

Building the Foundation for Wellness:  
Understanding How Design Components of the Convenience Food Environment

Impact the Consumer-food Relationship

by

Lainie Plattner

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Graduate Supervisory Committee:

John Takamura, Chair  
Jennifer Krahe  
William Heywood

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## ABSTRACT

The humans-food relationship is a 2.5 million year old, symbiotic connection of “living together” which encouraged a “system of communication up and down the food chain” (Pollan, 2008). (Reardon, 2015). Many researchers agree that this connection is a critical foundation for a beneficial relationship with food and engaging in healthy eating behaviors (McKeown, 2010; Neumark-Stainer et al., 2007; Ristovski-Slejcevic et al., 2008; Simontacchi, 2007). Against the backdrop of a steadily increasing obesity rate and associated spending, it is critical to approach this issue from a systematic perspective such as understanding the powers that impact the consumer-food relationship (Aronne and Havas, 2009). Experts agree that the rapid increase in convenience food environments has contributed to an obesogenic foodscape that has negatively impacted consumers’ understanding of and interactions with food, resulting in consumption of nutritionally poor food, over-nutrition and chronic illness (Brownell and Battle-Horgen, 2004; Nestle, 2002). Additionally, designers and researchers are beginning to recognize the influence the built environment can have on actions (Patel, 2012; Wansink, 2010), behaviors and attitudes (Gallagher, 1993), even hindering or encouraging one to partake in healthy behaviors (Mikkelsen, 2011; Story et al., 2008). The goal of this study is to understand modern built convenience food environment design and its potential to impact the consumer-food relationship. This study utilizes a heavily qualitative approach, structured by a grounded theory methodology due to the lack of existing research (Martin & Hanington, 2012; O’Leary, 2010) and triangulates utilizing an analysis of secondary research, environmental audit through observations and a survey. The final result will be

a compilation of design suggestions, based on those findings, for designing a BCCFE that encourages a healthy relationship between the consumer and food.

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# CHAPTER 1

## INTRODUCTION

### 1.1 Introduction

Food is the building block of individual health and wellbeing; it is simultaneously a critical component within many cultures and is often used as a social mechanism and economic measurement (Choi and Zhao, 2012). America's food landscape has changed drastically during the last century; everything from the way our food is produced and sold, its availability and cost, how we obtain and make food to the structure and meaning of mealtimes have undergone a recent transformation (Nestle, 2002; Pollan, 2008). Many of these changes can be attributed to cultural shifts, changing family dynamics and technological advances (Anderson, 2005). However, this cause and effect relationship has become muddled as food has transformed into an industrial product that is treated and marketed as such, resulting in the turning of the tables where our lifestyle and eating habits are now influenced by the food industry (Berry, 2009).

Research suggests that these shifting food dynamics have resulting in a disjointed relationship between food and the consumer, which is potentially an underlying factor to historically high obesity levels and an increased prevalence of associated health issues (Engler-Stringer, 2010; Pollan, 2013; Reicks et al., 2014). Chapter one sets the backdrop for this thesis, which aims to understand the impact the built consumer convenience food environment (BCCFE) has on the consumer-food relationship. This chapter will present the justification for the study and significance of the approach in comparison to existing research; it will also clarify operational definitions for important terms and set the scope and limitations for the research project.



## 1.2 Justification and Significance

Americans' obesity rate has been steadily increasing over the second half of the 20<sup>th</sup> century; now over 66% of U.S. adults are overweight or obese (Aronne and Havas, 2009) and there is a strong consensus regarding the urgency of this "global epidemic" (Brownell and Battle-Horgen, 2004; James, 2009). Healthcare costs associated with obesity are estimated between \$70 and \$90 billion dollars a year (Brownell and Battle-Horgen, 2004, p.45) and healthcare treatment for overweight individuals is approximately 38% higher than that of a normal weight individual (Haidar and Cosman, 2011). It is estimated that if this trajectory continues, costs associated with obesity could reach \$957 billion by 2030 and account for 16-18% of America's total healthcare costs; this would be a drastic jump from a current estimate of 7%, which does not take into account obesity-related productivity losses (Brownell and Battle-Horgen, 2004; Haidar & Cosman, 2011). The obesity epidemic poses a major risk for individual citizens, our country's productivity and will result in what could become an unsustainable healthcare system.

In its simplest explanation, obesity is the result of an intake of too much and expenditure of too little energy in the form of calories (Brownell and Battle-Horgen, 2004). The Institute of Medicine argues that "there has been no real change in the gene pool during this period of increasing obesity...the root of the problem, therefore, must lie in the powerful social and cultural forces that promote an energy rich diet and a sedentary lifestyle" (as cited in Brownell and Battle-Horgen, 2004). Although there are complex components woven into what makes people partake in actions that result in these detrimental patterns, which will be discussed later in detail, research shows that looking

towards the changing dynamics of our foodscape could be a preventative and long term solution (James, 2009; Mikkelsen, 2011). Brownell and Battle-Horgen (2004) described it best when they said “in modern conditions, biology is important but the environment steals the show” (p.23).

Food is the foundation on which our wellbeing is built and research has shown that approaching the obesity issue from a nutrition and food sciences standpoint can have remarkable and beneficial outcomes, more so than utilizing an increased-exercise approach. Compared to the fitness industry, the food industry has the potential to be a more effective market through which to have an impact for a variety of reasons including the fact that food is a good that is critical for survival. Additionally, research also shows less of a correlation between obesity and physical activity levels (James, 2009). For example, obesity levels in American have ballooned in the last 30 years however there have been no major changes in Americans’ physical activity patterns (Malhotra et al., 2015).

Against the background of historically high levels of obesity and increased levels of chronic illness, interest in this relationship between what we eat and our individual health and public wellbeing has grown substantially; studies on the topic have been published in journals relating to business, economics, food science, engineering, environmental sciences, psychology, chemistry, agriculture, public health, environmental health, entomology and nutrition in countries including the United States, Netherlands, Germany, Canada, China, Italy, Sweden, Australia, Turkey and many more (Carvalho et al., 2015). Maybe more importantly, the subject has become an area of interest for food consumers, which is apparent in the recent popularity of food documentaries,

publications, education programs, healthy food initiatives, an increase of nutrition consciousness and consumer demand for food transparency (Brownell and Battle Horgen, 2004; James, 2009; Reilly, 2015; Ruggles, 2003). Because the food industry is essentially a business market that responds to a necessary, high-demand product, (more so than the exercise/physical activity market) stakeholders and producers within the industry are going to have to respond these consumer demands (Choi and Zhao, 2012; James, 2009). This, coupled with the need for a deeper understanding of how our foodscape impacts our eating patterns, holds significant implications for the future of the food industry and creates potential for big changes.

Narrowing down the topic: statistics show that convenience food spending has increased from \$6 billion annually in 1970 to \$110 billion in 2001 (Schlosser, 2001). This coupled with the research linking one's frequency of eating out with an overall low quality diet/increased body weight (Brownell and Battle-Horgen, 2004; Freeland-Graves and Nitzke, 2002), has defined a need to further understand the evolution of convenience eating and the resulting obesogenic foodscape. Research looking into these convenience "environments that appear to promote obesity" (Kohler et al., 2013, p.129) has been relatively disjointed and centered on the evolution of urban food deserts, the distortion of portion sizes, decrease in food's nutritional quality and food marketing and how they impact immediate food consumption behaviors (Ohri-Vachaspati et al., 2015). Despite research that suggests one's underlying relationship with food (specifically defined in Section 1.4.4) plays a large role in eating behaviors, the research regarding the obesogenic foodscape created via convenience eating rarely attempts to understand its impact on this underlying component (Gearhardt et al., 2014; Neumark-Stainer et al.,

2007; Ristovski-Slejepevic et al., 2008). Additionally, few studies have looked at the interplay between the more macro scale, the built consumer convenience food environment (see Section 1.4.3), and that food relationship (Alonso & O'Neill, 2010; Caspi et al., 2012; Glanz and Hoelscher, 2004). This project attempts to fill that gap in knowledge by following previously existing research to a point where studies converge in a cohesive theory that attempts to comprehensively approach the consumer-food relationship vis a vis the built convenience environment.

### 1.3 Scope & Limitations

Over time, the historical evolution of the food environment has manipulated our eating patterns (Langdon, 1986) by “[remaking] our food environment” in a way that “limits our ability to take control of our food system,” (Gagnon and Freudenberg, 2012) and “[overrides] health considerations” and “the social and cultural meanings of meals and mealtimes” (Nestle, 2002). Caspi et al. (2012) classify the built environment into two general categories: the community food environment that includes the placement of food throughout the community and the consumer food environment, which focuses on what “consumers encounter while inside their local retailers.” This study focuses on the impact created by built consumer convenience food environments (BCCFE).

Research has shown that components of the built environment can influence how much time consumers spend in a space, their temperament, food choice decisions and volume intake decisions (Patel, 2012; Wansink, 2010). However, the built environment takes place within a more complex “foodscape,” which “implicates the multiple informative historic and contemporary personal, social, political, cultural and economic forces that inform how people think about and use (or eschew) food in the various spaces

they inhabit” (Adema, 2007, as cited in Mikkelsen, 2011, p.211). Research has shown the impact the built environment can have on attitudes and behaviors but there is little research that pertains to the specific mechanisms by which the BCCFE impacts one’s food relationship (Gallagher, 1983). Because of that lack of research and a growing interest concerning the relationship between individuals, spaces, food interactions and food choice, this study aims to understand the role the design of the BCCFE plays within the “foodscape” (Mikkelsen, 2011). Specifically, how does the design of the BCCFE impact the consumer-food relationship?

For the purposes of this research, nutritional quality of the food being served and portion sizes will not be analyzed due to the layer of complexity they add to the issue of obesity and eating habits. Cost will also not be a factor in this research due to socioeconomic implications; the goal is to create an even playing field amongst consumers so that their experience within the BCCFE is not impacted by the limitations of what they can purchase or how something tastes (Berry, 2009). The focus, then, is in regard to what happens when they are in the environment, because of the environment.

#### 1.4.0 Operational Definitions

##### 1.4.1 Foodscape

The term “foodscape” can range in definitions but for the purposes of this study foodscapes will refer to a general yet encompassing look at food environments. Specifically, the physical and visual ways in which food is “produced, purchased or obtained, prepared, and consumer and the relationship between food and the individual” (Mikkelsen, 2011). Foodscapes occur on a variety of scales including personal, social,

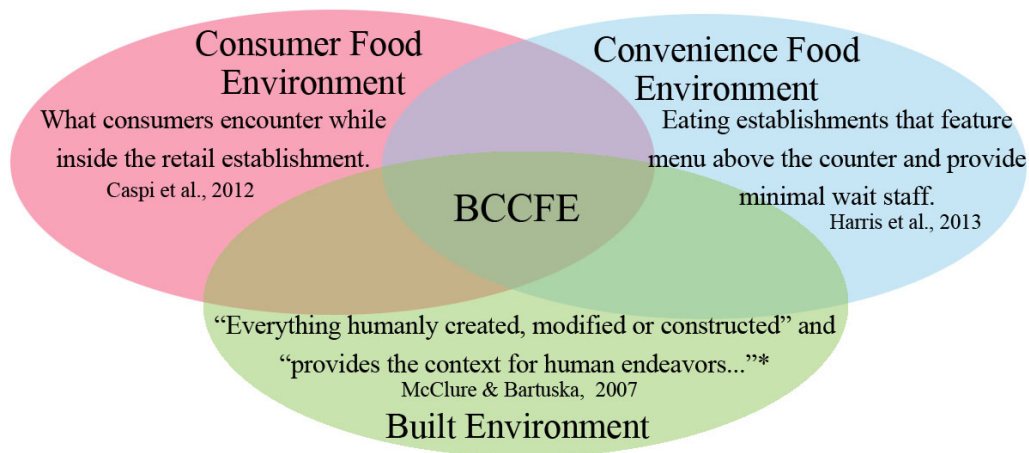
public and nationwide (King, 2009 as cited by Mikkelsen, 2011) with cultural and social undertones specific to places, people and food systems (Johnston et al. 2009).

#### 1.4.2 Obesogenic

The term obesogenic refers to something that “appears to promote obesity” (Kohler et. al., 2013, p.129). For the purposes of this study it will be used alongside the term “foodscape” when referring to the broader sense of the ways in which consumers obtain food as well as how the food system/industry impacts and interacts with consumers. When the term obesogenic is present alongside “environments” it is meant to delineate a more specific association of physicality but on a variety of scales including urban all the way to interior spaces (Lake and Townshend, 2006)

#### 1.4.3.0 Built Consumer Convenience Food Environment (BCCFE)

The BCCFE is one component of the overall foodscape and is defined as the spaces in which the following components meet:



**Figure 1.Components of the Built Consumer Convenience Food Environment**

#### 1.4.3.1 Built Food Environment

Components of the built food environment include food visibility, display and placement, accessibility, scale of space, interior and exterior aesthetic, circulation, in-store food imagery, materials and textures (Glanz et al., 2005; Langdon, 1986; Patel, 2012; Wansink, 2010). In a general sense, these spaces include but are not limited to restaurants, one's personal kitchen and the grocery store and difference from foodscapes in that it excludes more obscure food environments such as digital marketing.

#### 1.4.3.2 Consumer Food Environment

The consumer food environment is what consumers encounter while inside local retailers. This narrows down the built food environment because it focuses on spaces in which individuals become consumers and are advertised to/expected to purchase a food product. For example, it begins to exclude food environments on an urban level as well as a more micro level such as the consumer's personal home and kitchen (Caspi et al., 2012).

#### 1.4.3.3 Convenience Food Environment

Convenience food environments will be defined as eating establishments that “feature a common menu above the counter and provide no clear wait staff...customers typically pay before eating and choose and clear their own tables” (Harris et al., 2013, p.13). This narrowing of the definition excludes grocery stores and sit down restaurants.

#### 1.4.4.0 Consumer-Food Relationship

The relationship between consumers and food is an extremely complex one where biology, culture, behaviors, emotions and feelings regarding food intersect (Allen, 2012;

Punch et al., 2009). For the purposes of this study: the *consumer-food relationship* will be comprised of the consumer's their awareness regarding food's role in physical wellbeing along with nutritional knowledge, one's appreciation of mealtime traditions and food's cultural and social roles and finally, their understanding of food origins, preparation and ingredients.



**Figure 2 Components of Consumer-Food Relationship**

#### 1.4.4.1 Awareness of Food's Role in Wellbeing/Nutritional Knowledge

Awareness that food has an innate function of sustenance (Punch et al., 2009) and that there is a direct connection between diet and health and wellbeing (Bhuyan, 2010). This awareness is based in an understanding of appropriate intake volume as well as basic nutrient and food group role on health (Choi and Zhao, 2012; Ristovski-Slejepcevic et al., 2008; Wansink, 2010).

#### 1.4.4.2 Appreciation of Mealtime Traditions/Food's Cultural and Social Roles

One's consumption habits occur on a spectrum of actions. On a more micro scale, consumption habits refer to the mindfulness (or lack thereof) regarding the actual food during mealtimes; for example is the act of eating simply routine, "perfunctory and fast" or is it thoughtful and deliberate (Berry, 2009)? Consumption habits also refer to one's



attitudes towards mealtimes and the role it does or does not play in their life (Serecon Management Consulting Inc., 2005). On a more macro scale, it can be defined as attitudes toward mealtimes and the role it does/does not play in one's life and one's history of dieting, weight control behavior and any disordered eating patterns (Gearhardt et al., 2014; Marcus and Wildes, 2014; Neumark-Stainer et al., 2007).

Those mealtime interactions are a critical component in developing an understanding of the role food plays socially and culturally. "Food has meaning, it evokes memories, and it shapes identities" and appreciating that capability involves an awareness that food and meals can convey information regarding socioeconomic status, role, ethnicity, identity, religion and social constructs (Allen, 2012, p.2). Having an awareness of food's symbolic nature means recognizing those roles and how they are understood and expressed through meals and often food preparation (Nestle, 2002; Williams et al., 2012).

#### 1.4.4.3 Understanding of Food Origins, Preparation and Ingredients

Understanding where food products come from , how they are made and what is in them involves being a cognoscente and active consumer who can recognize the difference between products sold and marketed by the food industry and ingredients/food in their natural, unprocessed form (Berry, 2009). Many consumers are unaware that there are "middle links on the food chain, where the stuff of nature gets transformed into the things we eat and drink" (Pollan, 2013, p.2) before their food "appears on the grocery shelf or on the table" (Berry, 2009, p.16). Being conscious of the ingredients that go into these final products we see as well as how it is created and sold to us is critical to a healthy food relationship (Choi and Zhao, 2012). Being interactive with one's food

involves creating touch points with the meal from soil to the table (Pollan, 2008). This includes involvement with growing produce, food prep knowledge and ability and cooking skills, all which are defining human activities (Pollan, 2013; Reicks et al., 2014; Torres, 2013).

