience					
The site and the smell of food					
A Celebratory feel					
A craving					
Affordability					
Bumping in to a friend					
A meal offer					

Any others

7. Do you think the size of food package or portion size might cause you to over consume?

Yes No

8. a) Do you think the size of serving equipment e.g. plates, bowls, serving spoons have an influence on the amount of food served and consumed?

Yes No

b) If yes, explain?

.....

9. a) Do you think a wide variety of food e.g. a buffet would cause you to over consume?

Yes No

b) If yes, explain?

.....

10. Using the scale where (1= Strongly agree 2= agree 3= neutral 4= disagree and 5= Strongly disagree). What do you think would greatly influence your food consumption

Statement	1	2	3	4	5
atmosphere around you (Ambience)					

Site and aroma of food					
The convenience of food to you					
The cost of food					
Cultural or religious believes (Norms)					
Your Friends / Family / Partner					
Your health and diets					
Portion sizes offered					

SECTION C: NORM AND CONSUMPTION MONITORING ACCURACIES (DIETS)

11. a) Using the scale where (1= Strongly agree 2= agree 3= neutral 4= disagree and 5= Strongly disagree) explain the extent you think the following factors, influences your food consumption?

Statement	1	2	3	4	5
Culture					
Traditions					
Ethnicity					
Religion					

Any others.....

b) On which of the following do you base your food choice and consumption volume

Normal diet \ Doctor prescribed Self administered
 diet

c) Using the scale where (1= Strongly agree 2= agree 3= neutral 4= disagree and 5= Strongly disagree) what encourages you to maintain your food

Dear respondent,

I am a graduate student from Moi University, undertaking a Masters of Philosophy degree in Hospitality Management. I am carrying out a research study on **“The Influence of contextual Factors on Food Consumption among Consumers in the Food Service Industry”**. Any information you give is purely intended for academic purposes and will be handled with utmost confidentiality. Your contribution and participation in responding to this questioner will be greatly appreciated.

Thank you for your assistance.

Kevin Serrem

THE FOOD AND EATING ENVIRONMENT

1. Do you have a theme in your establishment Yes No

2. If yes, what type of theme do you have in your establishment
.....
.....

3. What inspired you to choose the theme in your establishment?
.....
.....
.....

4. What aspect of your theme do you think your consumers enjoy the most?
.....
.....
.....

5. a) Do you think your theme has an influence on your clients' food choice and consumption?
Yes No

b) If yes, what influence do you think, the theme in you establishment, has on your clients in terms of food choose and consumption
.....
.....
.....

6. a) Do you think your theme causes you to miss out on some clients based on their religious or cultural norms?
Yes No

b) If yes, How?
.....
.....

.....
.....

7. What do you think makes your establishment most popular among our clients?

.....
.....
.....