### 1.5 Mechanisms

For the case of this study, the use of the word “mechanism” refers to the ways and tools by which convenience style eating and food marketing impact the consumer-food relationship. As will be discussed in chapter 4, general mechanism categories determined per this research project include: increased accessibility of food (access); reduced involvement in putting a meal on the table (ease); portrayal of food as exciting product and a component of novelty (novelty); and a detraction from food composition and nutritional value (detraction).

## CHAPTER 2

### LITERATURE REVIEW

#### 2.0.0 Introduction

This chapter will introduce the reader to the conceptual framework (see Figure 2.1) surrounding this research project and attempts to aid the reader in developing an understanding of this complex issue that is set against the backdrop of cultural evolution, a changing food system, the power of the built environment and how the complex interactions between all these components have impacted the human-food relationship and eating behaviors. Section 2.1 will introduce the reader to the complexity of eating behaviors and the role one's food relationship plays in food choice. It will also present an overview of the early development of this food relationship and the deeper role food plays in our existence as natural, social beings. Section 2.2 will begin discussing the recent evolutions that have occurred in the modern foodscape including the increase in convenience eating and the rise of an industry centered on food. Section 2.3 will look at the impact this changing foodscape, including the rise of convenience eating and food industry marketing, has had on the consumer-food relationship including how it has diminished the consumer's understanding of food's role in well-being, how it discouraged food preparation and how it has portrayed food as a product to be sold instead of a source of sustenance and nourishment. Section 2.4 will start delving into the evolution and role of the built environment as it relates to the food relationship. For example, the reader will be introduced to how these obesogenic changes have translated into the built environment via the rise of an urban saturation of brick and mortar convenience food locations. It will also discuss evidence regarding the ways the built

environment impacts meal consumption behaviors, how the built environment has been used as a marketing tool and the power the built environment has to influence underlying human behavior.

### 2.0.1 Conceptual Framework



**Figure 3 Conceptual Framework**

#### 2.1.0 Food Choice Complexity and Food Relationships

Understanding why people eat what they do is a complex phenomenon that touches on topics including economics, technology, psychology, anthropology and sociology (Brownell and Battle-Horgen, 2004). Researchers are beginning to understand that the surrounding foodscape plays an immense role and it is no longer feasible to address the issue of unhealthy eating patterns with an individual level approach such as

suggesting “eat less.” The simplification of food to its caloric value and impact on bodily health “undermines equally important modes of understanding and engaging with food” (Winson, 2013, p. 7) and ignores its intricate connection to our social system (Brownell and Battle-Horgen, 2004; Glanz et al., 2005). It has instead been suggested to look at the underlying, systematic influences on one’s relationship with food. Research shows deeper attitudes towards food and heuristics that consumers may not even be cognoscente of including their perception of and thoughts toward food may play a role (Bhuyan, 2010; Ristovski-Slejepecevic et al., 2008; Wansink, 2010). This relationship exists on a variety of levels which, for this study, are categorized as a) nutritional knowledge and awareness of food’s role in our wellbeing, b) attitudes towards mealtimes and an appreciation for food’s social and cultural roles c) as well as an understanding of where food (products) come from, how it was prepared and what is in it (Bhuyan, 2010; Gearhardt et al., 2014; Neumark-Stainer et al., 2007; Ristovski-Slejepecevic et al., 2008; Story et al., 2008).

#### 2.1.1 Historical Look at the Food Relationship

The mechanics of why this connected relationship to food is important become much clearer if one understands man’s historical interactions with his food. In its most basic, true sense, eating is an agricultural act (Berry, 2009). The relationship between humans and food is a 2.5 million-year-old, symbiotic connection of “living together” (Reardon, 2015). Humans’ eating habits were dictated by what the immediate food environment suggested and people were organically queued what to eat, when to eat and how to eat it (Winson, 2013). There was a “long familiarity between foods and their eaters” that encouraged an “elaborated systems of communication up and down the food chain” (Pollan, 2008, p.103). However, human-food interaction now seems to exist

mostly in the cultural realm and those lines of communication no longer play a major role in everyday food decisions (Davis, 2013); this change is critical to acknowledge because that connection is what creates an awareness of food in its natural, freshest form and helps encourage healthy eating behaviors (McKeown, 2010; Simontacchi, 2007).

Those connections to our food source also played an integral part in the understanding of food as something to be appreciated, worked for and savored. The steps it took to get food to a state suitable for eating took a great deal of thought, knowledge, practice and time (Pollan, 2008). Obtaining and preparing food was an “occupation at the very heart of daily life” that took up a large proportion of income, referring to resources and time, dedication and knowledge (Brownell and Battle-Horgen, 2004, p. 38). Not only does this time and effort instill an appreciation for that act of putting a “meal on the table” but the hands on interaction also encourages a respect for that item, which has patiently and thoughtfully been brought to fruition, as a component of wellbeing and as a necessity for survival (Brownell and Battle Horgen, 2004; McKeown, 2010; Torres, 2013).

#### 2.1.2 The Deeper Meanings of Food

Food is, of course, critical to our physical wellbeing and overall health. But, eating is also about more than nutrients and physical sustenance (Allen, 2012). Food and mealtime traditions, on a variety of scales including the individual person, families, communities and cultures, can carry a great deal of meaning. On a larger scale, food can carry messages regarding socioeconomic status, gender, religion, ethnicity and “other social constructed regimes” (Anderson, 2014). On an individual level, eating can evoke emotions, conjure up memories or be a catalyst for building relationships with others

(Allen, 2012; Pollan, 2013; Punch et al., 2009). Few other aspects within our lives hold so much weight for so many people. In fact, food and the act of preparing a meal has been acknowledged as an “emotional or psychological power we can’t quite shake” (Pollan, 2013, p. 4) and a “defining human activity – the act with which culture begins” (Claude Levi-Strauss as cited by Pollan, 2013, p.5). It deserves to be recognized as not just a mundane player in our everyday life but as an important and meaningful relationship with our physical body, emotional wellbeing and psychological health. Recognizing this deep-rooted symbolism of food is not necessarily indicative of an interactive relationship with food but it is a critical element in appreciating food and the act of eating for the role it plays in our lives.

#### 2.2.0 A Changing Culture and Changing Food Preferences

A great deal has changed not only since the days when man used to forage his own food, but especially in the last 150 years in regard to culture and food (Brownell and Battle-Horgen, 2004). Although the phenomenon of the human diet and eating is rooted in biology it is also the product of cultural, politics and the social circumstances in which it exists (Allen, 2012; Anderson, 2005). Forces such as family structures, societal values and economic pressures can impact behaviors, emotions, attitudes and the overall understanding of food and the role it plays in our lives and the overall food system (Allen, 2012; Anderson, 2005). This relationship is important to look at because, research shows, and the World Health Organization (WHO) believes, the modernization of our environment plays a critical role in the obesity issues being faced today (Brownell and Battle-Horgen, 2004). Modernizations throughout the 20<sup>th</sup> century have impacted how people access food and the food that is available; the result being an environment

that negatively impacts our understanding of and interactions with food, leading to a demand for nutritionally poor food products, over-nutrition and chronic illnesses (Brownell and Battle-Horgen, 2004; Nestle, 2002; Williams et al., 2012)

### 2.2.1 The Rise of Convenience Eating

A great deal of the change in the American food system over the past 100 years has been attributed to the 1950s post-World War II era and an expanding work force (Anderson, 2005; Langdon, 1986; Reardon, 2015). During that time, women (and previously unemployed men) were entering the working world to help make ends meet in a post war society. As a result the structure of the family and family life changed: time was no longer an abundant commodity. Those members of the family who used to be responsible for having dinner on the table in the evening, no longer had the time or energy to grocery shop, prepare a meal and make sure everything was cleaned and put away afterwards. As a result, the value of and demand for convenience and prepackaged foods rose quickly (Nestle, 2002).

### 2.2.2 The Rise of a Food Industry

Along with that increased demand for ways to eat conveniently came a change in the methods by which food was processed, produced and brought to the masses (Engler-Stringer, 2010). The opportunities for what food looked like and what it could be grew with the acceptance of convenience eating, “[raising] the stakes for those promoting cooking in a busy world” and encouraging the formation of companies that could provide for this growing demand (Stead et al., 2004, p.274). Traditional food production and small farms were ill equipped and unable to keep up with this growing demand and as a



direct result the “food industry” shifted towards large, corporate food companies (Nestle, 2002). As will be discussed, food companies encouraged the notion that food preparation was unnecessary and eventually created disconnect between those who normally prepare the family meals and their interactions with food (Engler-Stringer, 2010).

### 2.3.0 The Emerging Obesogenic Foodscape

Cultural demands shapes foodscapes but that relationship goes both ways and foodscapes can also influence the contextual culture and ways of eating (Williams et al., 2012). The evolution of convenience eating and the rise of a food industry that engaged in food marketing encouraged an obesogenic foodscape that contributed to disconnect in the relationship between consumers and their food (Engler-Stringer, 2010). The impact is best stated by Brownell and Battle-Horgen (2004):

“...as food becomes cheaper, more accessible, and more heavily advertised, a number of factors inherent to modern living steer people toward some foods over others...lower prices permit people to eat for pleasure and even recreation, rather than just survival...most people treat themselves with food” (p.201)

These changes, the ways in which they manifest physically and the impact they have on how individuals relate to, interact with and understand their food is critical to laying the foundation for this research project

### 2.3.1 Convenience Eating and Declining Food Preparation

As discussed earlier, the changing American culture created a demand for convenience eating, creating an industry that “[remade] our food environment...[limiting] our ability to take control of our food system and make healthier choices” (Gagnon and Freudenberg, 2012). The convenience food industry brought about a rise of prepackaged snack foods, TV dinners, meal replacement bars, boxed cereals, the list goes on (Nestle,

2002; Stead et al., 2004). That change in food supply and distribution, alongside the desire for quick consumption, was the catalyst for a decrease in the time, effort and money put into preparing foods at home (Carahan et al., 1999) a trend that has been rising ever since. Statistics show that food preparation time per household has decreased significantly over the past half a century (Reicks et al., 2014) and is now less than half of what it was in the sixties, under 30 minutes a day which is the lowest of any other country (Pollan, 2013). Alongside this decrease in time spent preparing food has been a decrease in appreciation for and understanding of that act. The majority of young adults today do not partake, even weekly, in food preparation activities (Larson et al, 2006) and individuals who often eat convenience food see cooking as a “chore” that is pointless to learn because food is so easily accessible through other, quicker avenues (Stead et al., 2004).

### 2.3.2 Decline of Food Preparation and a Disconnected Consumer-Food Relationship

Convenience eating has minimized our ability and desires to partake in food preparation and these statistics are important because research shows that lack of hands on interaction has immediate negative health impacts due to the lack of nutritional value of prepackaged, convenience foods. Various studies have linked a reduction in food preparation and cooking skills to a decline in healthy eating patterns, specifically in regard to the intake of fats, fruits and vegetables (Engler-Stringer, 2010; Institute of European Food Studies, 1996; Larson et al., 2006; Stead et al., 2004). This can be attributed to a variety of mechanisms the most basic of which is the inferior nutritional quality and excessive caloric value of prepackaged foods. Additionally “food and cooking skills [are] required to make informed choices” such as determining food’s

nutritional quality (Engler-Stringer, 2010, p. 144). Those negative health outcomes can also be traced back to food preparation being the foundation of our attitude regarding cooking and our self-efficacy toward meal preparation (Engler-Stringer, 2010). Experts believe that, continuing on this current trajectory, this food relationship will become even more disconnected as consumers move away from whole meals and towards snacking, and as meal preparation becomes even more sporadic and increasingly replaced by food consumption on the run (Engler-Stringer, 2010).

### 2.3.3 Decline of Food Preparation and Reduced Understanding of Food's Role in Wellbeing

Today, consumers are not required to assemble, prepare or serve their own meals; they certainly do not need to grow, gather or interact with the ingredients in their natural state (Reardon, 2015; Torres, 2013). Research shows that, in addition to the immediate impact on individual health mentioned above, this decline in meal preparation behaviors also has deeper implications including hindering the development of a connection to and respect for food (Allen, 2012; Torres, 2013). Food preparation is “the act with which culture begins” and the recent waning of this activity has resulted in a decreased appreciation for the role food plays in our lives and diminished understanding of the “natural world and our species’ peculiar role in it” (Pollan, 2013, p.5). The importance of this food interaction is underscored through the irony described by Pollan (2013):

How is it that at the precise historical moment when Americans were abandoning the kitchen, handing over the preparation of most of our meals to the food industry, we began spending so much of our time thinking about food and watching other people cook it on television?...The very same activity that many people regard as a form of drudgery has somehow been elevated to a popular spectator sport...the work, or the process, retains an emotional or psychological power we can't quite shake, or don't want to (p.3)

Because of the driving force food plays in our lives and wellbeing, consumers need be knowledgeable about “where it comes from, how it is grown and raised and most importantly how to cook it” in order to cultivate the most effective and beneficial relationship (Torres, 2013, p.1).

#### 2.3.4 Convenience Eating and Waning Mealtime Appreciation

Food preparation not only creates an awareness of a whole foods diet and provides insight as to our individual connection to food/the natural world, it also serves as a connection to others when it reaches its culminating point: the meal. The importance of mealtime traditions becomes apparent when looking at research that correlate positive mealtime behaviors to positive health and eating outcomes. Multiple studies have found that frequency and quality of mealtimes during childhood and adolescence are related to positive long-term eating patterns, improved nutritional knowledge and healthful eating patterns including increased consumption of fruits and vegetables and as well as a decreased consumption of soft drinks and fats high in sugar and excess fats (Boutille et al., 2001; Brownell and Battle Horgen, 2004; Gillman et al., 2000; Videon and Manning, 2003).

Just as convenience eating played a role in derailing healthy eating patterns it also disconnected “the social and cultural meanings of meals and mealtimes” (Nestle, 2002). Historically, mealtimes have encouraged social interactions and human communication while conveying messages regarding culture, identity, values and memories (Anderson, 2005; MacKenzie, 1993). However, with the rise of convenience eating and abundance of food products, consumers have shifted from a “dine and savor” to “eat and run”

attitude (Pollan, 2008, p.54) which has resulted in “a kind of solitude, unprecedented in human experience, in which the eater may think of eating as, first, a purely commercial transition between he and a supply and then as a purely appetitive transaction between him and his food” (Berry, 2009, p.304). In this “solitude” the “kitchen and other eating places more and more resemble filling stations” as opposed to environments and opportunities for socialization, cultural connection and understanding mankind’s role in the food system and natural world (Berry, 2009, p. 285).

### 2.3.5 Food Marketing and the Changing Role of Food

The demand for convenience foods led to the rise of convenience food companies and commercial rivalry; this coupled with the fact that food is one of the few universal necessities of life created the groundwork for a competitive environment saturated with food marketing (Simontacchi, 2000). This introduction of “powerful business interests” and a competitive environment surrounding such a critical component of health and wellbeing is detrimental to the struggle for healthy eating (Brownell and Battle Horgen, 2004). Food and beverage companies, like any other industry, have the goal to bring in money by selling a large volume of inexpensive products; despite selling an item that is the foundation of health their goal is not related to quality or nutrition (Nestle, 2002). In order to achieve that goal and build a consistent customer base these companies utilize advertising and marketing tactics. Taste sells and companies play on this evolutionary instinct by highlighting the palatability of their foods, which are generally low in nutritional quality, while simultaneously counting on consumer confusion that inferior nutritional quality is not obvious (Nestle, 2002). Along with the emphasis of taste is a portrayal that encourages consumers to eat frequently and in all circumstances, which

muddles the consumer's knowledge and understanding of healthy eating patterns and meal structure (McKeown, 2010). These messages are delivered consistently, frequently and through a variety of avenues, drastically increasing how and when consumers think about eating, which creates artificial food cravings (McKeown, 2010; Simontacchi, 2000). Research shows that frequent exposure to this marketing that encourages an increase in consumption of nutritionally poor food results in unhealthy eating behaviors and plays a large role in the obesity issue (Brownell and Battle-Horgen, 2004; Lowe et al., 2009).

#### 2.3.6 Food Marketing and Food as a Product

Another way food companies set their products apart from other companies and encourage sales is by creating an air of novelty in the way the products are marketed. The most blatant example of novelty marketing is the way food is advertised to children. Whether this advertising comes in the form of the food product being portrayed alongside a popular and identifiable animated character or as the happy meal that comes with a fun toy and play area the result is the same: wanting the food product no longer has anything to do with the consumable but instead centers on the notions of having fun and being cool (Conner, 2006; Roberts, 2005; Gagnon and Freudenberg, 2012; Roberts, 2005). When the foods consumers buy and eat are purchased without an understanding of or consideration for what the product actually is, it is very difficult to have a healthy diet, especially when those foods are more often than not, nutritionally inferior.

Food companies also differentiate their products and reach consumers through product packaging. Packaging is a method of communication between the producer and consumer that relies on the material, labels, color, design and shape of the product to

convey a specific message and theme (Carvalho et al., 2015). Research shows that this tactic can influence how consumers feel about the product, increase their appetite and influence their purchasing decisions and consumption quantities (Carvalho et al, 2015; Chandon and Wansink, 2010). The danger in this influence is that the food is literally a “shell” of its former self (Nestle, 2002). The food is no longer chosen because of its rich coloring that instinctually conveys the ability to quench hunger and provide sustenance, it is instead picked as a result of the shape of the box it comes in and the aesthetic appeal of the packaging color scheme (Simontacchi, 2000 & 2007). It is about how it looks on the shelf as opposed to what it took to get there and what is in it. That dissociation between food and how it got there/what is in it makes the consumer “passive, uncritical, dependent” and inflicts “a kind of cultural amnesia that is misleading and dangerous” (Berry, 2009, p. 228).

#### 2.4.0 Evolution of Obesogenic BCCFEs

The physical culmination of convenience eating has been the rise of brick and mortar convenience food locations, BCCFEs. The increase of consumers eating at these locations and that physical manifestation of previously discussed, deep-rooted cultural changes is an important phenomenon on a variety of scales. Spaces, whether on an urban or architectural scale, can have strong influences on attitudes, choices and behaviors; experts agree that this is no different when it comes to impacting our relationship with food and therefore our eating patterns and health (Cassady et al., 2004; Mikkelsen, 2011). The general consensus is that these BCCFEs created by the food industry in response to demand from culture changes have become *obesogenic* (Brownell and Battle-Horgen, 2004; Mikkelsen, 2011), “[limiting] our ability to take control of our food system and

make healthier choices” (Gagnon and Freudenberg, 2012, p.4). Studies show that these environments are detrimental to consumer health by encouraging a sedentary lifestyle and excessive food intake (Brownell and Battle-Horgen, 2004). They have also, “played on our cultural advancements and over time manipulated our eating patterns” by incorporated the idea of convenience and food novelty into the built environment (Langdon, 1986, p.10). Against the larger landscape of an obesity epidemic and increase of chronic health issues it is critical to develop a thorough understanding of how these spaces, the consumers and the food and interact together (Glanz et al., 2005). Understanding how the increased urban density of convenience food locations has impacted the consumer/food relationship, looking at how the food industry capitalized on a brick and mortar location to increase revenue and sales and understanding the impact the BCCFE can have on immediately meal/food decisions is the first step to uncovering the mechanisms by which the design of the BCCFE influences the consumer/food relationship.

#### 2.4.1 Urban Saturation of BCCFEs

With the influx of Americans into the work force, the growth in city size and the increase of travel time, Americans were often away from the home during mealtime and in need of an easy and quick way to get their food (Langdon, 1986, p. 5). To get a feel for the expansion of these “quick and easy” locations: McDonald’s locations increased from 240 to 3000 nationwide from 1960 to 1973 and within that time became “a major component of the American economy” (Schlosser, 2002, p. 25). At the turn of the millennium Americans were spending \$110 billion dollars at convenience food restaurants; that is an 1800% increase over the course of 30 years and represents a 50%



decrease on the amount of money spent to prepare food at home within the same time frame (Schlosser, 2002). Convenience food soon became more accessible in other ways as well. In addition to being available are more storefront locations convenience food also became available 24 hours a day, accessible via machines and available just about anywhere a buyer might be found including locations that previously had nothing to do with eating such as drugstores and gas stations (Brownell and Battle-Horgen, 2004; Schlosser, 2001).

These purchase opportunities provide another avenue for the food industry to impact the consumer-food relationship. The increased accessibility of quick, affordable and enticing food discourages food preparation and interaction and creates an expectation for instant gratification (Brownell and Battle-Horgen, 2004; Stead et al., 2004). When food is taken out of its intended context and provided in a manner of such overabundance, ease and enticement the result is a mundane transaction where the consumer gives minimal thought to the origins, makeup or impact of the food they are eating (Brownell and Battle-Horgen, 2004; McKeown, 2010; Nestle, 2002; Schlosser, 2001). Research shows consumption of this nature results in a reduction of healthy eating patterns and increase of obesogenic behaviors (Reicks et al., 2014).

#### 2.4.2 BCCFE's Influence on Individual Meal Consumption Behaviors

Despite an understanding of the evolution of the BCCFE, there has been little research regarding the long term impact those design components have had on the consumer/food relationship, especially compared to how much is known about the impact of increased convenience eating and the rise in the food industry/food marketing. There is, however, an area of research focusing on the impact some of those design components

within the BCCFE have on the immediate context of the meal. Probably the greatest example of this is the influence of the environment and meal presentation on food choice and intake (Wansink, 2010). Patel (2012) found that attitudes and therefore food purchases could be impacted by a variety of factors including music choice and tempo, present colors, smells and lighting. Furthermore, research has shown that consumers can be subliminally encouraged to eat more (in the context of that meal) by environmental cues including plate sizes, packaging, food visibility and dining companions (Choi and Zhao, 2012; Wansink, 2010). This research provides important, introductory data about the power of the design of the BCCFE to influence consumption decisions but it does not answer this study's research question regarding how it can impact eating patterns through the systematic mechanism of the consumer-food relationship.

#### 2.4.3 BCCFE as Strategic Marketing Tool

The increased physical presence of convenience food environments throughout the United States along with the rise of convenience eating as a competitive industry resulted in the use of brick and mortar locations as strategic means reach the business' goal of increased foot traffic, sales and a base of repetitive consumers (Berry, 2009). Not only did convenience food corporations strategically locate the buildings to make them accessible for a majority of people, they also began analyzing at the look and feel of the building itself (Gagnon and Freudenberg, 2012). Initially, the designers attempted to speak to the target demographic of individuals who were eating on the run by creating buildings that were not only visible from the roadway but spoke to those in their cars. Early businesses such as McDonald's and Henry's Hamburgers utilized understated methods such as structures that "leaned forward, as if poised to leap toward the highway"

and soon enlisted flashier tactics such as neon arches, electrified signs and “wings” attached to buildings (Gapp, 1986; Langdon, 1985 & 1986).

The increase in convenience food locations meant that, to remain competitive, companies had to find ways to stand out, to solidify their brand and to create a pleasant experience (Gapp, 1986). In order to do this the design began focusing on the building facades as a means to entice potential consumers, attempting this by using picturesque and approachable materials, colors and textures to convey a sense of excitement and to establish a “personality” (Langdon, 1986). Facades made of “larger expanses of plate glass” soon became popular as a communication mechanism that allowed the passersby to glance in upon an interior with “vibrant liveliness” with the hopes of enticing people in from off the street (Langdon, 1986). With the goal of creating this same effect, convenience food locations also looked towards “entrance spaces” as ways to make a lasting impression and convey the business personality (Lohrey, n.d.). Once inside the goal was to make patrons as conformable and entertained as possible; this was accomplished by creating an air of charm, utilizing an appropriate scale of space, taking advantage of natural lighting and creating comfortable dining spaces that weren’t so comfortable that customers would stay for too long (Langdon, 1985 & 1986; Lohrey, n.d.). More recent tactics that have been enlisted include play areas, meals with toys and mascots (Ohri-Vachaspeti et al., 2015; Schlosser, 2001).

In order to be a pleasant experience that creates returning customers and increased revenue the design had to be efficient on a multitude of levels. For example, proximity and relationship of certain spaces including dining areas and ordering locations became important so as to create an efficient flow that also made sure to lead customers

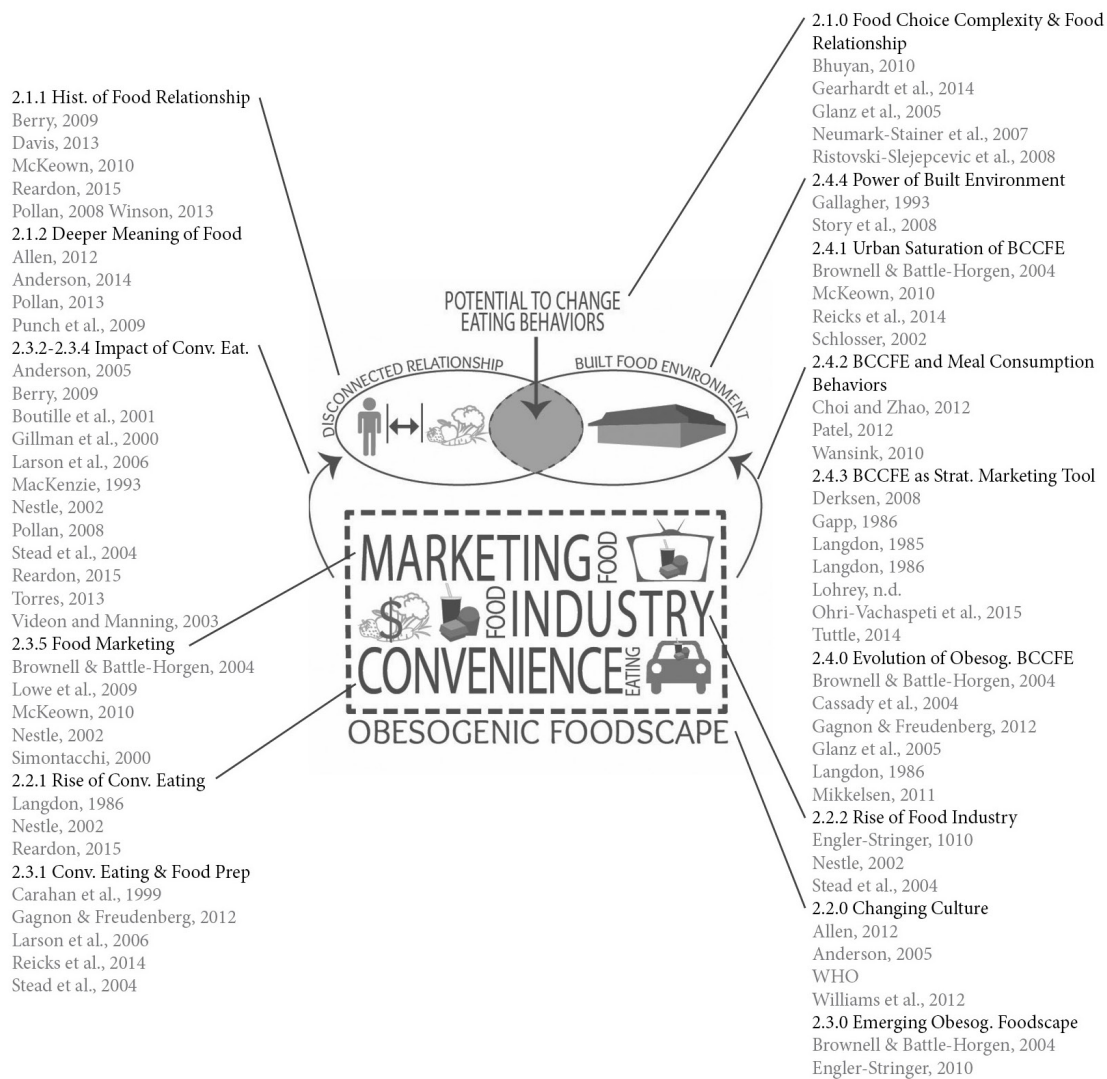
to revenue generating spaces (Langdon, 1985). This also was a contributing factor to the placement and layout of an oversized, well placed menu that utilized photographs of menu items in order for customers to locate their options quickly and of course get a view of items they may be encouraged to buy that they had not originally considered (Langdon, 198; Tuttle, 2014). Finally, because “architectural unity of fast food restaurant chains reflects efficiency” (Gapp, 1986), convenience food companies began “spreading identical stores throughout the country like a self-replicating code” (Schlosser, 2002, as quoted in Derksen, 2008, p. 160). Convenience food companies were soon able to build new locations according to a “cookie cutter business model” that ran like well oiled machines (Derksen, 2008, p.160). The result is an experience of food interaction that is now “unexceptional...mundane...[and] taken for granted” (Schlosser, 2001, p.3).

However, America’s foodscape, especially as it pertains to convenience eating, has changed in a variety of ways since Gapp (1986) and Langdon (1985 & 1986) published their findings regarding how BCCFE impacts the consumer’s food experience beyond the immediate level. New research needs to be done to audit how the BCCFE, and specifically components mentioned by Gapp (1986) and Langdon (1985 & 1986) to be bulleted in chapter 3, has responded to recent market changes such as the public’s call for healthier options and industry transparency. Additionally, this research needs to be done against the background of recent research that the obesity epidemic and individual wellbeing are complex and systematic issues that require interventions greater than food pyramid accessibility and a call to get up and move.

#### 2.4.4 Understanding the Power of the Built Environment

Strengthening the call to analyze the design of modern day BCCFEs and attempt to understand their role in our food relationship is information highlighting the built environments' long-term impact on individuals' attitudes and behaviors (Gallagher, 1993; Story et al., 2008). Built environments in which we eat are considered "behavior settings;" they are spaces that "encourage us to maintain the status quo" where "we are no longer quirky individuals" but instead, in the case of a food environment, mere consumers whose purpose within that space is to purchase and eat (Gallagher, 1983, p. 128). The depersonalization of this experience with food, which in its natural state is an extremely personal relationship, creates a dining environment and experience that encourages consumption based on how the seller wants the buyer to act; as previously mentioned, the food industry's ultimate goal is not health, quality or whole foods. An increase in exposure to behavior settings emboldens the impact it can have on thoughts and behaviors (think of an infant learning to associate certain emotions and/or expectations every time it sees its mother enter the room or bring a high chair out) (Gallagher, 1983). This emphasizes the need to better understand the modern day BCCFE, to start looking at how it impacts the consumer-food relationship and to eventually design spaces that encourage intrinsic, positive eating behaviors with the overall goal being to attack America's obesity issue from the inside out.

## 2.6.0 Concluding Conceptual Framework



**Figure 4 Conceptual Framework and Sources**

## CHAPTER 3

### METHODOLOGY

#### 3.0.0 Introduction

The goal of this study is to develop a better understanding of the design of modern built consumer convenience food environments (BCCFE) and its potential impact on the consumer-food relationship. Before that can be accomplished it is necessary to breakdown and define the mechanisms that impact the consumer-food relationship, to analyze the design components of the modern BCCFE and develop hypotheses concerning the connection between the two. This chapter outlines the study's structure by presenting research topics and questions as well as design approaches and methods that best fit this goal; implications for this trajectory will be discussed in chapter 5.

#### 3.1.0 Research Topics & Questions

**Research Topic:** Design components of the modern BCCFE and mechanisms that impact consumers' food relationships.

The complexity of modern day eating warrants an approach that utilizes the “most logical leverage points for making a change” (Brownell and Battle-Horgen, 2004). Story et al., (2008) found that “individual behavior change is difficult to achieve without addressing the context in which people make decisions.” This, along with the understanding that the foodscape has had a paramount impact on eating habits (Choi and Zhao, 2012) warrants the BCCFE as a potential “leverage point” for creating positive change (Brownell and Battle-Horgen, 2004; Gagnon and Freudenberg, 2012; Hill et al., 2003; Wansink, 2010). Furthermore, the most effective “leverage point” should create

opportunities that result in wide-spread and deep-rooted change; Story et al. (2008) suggest that “our ultimate goal should be to structure...environments so that healthy behaviors are the optimal defaults” and not just short term cause and effect of circumstances (p.266).

Dining at convenience food establishments has become a “thoroughly unexceptional and mundane” experience that millions of individuals partake in everyday without any second thoughts, “rarely [considering] where this food came from, how it was made, what it is doing to the community around them” (Schlosser, 2001, p.3). Despite being mundane, there are important design themes and components there that impact the consumer-food relationship that need to be understood and accounted for; interestingly enough, that mundane eating experience is simultaneously a reason to look more deeply at the environment as well as a result of those same design components this research attempts to identify. There is existing research explaining the mechanisms by which the convenience food environment impacts eating habits in the context of a specific meal and how the increased density of those dining locations impacts cultural eating habits from an urban perspective (California Center for Public Health Advocacy, 2008; Patel, 2012; Wansink, 2010). However, there is little recent research regarding the state of the BCCFE and even less research attempting to understand how consumers are influenced by that built environment especially in regard to the impact on the consumer-food relationship. These are critical components for creating environments that support healthy eating behaviors and choices (Hill et al., 2003; Story et al., 2008). Research question 1 begins to explore this gap.



**Research Question 1 (RQ1):** What is the summation of mechanisms by which convenience eating and food marketing impact the consumer-food relationship and which specific attributes of that food relationship (awareness of food's role in physical wellbeing/nutritional knowledge; attitudes towards mealtime; understanding of food's cultural/social roles; understanding of food origins and preparation) are impacted by those mechanisms?

RQ1 is important for developing a framework for the exploratory phase of the research project. Studies have looked at the ways in which marketing and eating patterns influence one's understanding of food (for the purpose of this study those are referred to as "mechanisms") but these tend to be from a singular perspective (Connor, 2006; Cooke et al., 2011; Roberts, 2005; Royne, 2008). For example, Elliott (2011) looks food marketing utilizing recognizable characters and discusses how that influences children's relationships with food by creating a faux delineation between "kid food" and "adult food." Although that is a fascinating concept, the mechanism of "recognizable characters" does not necessarily translate as a mechanism potentially utilized by the build environment. There does not exist in the literature a general list of influential mechanisms, according to the definition determined for this study that is applicable to the variety of factors that may impact the consumer-food relationship. Although this study uses a grounded theory approach, it is critical to have some sort of direction of focus before entering the observation component of the study. RQ2 seeks to outline a general list of influential mechanisms.

**Research Question 2 (RQ2):** What are common design themes/characteristics in the modern BCCFE? How do those design themes/characteristics relate/parallel mechanisms discussed in RQA1?

As discussed in Chapter 2, Gapp (1986) and Langdon (1985 & 1986) attempted to dissect specific design components of BCCFE and the driving forces for their evolution, however little comprehensive research has been done under the same scope in recent years. Because the food industry and cultural callings have greatly changed since then, it is critical to attempt what Gapp (1986) and Langdon (1985 & 1986) did in the 1980s for our modern day BCCFE. RQ2 seeks to address the lack of current data about the BCCFE and explore the modern BCCFE specifically.

There is little research on the topic of how the BCCFE impacts the consumer-food relationship and one approach to developing a research framework is to build a foundation by piecing together data from previous, applicable studies. This project seeks to analyze ways in which those components that were influential in regard to marketing and convenience eating might be interpreted into the design of the convenience food environment. This analysis is critical because it moves from the exploratory to the generative phase of research using abductive reasoning. Because of the lack of research on this specific topic, researchers will pull from a variety of studies on topics related to this issue via abductive reasoning to build a framework for the observations that will be conducted. RQ3 begins to build the framework.

**Research Question 3 (RQ3):** How do those components play a role in the consumers' convenience food experience? What are consumer's perceptions/interpretations of those design components?

The unique and relatively modern process of convenience food eating has become so commonplace that it is now taken for granted (Schlosser, 2011); however, there are many touch points within the process that, research shows, can impact attitudes and behaviors

towards food and eating (Brownell and Battle-Horgen, 2004; Gagnon and Freudenberg, 2012). Understanding through which design mechanisms people might be influenced is important to the exploratory aspect of the study but finding where people cross paths with those components and what that interaction looks like begins to dive deeper. Answering this question begins to peel back the layers regarding the consumer-food relationship and looking at those design components as the potential connector between the two sides of that relationship. This is the beginning of understanding the impact of the built convenience food environment.

### 3.2.0 Approach

The relationship between food environments and nutritional behaviors is complex and understanding the connection lends itself to a qualitative approach to make sense of that relationship and produce nuanced data that “when properly employed...can improve the conceptual understanding” (Oakes et al., 2009; O’Leary, 2010). Although due to Likert scale and the like questions utilized in the diary study/survey there is a small quantitative component to part of the research. The overall goal is to understand the state of the modern day BCCFE and begin looking at how consumers interact with and interpret the environment; this sets the foundation for uncovering how the BCCFE impacts the consumer-food relationship. These research benchmarks call for an exploratory and generative approach (O’Leary, 2010), directing the study toward a grounded theory methodology (Martin & Hanington, 2012). The initial approach for this study leaned towards a design ethnography perspective but after realizing there was very little information on which to build a survey or questionnaire, a grounded theory approach appeared to be much more suitable (Strauss & Corbin, 1994). The generative and

exploratory research frameworks allow for method flexibility and the combination of these methodologies and approaches was chosen to inform the study's structure and methods.



**Figure 5 Research Approach**

### 3.3.0 Research Method One - Secondary Research Analysis (Martin & Hanington, 2012)

This exploratory and grounded theory approach to the research topic requires developing a research framework by “gaining a solid knowledge base of the design territory and existing artifacts” (Martin & Hanington, 2012; Oakes et al., 2009). Turning towards existing research is an important cornerstone of triangulation in qualitative studies that focus on more abstract phenomenon regarding people, culture, places and situations (Martin & Hanington, 2012; O’Leary, 2010). Existing research also provides “an opportunity to learn from measurement missteps in other research fields” and build off existing information and instruments (Saelens and Glanz, 2009). In a grounded theory approach, this method provides the opportunity to develop a research framework and “appropriate instrumentation,” both of which are critical “to capture complicated constructs” (Glanz et al., 2005; Saelens, and Glanz, 2009). These general foundations must be set in order to provide direction and aim to Research Methods Two and Three (Martin & Hanington,

2012). Research method one aims to develop the structure with which to approach, research method two, observations, by aiding in the following: uncovering a list of mechanisms through which marketing and convenience eating impact the consumer food relationship; coding those mechanisms into a more general, all-encompassing list that is applicable to design components; understanding how specific mechanisms impact specific consumer-food relationship components; and starting a list of general design components, as determined by previous but now outdated research on the BCCFEs, to focus on within the context of hypotheses regarding how they impact the consumer experience.

### 3.3.1 Sampling strategy

Varying types of secondary sources were utilized in Research Method One including previous studies, articles from peer-reviewed journals and relevant books. Sources were initially gathered from those discussed in Chapter Two, Literature Review that pertained to this specific area of research. Additionally, updated searches using university library sources were conducted so as to obtain more specific and updated sources. Specifically, keyword searches included “food marketing impact,” “food relationship,” “convenience eating impact,” “built convenience food design.” Additionally, previously discussed books regarding the topic were looked at through a more focused lens and new books were searched by going through previously read sources’ references lists. Three specific sources were also looked at again with a more critical eye during this research phase: specifically Gapp (1986) and Langdon (1985 & 1986).

### 3.3.2 Data Analysis

The first component of data analysis specific to this research method is to thematically code the mechanisms by which food marketing and convenience eating have impacted the consumer-food relationship; these mechanisms will then be associated with specifically affected, previously laid out food relationship components (for example, food products presented as novelty [mechanism] items reduce food to being viewed as simply a product and therefore impacts one's appreciation for food's role in physical wellbeing [food relationships component]). The resulting list will be general and all encompassing in order to be applicable to design components. BCCFE design components of interest will be determined by looking at those identified by Gapp (1986) and Langdon (1985 & 1986). From here, researchers will create general hypotheses regarding how general design components relate to those listed mechanisms and therefore how they may impact the consumer-food relationship. For example, if research shows that food packaging and/or marketing tactics create the notion of novelty, reducing food to a product, and impacting one's awareness of food's role in physical wellbeing and if design colors and materials are a form of experience/location packaging the assumption is that those design components may create a notion of novelty as well. Results of this analysis will determine what to pay attention to and measure during Research method two: Observations.

### 3.4.0 Research Method Two – Observations

Developing measurable design components and creating hypotheses regarding their impact cannot be done solely through secondary research methods and therefore an empirical research component, in this case referring to observations, is necessary to developing well-rounded data (Oakes et al., 2009; O'Leary, 2010). Previous studies have

highlighted the need to more clearly define restaurant environments in general (Glanz and Hoelscher, 2004) and although studies have worked to quantify the convenience food environment (Caspi et al., 2012; Choi and Zhao, 2012; Glanz et al, 2007; Story et al., 2008); none to the knowledge of this project have attempted to comprehensively audit the components that may systematically influence the consumer-food relationship. This research method attempts to approach that gap.

To accomplish this, researchers will audit the modern BCCFE via observation through the lens of the design components studied in the 1980s by Gapp (1986) and Langdon (1985 & 1986) and by utilizing a framework regarding how those design components are hypothesized to parallel the mechanisms and their impacts coded during research method one. Observations will skew towards a semi-structured format where researchers have preconceived questions, but are open to new findings (Sung, 2015).

#### 3.4.1 Sampling Strategy

Research method two is based on a purposeful, homogeneous sampling strategy. This decision was based on the deliberate nature of desired locations as well as the need to reduce variation and simplify the analysis process considering the findings are aimed at developing survey questions for research method three (Sung, “Research Design,” 2015). When determining sample selection it is important to choose a sample that is large enough for generalization but small enough to be a manageable endeavor (O’Leary, 2010). As a result, researchers decided to focus on two fast food establishments (two “populations”) with a goal to derive analyses for more than a singular establishment but be able to observe multiple locations from each population within the set amount of time.

Because the focus of this research method is the modern BCCFE, researchers focused on fast food establishment popularity and growth to determine what populations to observe. McDonalds has consistently marked some of the highest sales in the industry and is continuously expanding their brick and mortar location and were therefore chosen as the first population (Harris et al., 2013; McIntyre, 2015). Chick-fil-A was chosen as the second population because of findings that find them to be America's "favorite fast food chain" and due to their high increase in sales over the past five years (Fitzpatrick, 2015).

It is suggested that recruiting a total of twenty (20) participants is needed to reach saturation for a grounded theory approach but because this method sets the foundation for research method three, researchers decided to conduct observations until themes began to arise, which they felt was after eight (8) locations (Sung, "Observations," 2015).

#### 3.4.2 Data Analysis

A common barrier studies focusing on food environments and nutrition behavior often run into is unnecessarily complexity of data and data analysis (Oakes et al., 2009). That understanding, coupled with the study's grounded theory approach and dependence on exploratory research, calls for the analysis method will be kept simple. Data for qualitative research, especially in regard to physical environments, often takes the form of words, pictures and icons, data that is effectively analyzed through thematic coding (O'Leary, 2010).

#### 3.5.0 Research Method Three – Survey

As specific design components and their possible impact on the consumer-food relationship begin taking shape, the exploratory phase will be expanded upon and the



generative research phase will begin by conducting surveys while participants are in those BCCFEs. This portion of the study focuses on testing previously developed hypotheses, uncovering how participants interpret and understand designated design components and understanding if that plays a role in their food relationship. Generative research aims to uncover participants' thoughts and experiences within a specific context and benefits from methods that "engage users in creative opportunities to express their feelings...resulting in rich information for concept development" (Martin & Hangington, 2012). This approach to understand user attitudes is limited in that "people may be unaware of how much influence a particular factor has on their behavior: (Choi and Zhao, 2012). Researchers find that non-face-to-face and quick response questions can be a way to overcome this (Walden et al., ND) and that questionnaires can help reduce "social desirability effects" more so than interviews (Diam & Agante, 2011). The overall framework of this approach lends itself toward a survey that will prompt participants while in those BCCFEs to note their feelings towards determined design components by utilizing open-ended work association questions; it will also attempt to understand the attitudinal impact through Likert scale questions and will try to determine the degree of that influence through ordinal ratings and cumulative questions (Designing Effective Surveys). This self-reporting approach provides participants the opportunity to weave their stories and experiences into the research to help "leverage the WHY as well as the WHAT" (Seemann, 2012).

### 3.5.1 Sampling Strategy

The goal of qualitative research is to develop a thorough and in-depth understanding of people, places and experiences and therefore requires a nonrandom

sampling strategy with a small number of participants (O’Leary, 2010). Therefore this study aims to recruit twenty (20) participants with specific requirements. These requirements include individuals, both male and female, 18-49 years of age who frequently obtain their food by entering one of the two population convenience food locations, “frequently” for the sake of this study being defined as two or more times per week (Anderson et al., 2011). Participant age range was determined by the statistics that young adults age 18-29 are the largest consumers of convenience food and that consumption frequency declines with each bump in age group; the age range of 50-64 eats convenience food an average of once per week and has a 5% decrease in convenience food eating compared to the 30-49 age group (Dugan, 2013). A cross sectional representation of individuals who eat convenience food at least once a week were identified and recruited in the Phoenix, Arizona metro area by posting recruitment material (see Appendix B) on the Arizona State University Campus as well as through social media outlets. Recruitment material will invite the target demographics to participate in the study and explain the purpose and procedures of the study.

### 3.5.2 Data Analysis

The survey (see Appendix A) is meant to test certain hypotheses that will be developed during Research Method Two and therefore answers to certain questions within the survey will be analyzed and those relationships will be compared between different participants’ surveys. Certain questions have more definitive answers, such as the Likert scale questions, and therefore analysis will be straightforward but others, such as the open ended questions, may have a wide variety of answers and therefore will be thematically coded.

### 3.6 Institutional Review Board

The study was submitted to the Institutional Review Board (IRB) in April of 2015 (see Appendix B) and approved with exempt status in that same month (see Appendix C).

### 3.7 Data Collection

Data collection for research method one occurred on a continual basis from May 2015 through October 2015. Data collection for Research Methods Two and Three occurred in September of 2015 with concurrent data analysis being conducted through early October 2015. Upon contacting researchers, participants will be supplied with the survey booklet which has directions as to creating an anonymous ID, how to fill out the survey and what to do with it when complete. A pilot study for the diary study/survey was conducted in August 2015 (see Appendix D)

## CHAPTER 4

### DATA ANALYSIS

#### 4.0.0 Introduction

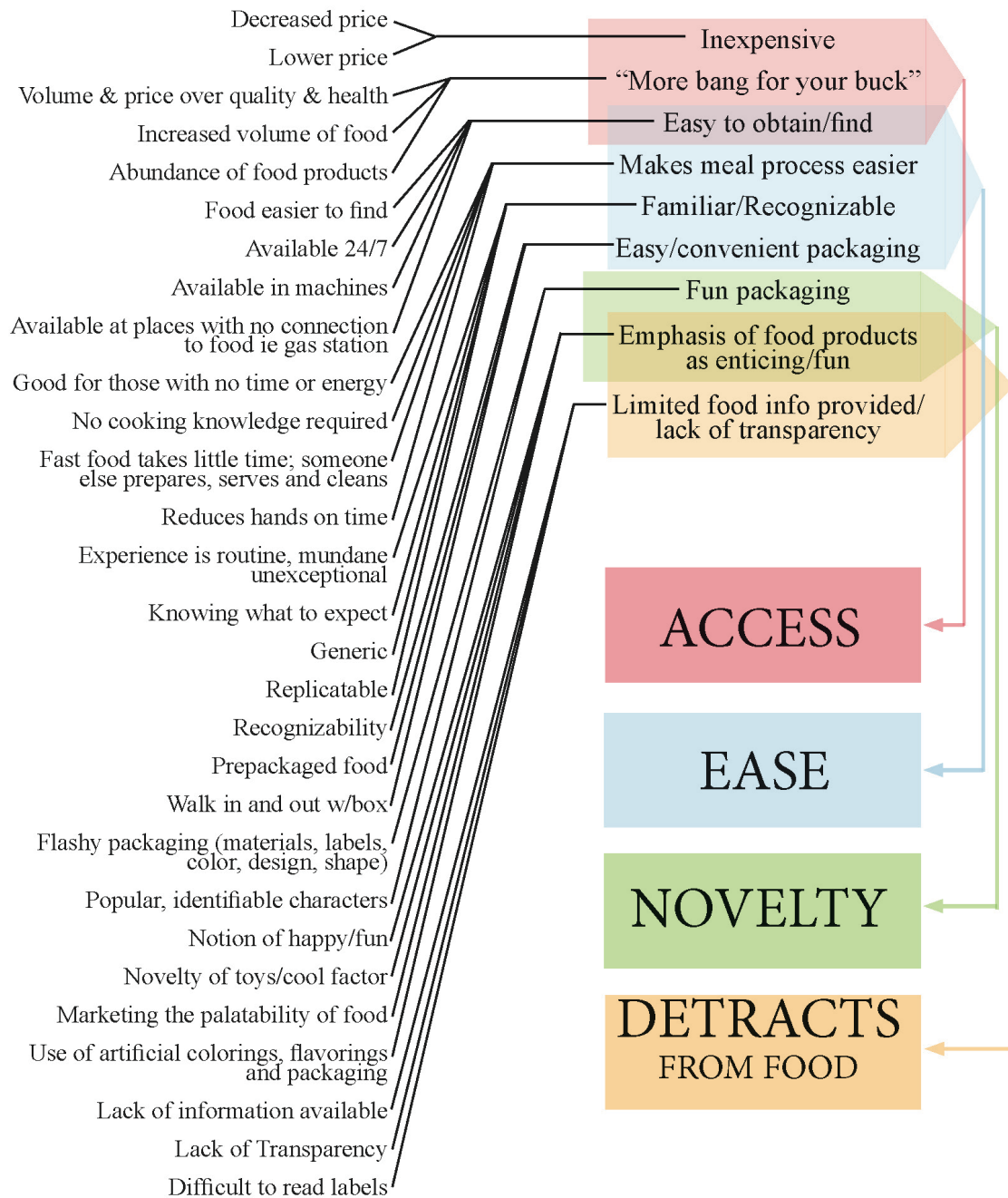
As discussed in chapter 3, this project follows a grounded theory methodology where findings from each phase of research help direct and build a foundation for the following research method. This chapter will walk the reader through the findings from research methods 1 and 2, secondary research analysis and observations, and explain the implications for the proceeding research method. Additionally, raw findings from research method 3, surveys, will be presented. Implications of the findings from the surveys in regard to the relationship between design components of the built consumer convenience food environment (BCCFE) and the consumer-food relationship will be discussed in chapter 5.

#### 4.1.0 Secondary Research Analysis - Marketing and Convenience Eating Mechanisms

There is little research regarding the intersection of the consumer-food relationship and the design of the BCCFE; therefore, during this exploratory phase, previous research regarding the mechanisms by which marketing and convenience style eating impact one's relationship with food were used as a foundation on which to hypothesize the potential connection between design components of the BCCFE and food relationship. These hypotheses were used to develop a framework for the subsequent research methods. To review, for the purpose of this study components of the consumer-food relationship are considered a) awareness of food's role in physical wellbeing and nutritional knowledge (food's role in wellbeing) b) appreciation of mealtime traditions

and food's cultural and social roles (appreciation for traditions and roles) c)  
understanding of food origins and preparation (food origins).

Although food marketing and convenience eating, as well as their implications regarding eating patterns, were addressed in chapter 2, a further analysis of what those specific implications are as well as a list of the specific mechanisms through which they work is necessary before moving forward in this study. Initially, marketing tools and components of convenience eating were pulled from the secondary sources and, due to the large number of data, were classified to create subgroups. For example: statements such as “eating out takes little time,” “someone else prepares, serves and cleans,” “reducing time, effort and hands on interaction to put food on the table” and “ideal for those with little time or energy” were grouped into the subcategory of “making the meal process easier.” Those subgroups determined, in order of relation to one another, were: inexpensive, more bang for your buck, easy to obtain/find, makes the meal process easier, familiarity and recognizability, easy packaging, fun packaging, emphasis of food products being fun/enticing and reduction of food information provided/lack of transparency. Those subcategories were narrowed further for ease of analysis in the following research methods as well as to bridge the gap from marketing and eating patterns to design. Those overall mechanism themes that arose were: increased accessibility of food (access); reduced involvement in putting a meal on the table (ease); portrayal of food as exciting product and a component of novelty (novelty); and a detraction from food composition and nutritional value (detraction). See Figure 4.1 for mechanisms that were pulled from secondary analysis, their subcategories, and how they fit into the broader categories that were defined.

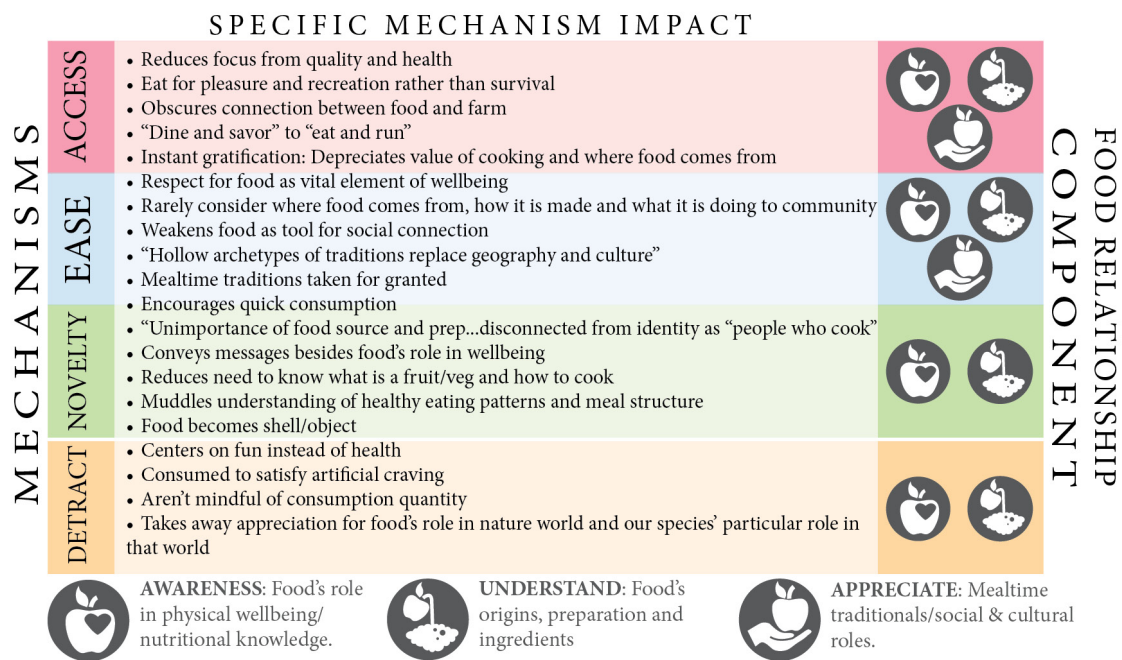


(Allen, 2012) (Berry, 2009) (Brownell & Battle-Horgen, 2004) (Carvalho et al., 2015) (Conner, 2006) (Derksen, 2008) (Engler-Stringer, 2010) (Gagnon & Freudenberg, 2012) (Gapp, 1986) (Langdon, 1985) (Langdon, 1986) (McKeown, 2010) (Nestle, 2002) (Pollan, 2008) (Pollan, 2013) (Roberts, 2005) (Schlosser, 2002) (Simontacchi, 2007) (Stead et al., 2004) (Torres, 2013)

**Figure 6 Mechanisms of Marketing and Convenience Eating that Impact Food Relationship, Coded**

#### 4.1.1 Secondary Research Analysis - Impact of Mechanisms on Consumer-Food Relationship

Initially, there was going to be a specific analysis regarding which components of the consumer-food relationship each mechanism impacted but once data was analyzed it became apparent that these relationships could be generalized. For example, access and ease impacted all three components (food's role in wellbeing, appreciation for traditions and roles and food origins) while novelty and detracton both impacted awareness of food origins/preparation as well as the understanding of food's role in wellbeing (see Figure 4.2).







**Figure 7 The Impact of Mechanisms on Food Relationship**

#### 4.1.2 Implication for Observation Framework

Although direct parallels cannot be distinguished between the design components of the BCCFE and the mechanisms previously discussed (access, ease, novelty, detracton),

initial assumptions regarding comparability are necessary due to the lack of research regarding the specific topic as it relates to design components. The beginning of a grounded theory approach must start somewhere and grow and this was the goal of this research method. An overarching list of the general components of the BCCFE according to Gapp (1986) and Langdon (1985 & 1986) as discussed in section 2.4.2 along with the mechanisms they are hypothesized to parallel are listed in Figure 4.3. These relationships provided the framework and focus for research method 2, observations, and were utilized in research method 3, surveys, to develop a number of the questions.

		DETRACT	NOVELTY	EASE	ACCESS
DESIGN COMPONENTS - GAPP (1986) & LANGDON (1985)(1986)	Architecture branding				
	Flasty aesthetic				
	Materials	X	X	X	X
	Signs				
	Patterns				
	Structure shape		X		X
	Visibility to inside		X		X
	Facade		X		X
	Standardization of aesthetics & experience		X	X	
	Approachable & picturesque entrance		X	X	
	Food visibility and presentation	X		X	
	Design/layout of ordering area	X		X	
	Aesthetics/materials/layout of dining space		X	X	
	Lighting			X	
	Floor plan - circulation			X	X
	Floor plan - programmatic layout and relationships	X		X	
	Public vs. private spaces				X
	Aesthetics - charm and personality	X	X		
	Scale of space				X
	Placement of menu boards and food pictures	X		X	
					

**Figure 8 Understanding How Gapp (1986) and Langdon's (1985 & 1986) Design Components Relate to Mechanisms**



#### 4.2.0 Observations

Before moving forward with developing hypotheses regarding how design components of the modern BCCFE may influence the consumer food relationship it is necessary to see how those components mentioned by Gapp (1986) and Langdon (1985 & 1986) exist in the modern BCCFE. Overall, it appears that convenience food establishments may be using the built environment to respond to consumers' recent desire for healthier options and an overall experience that feels less rushed, impersonal and mechanical (as discussed in section 1.2). Because the implications of findings during observations set the groundwork for developing hypotheses to be looked at during the survey research method, the discussion portion for research method two will be discussed in this chapter instead of in chapter 4.

#### 4.2.1 Observations - Exterior

Gapp (1986) and Langdon (1985 & 1986) discuss the structure of convenience food environments as deliberate marketing and branding tools during the early years of brick and mortar convenience food locations. Via observations it appears that this may still be a component in modern BCCFE but some of those components look different now. Similarly to Gapp and Langdon's observations, all the locations observed were standalone buildings however, unlike their observation that many locations were located off of freeways, all except for one location observed for this project were located in a parking lot in a strip mall-like development (see Figure 4.4). Although the exterior of modern BCCFEs no longer seems to utilize bright neon lights and flashy shapes to draw attention, the overall observation was that buildings did have unique and interesting components. Locations observed either had a homelike shape and accents such as

awnings, chimneys and pitched roofs or were extremely modern with sleek lines, a



**Figure 9 Observation of BCCFE Structure**

variety of textures and interplay of shapes and lines.

With either theme, all locations were single story with a human appropriate scale and did not seem to have a regard for local design aesthetics.

Langdon also (1985) mentions that the use of large glass expanses was intended to enhance visibility into the space and create a sense of excitement regarding the impending experience. The more homelike structures observed seemed to follow this theme but the more modern structures often-utilized reflective glass where visibility inside was minimal. Two consistent themes between locations were some sort of interesting occurrence

of shape or material regarding the buildings entrance and the overall use of neutral colors in the building with the exception of the brightly colored logo and potentially some accents to match such as trimming, awnings and/or umbrellas (see Figure 4.5).

#### 4.2.2 Observations: Exterior and Mechanisms of Ease, Access and Novelty

Gapp (1986) and Langdon (1985 & 1986) discuss the intentional tactics behind the exterior design of early BCCFEs, which is elaborated on in section 2.4.3, and according



to that information researchers determined that, by playing on a sense of familiarity, recognizability and generalizability, the building's exterior relates to the mechanisms of ease and access. It appears that exterior design of modern BCCFE no longer have that generic sense of being easily replicated from location to location but the lone standing, interesting structure of these locations and the presence of a highlighted logo do make them easy to find and recognize. Additionally, those buildings that are homelike may create a sense of familiarity and comfort and therefore play on the mechanisms of ease and access.

These same components may also create a sense of excitement and therefore play on the mechanism of novelty. BCCFE observed were standalone buildings; researchers believe that there is the potential that these independent, isolated structures create a greater sense of excitement and novelty than a location retrofitted into a strip mall suite.

Additionally, the coloring scheme that allows for the branding components and colors to stand out in details such as the logo, trimming, awnings and umbrellas may add excitement to the experience and therefore a sense of novelty. Although Langdon's (1985) original mention of large glass expanses is no longer a common thread between modern BCCFE locations, the use of reflective glass may provide the same experience by creating a sense of anticipation regarding what is inside the building and create a sense that what happens inside that space is separated from the outside world. Lastly, the presence of structural and aesthetic disregard for the surrounding community and region detracts from a sense of "locality" which, researchers suggest, is an important component to understanding where food comes from and what to do with it (Berry, 2009).

#### 4.2.3 Observations - Ordering Space and Kitchen Visibility

Another deliberate design component of the BCCFE mentioned by Gapp (1986) and Langdon (1985 & 1986) was the placement of menus with fewer options and large, well placed pictures in hopes of encouraging the consumer to make quicker decisions and, in conjunction with the introduction of already prepared meal components, making the meal prep process as efficient as possible. Therefore, the ordering space and food visibility were observed for this research project. Main themes discovered during



**Figure 12 Observation of Ordering Space**

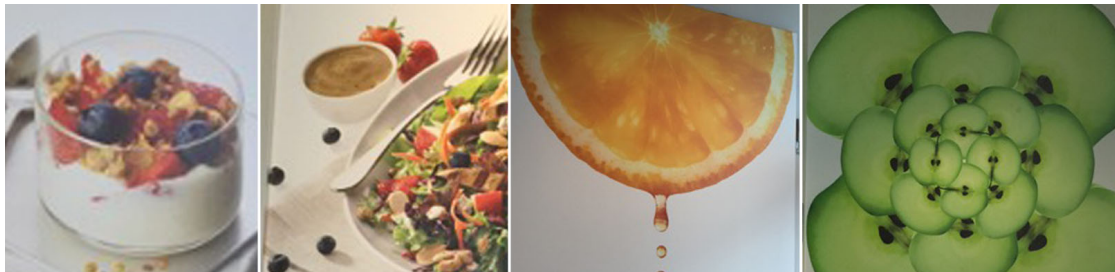


**Figure 13 Observation of Kitchen Visibility**

observations include location of the counter space upon entering the environment and a prominent, LED lit menu with large photos of food products (see Figure 4.6). Despite food products and options being apparent, food processes, interactions and ingredients in



their natural form were not. One slightly older location had a relatively open kitchen but it appears most convenience food locations are beginning to close off visibility into the kitchen, therefore reducing food process visibility (see Figure 4.7). This is most likely because any part of the kitchen that is visible feels industrial; the kitchens often contained a great deal of shiny metal materials, bulk packaging materials, large pieces of equipment, prepackaged meal components and computer screens. The only “food” interaction opportunity for consumers to potentially take part in or observe was the opportunity to fill their own beverage cups. Additionally, even the opportunity to see food and/or food ingredients in their more natural state was minimal. Only one location had two pictures of raw ingredients and another location had fresh ingredients as a garnish in the background of their prepared meal photos (see Figure 4.8).

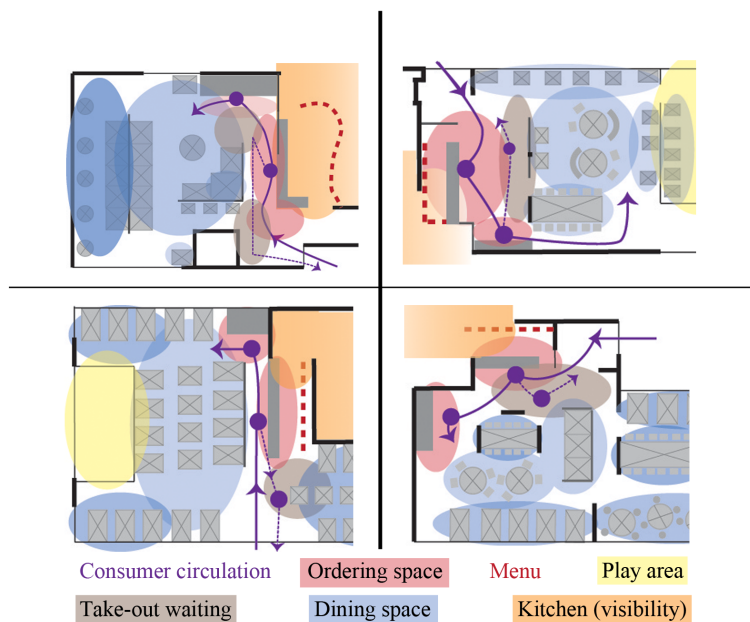


**Figure 14 Observation of Presence of Natural Foods**

#### 4.2.4 Observations: Ordering Space, Kitchen Visibility and Mechanisms of Ease & Detraction

Researchers hypothesize that these qualities may influence the consumer-food relationship via the mechanisms of ease and detraction. For example, the obviousness of the brightly lit menu with large food product pictures may encourage a less mindful, simpler thought process to food choice and in turn lower and potentially remove the role of food’s impact on wellness from the final decision. Additionally, the lack of visibility

between the consumer and their food processes is hypothesized to muddle the consumer's understanding of where their food comes from, what is in it and how it was prepared. If visible, the kitchen/food preparation areas often contained large, industrial machinery and similar materials. These aesthetics convey an assembly line, industrial feeling that may impact the consumer's attitude towards the food process, making it seem more manufactured as opposed to organic and natural. Continuing with the notion of food process visibility, is the opportunity, or lack thereof, to see food in its natural state whether via photo or in person. Researchers hypothesize that this distances the consumer from where their food comes from, what is in it, how it got into the state it is in and the natural, physiological impact it has on wellness.



**Figure 415 Observations Interior Circulation**

#### 4.2.5 Observations: Interior

##### Space

Another design

component discussed by Gapp

(1986) and Langdon (1985 &

1986) was circulation within

the interior space and its use as

a tool to funnel people towards

revenue producing programs

within the space. Although this

tactic did not appear to be as apparent in the

modern BCCFE observations because the revenue producing ordering space was directly

in front of or next to the entrance, the circulation appeared to be an important component

to investigate (see Figure 4.9). Langdon (1986) also makes note of the use of interior materials, colors and aesthetics to create a sense of “charm” and personality within the space and therefore these were noted during observations as well. One obvious common theme was an ease of circulation and flow within a relatively open floor plan and lack of visual disturbances throughout the space (see Figure 4.13).



Overall establishments appeared to be attempting to move away from the typical fast food feel by creating bright, more natural feeling and less industrial spaces. In regard



**Figure 16 Observation Interior Aesthetics**

to interior aesthetics, with the exception of any kitchen visibility,



**Figure 17 Observation Interior Lighting**

most environments

used clean and natural feeling materials such as tile and wood along with mostly neutral

colors with the exception of green, natural feeling accents and incorporation of branding colors (see Figure 4.10). Most spaces, especially the newer ones, also utilized a great deal of natural lighting, an intentional attribute obvious from the use of skylights and high windows (see Figure 4.11). However, even with the adequate natural lighting, establishments often still incorporated hanging lights



**Figure 18 Observation Interior Homelike Aesthetics**



**Figure 19 Observation Interior Open Floor Plan**

fabrics and textures and framed artwork. Some of the newer locations also appeared to have begun playing with ceiling aesthetics; moving away from the typical drop tile ceiling and trying to incorporate a more appealing visual and feel. Similarly, some of the locations that did not feel as homelike attempted to play on that appealing and visual feel by creating interesting and dynamic interior spaces through materials and structures. Lastly, the lack of advertisements anywhere in the interior space with the exception of around the ordering area was apparent and most likely an attempt to help consumers not feel like they are trying to be sold while sitting and eating.

#### 4.2.6 Observations: Interior Space and Mechanisms of Novelty, Ease and Access

Similar to findings regarding the exterior aesthetics and structure, researchers hypothesize that the interior spaces relate to the mechanisms of ease, accessibility and novelty by portraying a feeling of familiarity, simplicity and excitement of experience.

most likely to add personality and create a more homelike feel (see Figure 4.12).

Other homelike accents included flowers on the table, softer (in terms of tactile and visual)

The first common theme determined during observations regarding the interior environment was an open floor plan with consistent visibility; these characteristics convey a sense of simplicity, making the consumers feel comfortable in the space and allowing them to navigate the space with less thought. As noted earlier by Schlosser (2011) this creates a mundane and unexceptional dining experience which is not given the thought or credit it deserves for its role in our wellbeing. Another observed theme included tactics to make the space feel less like a typical fast food location and make it feel either more comfortable and homelike or dynamic and exciting. Researchers hypothesize that those more home like environments relate to the mechanism of ease by making consumers feel comfortable and like they are not in a convenience dining establishment but instead are in a less rushed, sit down establishment. Researchers also hypothesize that those more dynamic environments may relate to the mechanism of novelty by creating a sense of excitement because that interior space now conveys a sense of uniqueness, interest and therefore novelty regarding the experience at that particular location.

#### 4.2.7 Observations: Dining space



**Figure 20 Observation Dining Space Options**

The general notion of convenience style eating minimizes the importance of mealtime traditions

and its social/cultural roles by playing on the mechanism of ease. However, per

extensive discussions by Langdon (1985 & 1986) regarding the deliberate ways convenience food restaurants influence the consumer's dining experience, for example by making their dining spaces just comfortable enough to sit but not so comfortable to encourage an extended stay and therefore increase consumer turnover, it was determined to observe and analyze the design of the dining area to determine if there may be an impact on the consumer's experience. One initial observation was that tables located closer in proximity to the ordering and takeout waiting areas rarely had diners sitting at them and, along those lines, most locations offered dining spaces with a variety of privacy levels, although no locations had an entirely private dining opportunity. It appears that most convenience food establishments are even making a conscious effort to separate the often busiest of programs, the play area, from the dining space by containing it within a glass area (see Figure 4.15).



Figure 21 Observation Separated Play Spaces

Overall, diners seemed to be relatively comfortable due to the fact that at the majority of locations, most consumers were dining-in patrons (when compared to take out and drive thru); when just looking at those who

walked into the building (take out

patrons and sit down patrons) every location had more sit down patrons than take out.



Regarding those diners who stayed in, party sizes varied from singles to larger groups and some of the more updated locations attempted to accommodate those different personas by providing different seating options including larger communal tables and sometimes high top, counter style seating (see Figure 4.14). This may be representative of convenience food establishments trying to provide flexible dining spaces that are more creative than just moveable tables and chairs. One last observation in regard to what contributes to patrons dining experience is that some locations have the typical convenience food process where consumers retrieve their food packaged food from the counter and others had staff members who brought the packaged food out to the consumer on a tray.

#### 4.2.8 Observations: Dining Space and Mechanisms of Access, Detraction and Novelty

First and foremost, the mere space and opportunity to sit and eat at convenience food locations complete the circle of “making the whole process of putting a meal on the table exceptionally easy” and therefore begs the question: by just having a dining space in the BCCFE are these establishments automatically creating a muddled understanding of the food process. Before taking on that question, researchers decided to focus on the hypothesis that a variety of these components observed during observations may impact the consumer’s ability to partake in a mindful meal. For example, do available privacy levels, determined by table placements and layout in regard to barriers, and the mere presence of busier programs detract from what should be the main player during the dining experience: the food? Researchers also hypothesize that seating flexibility and the more modern BCCFE with a variety of seating options create an air of novelty around the dining experience. First, the opportunity to move tables around and a variety of seating

options and spaces reduces the typical convenience food environment feel of an inability to be individualized and a sense of systematic duplication. It also allows a variety of sizes of parties to be comfortable and accommodated within the space that makes the dining experience more enjoyable. Lastly, the modern introduction of interesting table shapes, seating options and textures and colors provides a uniqueness and interest to the space.

#### 4.2.9 Implications for Survey

These general hypotheses gathered according to the secondary research analysis and observations beg specific questions that need to be addressed in the survey. These include but are not limited to: Are consumers coming for an experience and not the food and do design components uncovered during research method two play a role? Can consumers interact with and see food (processes)? Do design components play a role in that hindrance and/or encouragement? How do consumers interpret aesthetics? Do they associate them with food and eating? If associated with something else does that take away from their awareness of food within the space? Does the interior encourage thoughtful food choices? How does the environment impact the actual dining experience?

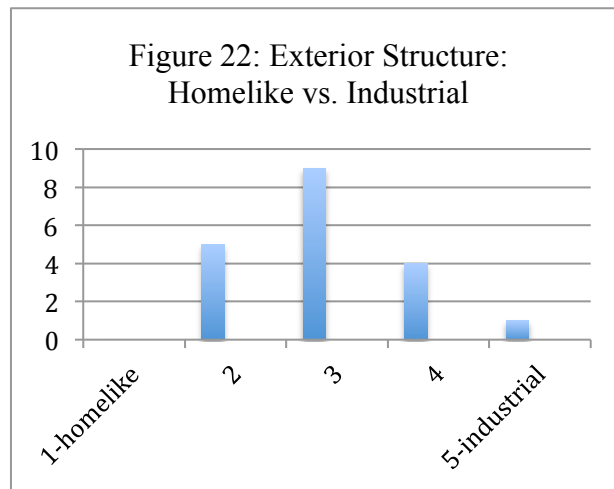
#### 4.3.0 Survey Findings

As mentioned by Choi and Zhao (2012), individuals are not often aware of how their attitudes affect behaviors or how they make food choices and therefore themes that researchers needed to uncover via the survey could not be asked as direct questions. Instead, the survey was designed in a way where those themes can be developed by analyzing the answers to a variety of questions. The following sections will analyze what

those various questions were and how their relationship to other questions in the survey uncovered the desired themes.

#### 4.3.1 Structure and Exterior Aesthetics Relation to Ease and Novelty

The hypotheses determined per secondary research analysis and observations suggests that the uniformity between convenience food chain locations and a homelike exterior create a sense of familiarity, that exterior aesthetics and visibility

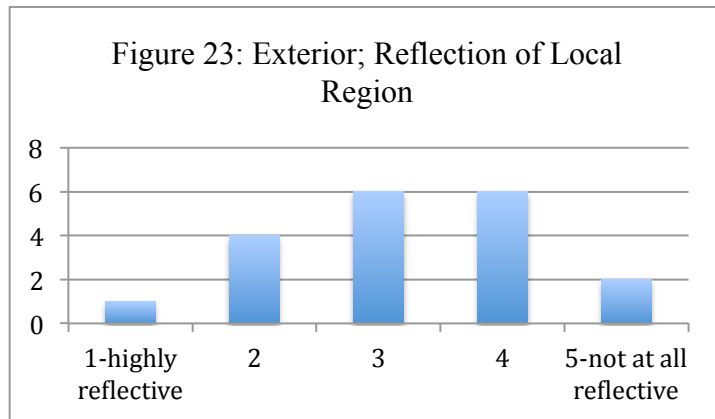


to the indoor programming create a sense of novelty and excitement and that a lack of regionally focused aesthetics diminish the importance of locality and its role in food's growth, cultivation and production. In order to begin testing and further understanding these hypotheses, questions analyzed from the survey included: what was the specific type of structure (stand alone, strip mall, other); if the building's exterior played a role in a spur of the moment decision to dine at that specific place; what were the first design components noticed regarding the building's exterior; to what degree the exterior feels familiar; if it feels more home-like or industrial; and to what degree is the exterior reflective of the region?

All structures visited during survey completion were standalone buildings. Only 3 (16% of) participants thought the exterior of the building played a role in the spur of the moment decision to eat at that location. However, on a scale of 1-5 (1=minimally

important; 5=extremely important), those participants averaged a rating of how large a role that factor played in their decision as a 1.3 or minimally important. On a scale of 1-5 (1=structure feels homelike; 5=structure feels industrial) participants' average rating was 3.1; specific breakdown of answers listed in Figure 4.16. On a scale of 1-5 (1=highly reflective of the local region; 5=not at all reflective of the local region) participants' average rating of the exterior

of the building as reflective of the local region was 3.2, meaning "relatively reflective;" specific breakdown listed in Figure 4.17. On a



scale of 1-5 (1=feels very familiar; 5=does not feel familiar at all), participants' average score of familiarity was 1.5 meaning very familiar with all participants marking either 1-very familiar or 2; no participants marked option 3, 4 or 5.

General Theme	Specifics Mentioned
Color	Earth tones, muted, tans, reds; bright colors associated with establishment ie McDonalds and yellows/reds.
Overall shape and feel	Sleek; modern; updated; box-like; single story; home-like; clean lines; "pop up oasis in parking lot"
Texture/Materials	Wood (natural and dark); pavers/stone; shiny/reflective glass; mix of textures
Building accents	Logo; bright arches (McDonalds); bright trimming; colored window coverings/awnings, umbrellas; chimney shape; aligned windows
Entrance	Double doors; reflective, shiny glass; called out via façade pop-out, peaked roof, logo alignment
Drive thru	Busy, with lots of cars; "feels like car wash," "well oiled machine"

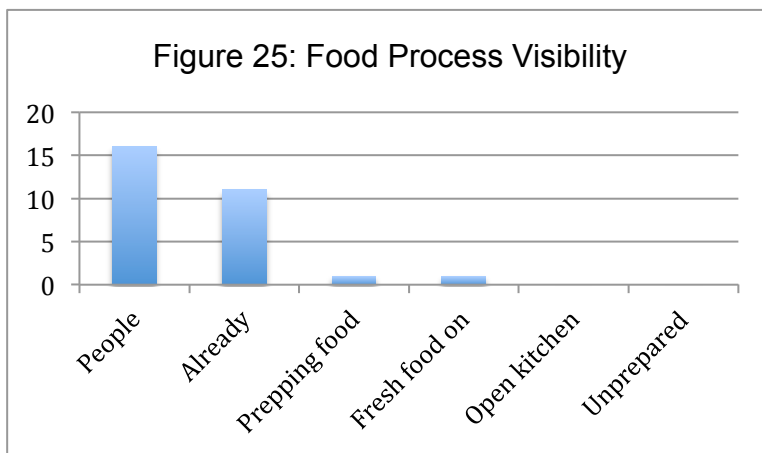
Figure 24 Survey, What Participants Notice Regarding Exterior



The main themes regarding what participants noticed as they approached the building were the colors, overall shape, textures/materials and building accents (see Figure 4.18).

#### 4.3.2 Ordering space, Kitchen Visibility and Relation to Mechanisms of Ease and Detraction

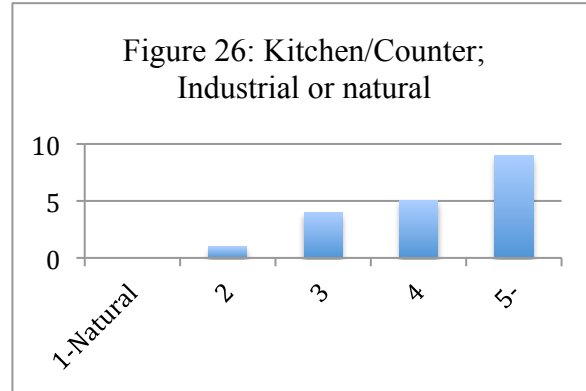
A second hypothesis developed during research methods one and two is that the design of the counter/ordering space and visibility of food/food processes impact the



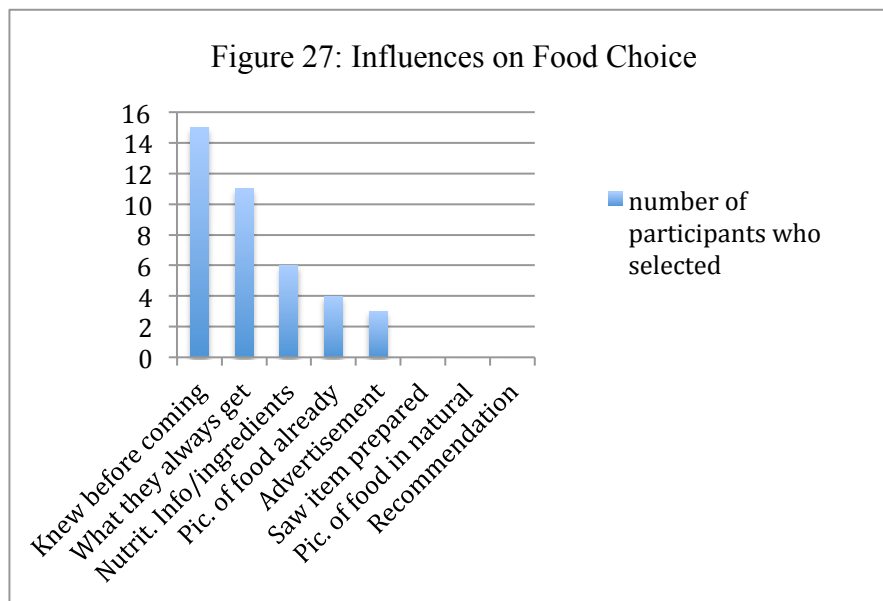
thought that goes into food choice, potentially making it a less thoughtful and/or distracted process, and disconnect the consumer from what is in their meal as well as what it took to

prepare the food. In order to dive further into this hypothesis, questions analyzed from the survey included: what is first noticed when approaching the counter; what food preparation processes are visible from the order space; what plays a role in food choice, and to what degree; if participants associate the kitchen/counter space as more natural or industrial?

In regard to what food processes were visible from the ordering space, the answers are listed in Figure 4.19. On a scale of 1-5 (1=counter/kitchen space feels natural; 5=counter/kitchen space feels industrial), participants'



average rating was 4.2 meaning they felt the kitchen and counter space felt industrial-very industrial; a specific breakdown of ratings is shown in Figure 4.20. In regard to what factors had an impact on what the participants chose to eat are represented in see Figure 4.21. When asked what were the first components noticed upon walking up to the

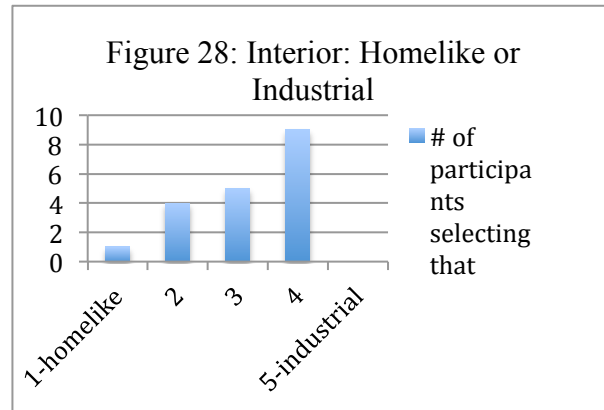


counter to order, participants listed, in order of frequency: the menu; server/staff; soda/soda machine; materials/textures; an advertisement and/or picture;

lights/brightness of menu and pictures; the register; packaging materials; colors; equipment; logo; already wrapped foods. One interesting mention includes one participant stating they noticed the obviousness of the “ease of the whole process.”

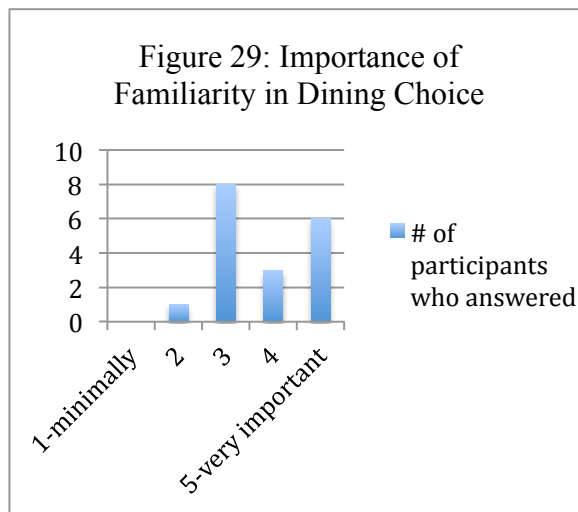
#### 4.3.3 Interior Space and Relation to Novelty, Ease and Access

Another hypothesis developed per secondary analysis and observations was that the simple and easily navigated layout/circulation creates a sense of familiarity and that interior aesthetics.



In order to begin testing and further understanding these hypotheses, questions analyzed from the survey included: if and to what extent specific characteristics played a role in choosing that location including the interior atmosphere and a sense of familiarity with the location; if the interior layout and interior aesthetics feel familiar; if the interior feels

more natural, homelike or industrial; if the interior is reflective of the local region; and an overall description of the interior aesthetics and qualities.



Out of 19 participants, 6 (32%)

mentioned that the interior atmosphere/ambiance played a role in their decision to eat at that location with

an average rating on a scale of 1-5 (1=it played a minimally important role; 5=it played a very important role) of 3.2, moderately important (see Figure 4.23). All with the exception of one participants stated that a sense of familiarity played a role in their choice to dine at that location with an average rating of 3.8, representing that the degree of that

role was “important;” a breakdown of those ratings is listed in figure ABC. Average ratings for both “how familiar the interior aesthetics feel” and “how familiar the interior layout feels” were, on a scale of 1-5 (1=highly familiar; 5=not at all familiar) were 1.6 with all participants either marking 1,2 or 3. On a scale of 1-5 (1=homelike; 5=industrial), participants’ average rating of how the interior space felt was 3.2 (Figure 4.22).

Finally, common topics brought up by participants when asked to describe the interior space and aesthetics included colors, materials/textures, the overall feel of the space and overall aesthetic. Specific descriptions according to these categories are shown in Figure 4.24.

General	Specific
Colors	Earth tones; neutral colors; light colors; warm tones; natural colors; greys; “tables with many colors”
Materials/textures	Tile, wood; LED lights; plastics; metal; laminate
Overall feel	Bright; home-like; natural; open; welcoming; clean; “not over cluttered;”
Overall aesthetic	Modern; contemporary; clean lines; angular
Accents	Artwork; hanging shades; flowers on tables; artwork
Notable statements	“looks like standard fast food setting;” “trying to be something it’s not;” “a lot of effort;” “‘lounge’ feel”

**Figure 30 Participant Comments Regarding Interior Space**

#### 4.3.4 Dining space and Relation to Accessible, Ease and Novelty

One final hypothesis that arose from research methods one and two centers on the dining space within the BCCFE and suggests a variety of aesthetic components, spacial layout and programmatic relationships influence the consumer’s desire sit and mindfully

enjoy their recently purchased meal. To further understand these relationships the survey posed questions regarding the overall comfort level of the space on a scale of 1-5 (1=role has minimal importance; 5=role is very important) and how a variety of factors including, lighting, noise level, program proximity, privacy level and surrounding circulation patterns influence the consumer's experience within the dining space as well as to what degree. The various potential factors that could impact the dining experience are listed in Figure 4.25; factors are listed from highest percentage to lowest percentage of participants who marked it as having a role in the dining experience. The table also breaks down how many participants chose specific ratings of importance for that factor as well as the overall average rating.

<b>Factors impacting dining</b>	<b>% who answered</b>	<b>Participants who answered: 1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>Average rating</b>
Pleasant/natural lighting	84%	1	2	4	7	2	3.4
Comfortable accommodations	79%	1	3	6	6	1	3.1
Tables appropriately spaced	74%	0	2	4	7	1	3.5
Appropriate noise level	68%	0	3	4	6	0	3.2
Appropriate privacy level	58%	1	4	4	2	0	2.6
Privacy level was low	21%	2	1	1	0	0	1.8
Too loud	16%	0	1	2	0	0	2.7
Table too close	16%	1	1	1	0	0	2.0
Dining space too close to ordering area	16%	0	2	1	0	0	2.3
Non-food programs distracting	16%	1	1	0	1	0	2.3
Non-food programs enjoyable	16%	0	0	3	0	0	3.0
Visible drive-thru distracting	16%	2	0	1	0	0	1.7
Inadequate seating options	0%	NA	NA	NA	NA	NA	NA
Uncomfortable accommodations	0%	NA	NA	NA	NA	NA	NA
Too much traffic going by table	0%	NA	NA	NA	NA	NA	NA
Inadequate/unpleasant lighting	0%	NA	NA	NA	NA	NA	NA

**Figure 31 Factors in Dining Space Comfort and Experience**

## CHAPTER 5

### DISCUSSION

#### 5.0.0 Introduction

This final chapter discusses how findings were utilized to reach the final goal for this project, which is to develop design suggestions for the built convenience food environment, that attempt to cultivate a healthy relationship between food and the consumer and provide them a fair chance at developing healthy eating patterns.

#### 5.1.0 RQ1 Summary of Findings

Due to the grounded theory methodology this project follows, findings from research method one (secondary research analysis), that aimed to answer RA1, were critical to the development of research methods two and three. As a result, those findings and their implications for the development of an observation framework are discussed in section 4.1.1.

#### 5.2.0 RQ2 Summary of Findings

Similarly, findings uncovered by research method two, which aimed to answer RQ2, were critical components to developing the survey tool for research method three and are therefore discussed in sections 4.2.1 through 4.2.9.

#### 5.3.0 Summary of Findings for RQ3

##### 5.3.1 Exterior, Ease & Novelty

The overall hypothesis regarding the exterior aesthetics and building structure was that those components play some sort of role in making the establishment identifiable and

create a sense of familiarity and/or excitement, potentially playing a role in why consumers decide to eat at that location. The contributing factors to that decision are important because the “why” behind where people eat is a good indicator of what they find important regarding food choice and therefore indicative of their food relationship (Choi and Zhao, 2012) Only three (16% of) participants said the exterior building played a role in their decision regarding where to dine and averaged an attribution of 1.3, or minimal importance, to the role that factor played. However, other findings suggest that the exterior of the building could play an unknowing role, reflecting Choi and Zhao’s (2012) and Wansink’s (2010) observations that consumer’s don’t often recognize exactly what plays a role in their behaviors. For example, 18 of the 19 participants answered that “knowing what to expect” played a role in their choice of dining location and, as an average, attributed that factor’s role in the choice as 3.8 out of 5, with 5 representing “that factor was very important in the decision.” Although that particular question did not designate the exterior aesthetics as a component of “knowing what to expect,” when coupled with the knowledge that all participants believed the exterior familiarity to be either a 1 or 2, (1=“extremely familiar”), researchers can infer that that high level of familiarity with the exterior of the location plays a role in why so many participants choose an establishment: “they know what to expect.” Therefore the hypothesis that the building’s exterior creates a sense of familiarity that may play a role in the dining decision, making the process of food choice easier is probable.

Researchers also hypothesized that the sometimes “home-like” attributes of the building could play a role in that sense of familiarity and comfort, therefore impacting the consumer-food relationship through the mechanisms of ease and accessibility, but this



does not seem to be supported by survey findings. On a scale of 1-5 (1=exterior is home-like; 5=exterior is industrial), participants averaged a rating of 3.1 with half of the participants choosing “3;” this may suggest that participants did not feel the structure reflected either end of the spectrum. This is also supported by the wide range of qualitative responses regarding the exterior structure, including “box-like,” “looks like a well oiled machine,” “home-like,” “peaked roof” “sleek,” “modern” and “chimney.” Additionally, all three of those participants who said the exterior played a role in their choice of dining location categorized the structures’ associations as “mostly industrial” as opposed to home-like which therefore implies that even if participants believed the structures to be home-like, that would not have impacted whether they dined there or not.

Another hypothesis regarding the exterior environment and its role on the consumer-food relationship was that various design components, including the stand-alone nature of the structures, variety of textures and inclusion of branding create a sense of interest around the building and therefore novelty. Again, only 3 of the 19 participants said the exterior played a role in their choice and attributed its value within the decision as relatively low; however, the majority of responses regarding what participants noticed about the exterior environments, if subjective in nature, had positive associations. Words such as “bright,” “sleek” and “clean” were frequently used; one participant even said it “looked like an oasis in the parking lot” which speaks to the role the building plays as a stand alone structure in the consumer’s perception of the convenience food establishment. Although no participants specifically stated that there was a variety of textures or physical branding they did often describe the different materials utilized such as wood, stone/pavers and glass and would often simultaneously describe earth or muted tones

alongside recognition of colored logos and/or accents such as umbrellas, trim and/or awnings/window coverings. Although participants did not specifically state that any of these components played a role in their choice of where to dine they did appear to either recognize that some of these design components were present or associate more positive notions with some of those design components.

Lastly, researchers hypothesized that the lack of attention to the aesthetics and design of the local region may cause consumers to disassociate their food from the role nature plays in its growth and cultivation. On a scale of 1-5 (1=exterior is highly reflective; 5=exterior is not at all reflective), participants' average rating was in the middle at 3.2. This may suggest a few notions including the fact that people without some sort of design background may not recognize or be aware of local design and aesthetics; it may also be indicative that participants felt the buildings' exteriors were not related to either extreme. Although this does not support researchers' hypothesis, it does support the notion that convenience food locations are designed and built in a way that allows for quick replication and wide-applicability (Gapp, 1986) and (Langdon, 1985 & 1986). Also, a larger sampling of the population could play a significant role in further understanding the research hypothesis. Consumers may not recognize that lack of attention to regional design but possibly that is because it is all they know regarding convenience food locations.

One thing researchers found very interesting is that, similar to the building being indifferent to its reflection of the surrounding community, it also appears that the building is indifferent in regard to reflecting the processes that occur inside the space. Possibly more important to whether the building feels familiar, feels home-like or modern or

reflects the surrounding region is that that no participants associated the exterior of the building with any food characteristic or process.

### 5.3.2 Ordering Space, Kitchen Visibility, Ease and Detraction

The overall hypothesis concerning the ordering space and food/food process visibility was that the layout of components within the ordering space and the way the food is visually presented and accessible to the consumer can encourage a less thoughtful food choice and/or develop a disconnect between consumers and where their food comes from/how it is prepared. One of the most notable findings from the survey was that 15 (79% of) participants said they knew what they wanted to order when they came in and 11 (58% of) participants ordered what they always get; these are large numbers compared to the third most common influence on food choice which was nutritional information/meal ingredients which was marked by 6 (32% of) participants. This reinforces the findings in section 2.3.2 that the nature of convenience eating plays on the mechanism of ease and makes the food choice process less thoughtful. One participant even mentioned the “ease of the whole process,” suggesting that BCCFE may not be doing a great deal to try to encourage consumers to try new options or put more thought into their decision. It is possible that to have in impact the BCCFE may need to take a proactive approach.

Another interesting finding was that, despite 16 (84% of) participants marking that they were able to see staff members packaging food and 11 (58% of) participants marking that they could see already packaged foods, a much lower number of participants said that these components (seeing individuals interacting with food and seeing packaged foods) were one of the main things that stood out while looking at the counter or were

influences on their food choice. This suggests a few concepts including that the ordering space and its relationship to the food preparation area may not be set up in a way that encourages the consumer to automatically pay attention to those interactions seeing as they were not recognized by participants until specifically asked if they could see those actions. It may also suggest that food in a packaged form does not hold a great deal of weight with consumers which may be a reason why, according to participants' survey answers, the brightly lit menu with food pictures was one of the components of the ordering space that they noticed first and the fourth most common influence on food choice. The question that then arises is: Would presenting food in a more natural form encourage people to think more about food choice? Seeing as nutritional info was the third most popular influence on food choice and understanding that participants may not have chosen "seeing food preparation" or "seeing food in its natural state" as an influence on food choice because those interactions were not visible, that seems like a valid question to ask.

Although the hypotheses regarding whether visibility of food and food processes encouraged consumer to put more thought into their food choice could not be supported, the hypothesis that that visibility might impact consumers' thoughts regarding where food comes from and how it is prepared did find backing. Participants' answers to surveys suggested that the way the ordering space is set up and how that impacts what consumers are able to see as well as the hierarchy of what is visible may influence how they interpret food processes, at least in that space. The most frequently mentioned components of the ordering space mentioned by participants included the menu, which was often referred to as lit up or associated with LED lighting; materials often

referencing metal; the soda machine and other equipment; and the register. Researchers hypothesized that those more mechanical components impact how the consumer interprets this food space. This is supported via that question asking participants to rate the ordering space/visible kitchen on a scale of 1-5 (1=the counter/kitchen space associates with a natural feel; 5=the counter/kitchen space associates with an industrial feel); consumers' average rating was 4.5 with 14 of the 19 participants marking either a 4 or 5.

One last observation regarding the hypothesis that the design of the ordering space influences the consumer-food relationship surfaced organically during the survey and deals with how the design may impact the consumer's understanding of food as a personal and sometimes social interaction. Not only did participants notice elements such as the menu and machinery before noticing any packaged or prepared foods, the second most commonly mentioned element was the staff standing at the counter. Although this could provide a great opportunity for human-to-human interactions over food, which as discussed in section 2.1.2 is a critical importance of the food relationship, no participants said recommendations were an influence on their food choice. This may imply that consumers do not see the staff members as a connection or avenue to the food they are about to order and therefore, by being placed/set up in a way that the consumers notice these staff members and the lit up menu before any food components (such as packaged food or food processes) the layout is creating a barrier or gatekeeper between the consumer and their meal. Although the design of the ordering space as it relates to the placement of staff was not initially discussed in the original hypothesis, this was an interesting finding that can most certainly be categorized under how the ordering space

layout and visibility of food processes impact the consumer's connection to the origins and preparation of food.

### 5.3.3 Interior Space, Novelty, Ease and Access

The general hypothesis concerning the layout, circulation and interior aesthetics impact the consumer-food relationship by creating a sense of familiarity, simplicity and excitement. Only 6 (32% of) participants said the interior atmosphere and ambiance played a role in their dining location decision and gave it an average importance of 3.2 on a scale of 1-5 (1=it played a minimally important role; 5=it played a very important role). Although this may seem like an insignificant number, it may be important to note that those numbers represent a higher level of importance than the role the exterior played in the location decision. Also, this question may be too broad and is therefore an example of Choi and Zhao's (2012) observation that individuals are not always cognoscente of exactly what plays a role in their behaviors. However, all participants with the exception of one said that a sense of familiarity played a role in that decision and gave it an average importance rating of 3.8. Additionally, participants gave the familiarity of the layout an average rating of 1.6 (1=highly familiar; 5=not at all familiar). These numbers, coupled with the common observation by participants that the space was "uncluttered" and "open" support the applicable portion of the hypothesis. These findings represent the fact that participants were aware of those simple and open floor plans, which might contribute to the high rating of layout familiarity and that that resulting level of familiarity clearly plays a role in the consumer's food choice.

Another component of the hypothesis was that the interior aesthetics might influence the consumer-food relationship by creating a sense of comfort and familiarity

and/or excitement. Similar to the layout, participants rated the familiarity of interior aesthetics as a 1.6 and when coupled with the important role familiarity played during location choice for 18 out of 19 participants, it indicates that the aesthetics may play a role in food choice. Because recurring aesthetic components mentioned by participants included colors, especially earth tones, neutral and natural colors, materials such as tile, wood, metal and plastics, and small accents including artwork, hanging shades and flowers on the table, researchers can assume that these are design components that contribute to that feeling of familiarity. One participant even stated that it “looks like a standard fast food setting.”

Also, the hypothesis that a home-like interior may contribute to that feeling of comfort and familiarity cannot be supported via the survey findings. On a scale of 1-5 (1= homelike; 5=industrial) participants averaged a rating of 3.2, which suggests that they felt the interior reflected neither. Participants often referred to homelike accents including those mentioned above and described the space as “homelike” but these findings should be taken with a grain of salt considering many participants also mentioned less homelike components and interpretations such as “LED lights,” “angular,” which is a word not often associated with a comfortable home environment, and one participant even said the space was “trying to be something it’s not.” These variations may be attributed to the specific environment each participant was in but it could also be indicative of the instinctual juxtaposition present in convenience food environments that is the serving of quickly prepared food that was made entirely out of sight of the consumer and the sit down dining space available in most BCCFE.

Lastly, researchers hypothesized that interior aesthetics created a feeling of excitement regarding the experience in that space and therefore plays on the mechanism of novelty. As mentioned above in the discussion regarding layout, most participants did not state that the interior space played a major role in why they chose that location. However, the majority of interior aesthetics mentioned by the participants had positive connotations including “warm” colors, a “bright” space and a “welcoming” and “clean” environment. One participant did describe the space as “trying to be something it’s not” really gets to the heart of the mechanism of novelty: by adding interesting and engaging design aesthetics are BCCFEs creating an environment that focuses on the food and more specifically, potentially overlooks the original purpose of the convenience food location which was a quick and easy meal? Although the original hypothesis cannot be entirely supported, it appears that participants do have positive associations with specific components of the interior space and some participants even understand that those design components take the focus away from the food.

#### 5.3.4 Dining Space, Access, Novelty and Detraction

The final hypothesis was that the design of the dining space within the BCCFE impacted the consumer’s dining experience in a way that could potentially interfere with partaking in a mindful meal and/or encouraging or discouraging the consumer to seat and eat as opposed to eating on the run. It is important to note that the average rating of how comfortable/relaxing the space was 1.8 (1=very comfortable/relaxing; 5=not at all comfortable/relaxing) and although that answer shows that participants feel overall that the space is enjoyable, it may not carry as much weight considering participants have



already chosen on their own to sit and eat at this location; a consumer who never sits and eats in these locations may provide very different responses.

However, fairly straightforward implications can be drawn from the portion of the survey that asked participants to check what design components had an impact on their dining experience and to what degree it held importance. For example, pleasant/natural lighting, comfortable accommodations, appropriate table spacing, appropriate noise level and appropriate level of privacy were elements marked by 58%+ of participants and all had an importance level of 2.6 or higher. This suggests that the hypothesis can be supported when it comes to the importance of the access to and presence of natural lighting, condition of seating accommodations, furniture layout within the dining space, the acoustic condition of the environment and relationship/visibility between private and public spaces. The implication is that if these elements of the BCCFE contribute to a comfortable dining experience, if properly employed they can allow for a more mindful and enjoyable dining experience. Another finding was that an equal number of participants found the non-food programs distracting and found them enjoyable. This is a strong reminder that everyone's preferences are different and although it does not necessarily support or undermine the hypothesis it does call for finding a way to incorporate both options into the BCCFE and suggests that a common observation of keeping those spaces close while creating a barrier between the two is the best way to go.

One final hypothesis regarding the dining space was that the variety of seating options as well as atypical dining spaces (not the traditional row of square tables repeated one after the other) created a unique, interesting dining experience and therefore may play on the mechanism of novelty. No participants specifically pointed out an interest in

the seating options and/or design but no participants said a lack of seating options impacted their experience in a negative way and 79% of participants said the accommodations were comfortable and gave it an importance rating of 3.1 (1=minimally important; 5=very important). Although this does not support the hypothesis, when taking into consideration that participants associated words like “welcoming,” “clean lines” and “lounge-like” with the interior aesthetics it can be implied that these components are creating some sort of positive association and level of interest.

#### 5.4.0 Design Implications

Although specific findings were discussed per each research method, it is necessary to look at what this variety of findings means for design implications when looked at all together. The main themes that arose from the three research methods were: “knowing what to expect” played a greater role in food location choice than the design; there is an inability to see and/or interact with food; the design and spaces have minimal references to eating and/or food processes; there is a definitive separation between the interior (processes) and exterior spaces; the experience and space is routine and less thoughtful; and consumers are aware of design components which creates a justification for impacting their experience through design.

While determining how findings translate into design implications certain important concepts became clear. The first is that some of the mechanisms and design components associated with them are so engrained in convenience style eating and convenience food environments that trying to counter or reassess them results in an entire restructuring of the location as a convenience food establishment. This leads to two

options in terms of design implementation approaches (although a third option will be discussed in 5.4.5). The first is to realize that convenience eating naturally impacts the consumer-food relationship and should therefore try to be countered in all ways including the design of the built environment and hope that consumers are inspired to never eat convenience food again and begin preparing all of their own meals. However, this approach is most definitely too drastic and unrealistic. The other approach is to accept convenience eating's pervasive role in our culture, attempt to find opportunities within the BCCFE to create touch points for reestablishing the consumer-food relationship and work alongside activism and policy efforts that might encourage convenience food establishments to make it a priority to serve healthy, sustainable and ecologically responsible convenience style food. The other concept that arose during the translation of findings into design implications is that specific food items and a sense of familiarity play the biggest role in why people eat at the locations they do. It appears necessary to look at the BCCFE as the "container" in which these eating habits and styles exist and not necessarily the driving catalyst in the encouragement of eating habits and food choices that create a disconnect in the consumer-food relationship. Therefore, any design implementations should not be applied with the hopes of encouraging an eating style overhaul but instead need to be applied with the goal of creating opportunities for the consumer to reestablish their relationship with the food they are eating.

#### 5.4.1 Exterior Aesthetics and Structure

Although it appears the exterior did not play a major role in why participants chose their dining location, findings did show that the sense of familiarity does influence that decision and potentially makes it a less mindful process. Another findings from the

study was that participants seemed to be indifferent in regard to the structure feeling either industrial or homelike; during analysis, the importance of that survey question seemed to diminish once researchers realized that no matter where on the spectrum (industrial vs. homelike) participants thought the building fell, the building did not reflect or give hint to the food processes inside. This finding during surveys was supported by those of the observations and secondary analysis including the theme of standalone, box like structures that appear to create a definitive delineation between the indoor and outdoor spaces as well as facades that were not transparent in areas that pointed to food processes. However, findings did show that there was a sense of interest regarding the structure as a stand-alone component as well as its sometimes unique aesthetics. Therefore, the exterior of the BCCFE may provide a valid opportunity to utilize that sense of interest and proactively create moments that attempt to reengage the consumer with the main reason for their entering the building, the food, and therefore begin to re establish the consumer-food relationship.

Berry (2009) notes that the food industry has muddled the connection consumers see between their food and its natural origins and that to “escape this trap” consumers must recognize that eating is an agricultural act and develop a consciousness of what goes into creating that food. One of the most effective ways to do this via design interventions is by blurring the barrier between the indoor and outdoor environments and weakening that moment of “opening the glass door” and feeling the “rush of cool air,” take over, so to speak (Schlosser, 2011). In other words, bring the natural component of the process of eating, which takes place inside, to the exterior space so consumers are provided the opportunity to become aware of the importance of agriculture in the eating process. This

may be accomplished by enhancing the landscape component of the exterior space, especially with materials and plants that are indicative of the local region which, experts suggest, is an important component in understanding where food comes from and what to do with it (Berry, 2009). Another potential way to accomplish this is via the incorporation of living walls, a small exterior garden or even a rooftop landscaping/agricultural space which research suggests can provide a teachable moment in regard to agricultural and food, especially if designers are able to make it accessible and interactive (DiNardo, 2014).

Another approach to blurring that barrier between the interior and exterior is by creating facades that provide opportunities for the approaching consumer to visualize some of the processes occurring inside as they approach the building. For example, maybe glass expanses allow for a quick glance into the food preparation area. However, the issue here is that, at the moment, convenience food preparation is a very mechanical and prepackaged process and therefore, for the design intervention to be successful convenience food establishments would have to reassess their “back of the house” approach which would be an expensive endeavor that attempts to alter a systematic component of the convenience food style of eating. By designing an approaching circulation path that forces the consumer through these agricultural moments and glimpses into the food processes before they reach the entrance, designers are providing a variety of opportunities to remind the consumer that the eating process they are about to take part in is a natural, agricultural act.

One last potential intervention was inspired by the theme of these often boxy structures as standalone entities located in strip mall parking lots and the participant who

thought it looked like “an oasis in a parking lot.” The boxy, angular structure creates a strong delineation between the interior and exterior spaces. In addition to creating more indoor-outdoor spaces, designers should incorporate an organic and dynamic façade that accentuates the moments where those spaces can weave in and out with one another. Designers who aim to strengthen that consumer-food relationship may also consider other opportunities for building placement. Building context conveys messages regarding the culture and is important to effectively conveying the buildings purpose (Sahabuddin, 2011). Further research would need to be done to determine optimal location opportunities but it is an important component to begin thinking about.

#### 5.4.2 Ordering Space & Food Process Visibility

Some of the most definitive findings from the study centered around the fact that participants knew what they wanted when they came in, they order what they always order and often came to the location for that specific reason. Similar to the approach in other “Design Implication” sections, interventions should aim at providing proactive opportunities to increase the consumer’s understanding of food origins, preparation and ingredients. Findings from this study showed that the consumer’s ordering experience stops visually and physically at the counter; specifically: visibility into the kitchen and of food processes is minimal if present at all; the experience feels and looks industrial as opposed to a “defining human activity:” and the typical process of ordering via register and staff member feels like an interaction with a gate keeper (Pollan, 2013).

There are a variety of ways to make the food processes that take place in the back of the house more apparent, whether it is by creating transparent facades between the

ordering space and those typically non-visible spaces or creating an open kitchen that brings those processes to the forefront. However, similar to the issue discussed in section 5.4.1, per the current state of how convenience food is prepared before it reaches the customer, exposure to those extremely mechanical and assembly line processes may be detrimental and would definitely not be preferred by convenience food establishments. However, there are other ways to help the consumer become more aware of agricultural component of eating and the impact of food on overall wellness. This may be as simple as incorporating more pictures of foods in their natural state or, better yet, creating a visibility to those unaltered ingredients in their natural state or providing transparent facades around the ordering space that focus on their exterior agricultural components. Another tactic to remind consumers of the ingredients in their meals as well as the impact it has on their wellbeing builds off of the common theme of convenience food establishments displaying nutritional information. The issue with these displays is that many consumers do not know how to read nutritional information and do not understand what the numbers represent (Spink et al., 2011). Considering the numbers in nutrition labels are based off of the ingredients in a product and considering the important information is not the numbers but the impact it has on wellbeing, designers should present photos of ingredients in various menu items and possibly list the variety of benefits those ingredients have on the human body.

Another interesting finding from the survey was that consumers overwhelmingly noticed the menu and the staff at the counter upon entering the space. If a space truly intends to reconnect the consumer-food relationship and highlight the importance of the actual food in the eating process, shouldn't food in its natural form be one of the first

things consumers see? Designers should layout the ordering space and the approach to it in a way where consumers notice those natural components before the LED menu. This may be as simple as altering the circulation upon entering the building so it either takes consumers by a space where food processes are visible or consumers are presented with a clear visual of foods in their natural state. Along those same lines, designers need to rethink the menu and consider changing it from a brightly, LED lit component to something less commercial and more personal; this may take the form of a menu printed in tiles (for easy switching out) and applied over a natural material such as wood or by handwriting options on chalkboards.

As stated, participants of the survey overwhelmingly noticed the staff standing at the counter as they entered the interior space but never asked them for recommendations or utilized their position as the direct connection to the food they were about to eat. Therefore, designers should look at ways to make that ordering process more personal.

This presents an opportunity for designers and convenience food establishment's IT staff to incorporate an interactive, self-ordering system. This system could potentially ask the consumer questions about their food preferences and health issues in order to direct them towards specific items or suggest certain item alterations. It is also an opportunity to present consumers with information regarding what is in their food, where it comes from and how it was made. One issue that may arise with a lack of staff is consumer confusion but incorporating way finding techniques that direct consumers and create an efficient flow, whether those techniques include adequate and proper signage or



a more subtle approach such as changes in floor patterns/materials, should help address that issue (Horwitz-Bennett, 2015). As previously discussed, this intervention increases transparency between the consumer and convenience food processes which convenience food establishments may not prefer and therefore may not incorporate. However, even if this level of interaction and transparency is not possible, surely there can be more meaningful interactions between the consumer and their food than self serve soda machines.

#### 5.4.3 Interior Layout, Circulation and Aesthetics

Findings regarding the influence of the interior layout, circulation and aesthetics are similar to those regarding the exterior aesthetics: participants said the interior environment did not play a major role in why they chose the locations they did. However, they did say a sense of familiarity was an influence and associated the interior layout and aesthetics as familiar. Also, certain statements regarding the interior atmosphere such as “looks like a standard fast food restaurant” and “is trying to be something it is not” helped researchers realize that whether the space feels industrial or homelike may not be as important as the fact that participants drew minimal association between the interior environment and food or food processes. Observations showed that the BCCFE may be moving in the right direction in regard to moving away from the commercialized, plastic Ronald McDonald feel but there is still much more that can be done. Although those interior components may not be a driving factor influencing where participants eat, they do have the opportunity to be a catalyst in creating a more mindful experience that provides opportunities that remind the consumer of why they are there: to nourish themselves.

The question from here then becomes: how can food be incorporated into the interior experience without consumers feeling as if they are being advertised to? Eating is an instinctual and natural human interaction and therefore, in addition to previously discussed tactics discussed in section 5.4.2 that make food processes more visible, design interventions should be applied to highlight that connection to nature (Berry, 2009). Findings during the study suggest that there is often a definitive disconnect between the interior BCCFE and what is occurring in the environment around the structure; this results in an understanding of the space and experience's purpose as one meant to fulfill the satisfaction of hunger (calories) as opposed to encouraging wellbeing and nourishment (nutrients). As one participant put it, the structure was like a "pop up oasis in a parking lot." Therefore, designing the interior space in a way that helps blend that interior experience with the outside surroundings (especially if, as discussed in section 5.4.1, convenience food establishments look into moving the building placement away from areas such as parking lots) may help remind consumers that where eating occurs should not look like a transactional "filling station" that is disconnected from other facets of our life but instead should be an environment for socialization, cultural connection and understanding mankind's role in the food system and natural world (Berry, 2009).

One way it appears some modern BCCFEs might already be succeeding at this is by moving away from the drop tile ceiling and creating an interior space with a great deal of natural lighting from skylights and interesting, high ceiling structures. Not only does it make the experience seem less systematically duplicated but it also appears, per survey findings and previous studies, that, when present, it draws the eye up in a moment of interest and can turn attention away from mechanical components of the space (Horwitz-

Bennett, 2015). Research also shows that those moments allow the consumer to connect to nature and reference the environment outside of the interior BCCFE, which is exactly what design interventions in this case should do (DiNardo, 2014). Another design intervention to enhance the connection between the interior and exterior is the creation of indoor, outdoor spaces. This can be accomplished by creating more transparent facades between the two currently separate entities as well as providing flexible wall options that allow the two spaces to actually become one when desired.

In regard to circulation, similar to exterior circulation regarding the path the approaching consumer takes, interior circulation provides the chance to make the consumer more aware of their immediate experience as well as provide opportunities to expose them to those interior/exterior moments. By keeping entrance and exit moments obvious but creating a more dynamic and interactive circulation path designers would minimize that mechanical, replicated feel to which consumers have become so immune. This can be accomplished with creative way finding tactics that extend beyond simple signage and begin to include floor patterns and ceiling manipulations that signal consumers as to what spaces are meant for more public and/or private moments and different options regarding their next steps within the convenience food environment experience (Horwitz-Bennett, 2015). Circulation design also provides the opportunity for designers to force consumers into indoor/outdoor spaces and take them by those moments of food process visibility previously discussed.

#### 5.4.4 Dining Space

Design implications regarding the dining area and their impact on the dining experience bring to the forefront a larger complication: does providing a space in convenience food environments to sit down and dine create even more confusion for the consumer in regard to their understanding of what work, care and knowledge should go into putting a meal on the table? Does the lack of involvement on the part of the consumer that went into preparing the meal provide even more encouragement to eat conveniently even more often? Conversely, can one say that these dining spaces, although they may not emphasize the importance of meal preparation and interaction, do provide the opportunity to develop mealtime traditions and encourage an understanding of the cultural and social roles that are an important component of a healthy food relationship (as discussed in section 2.3.4)? Similarly, can it be said that the opportunity to sit and eat a meal in the BCCFE discourages consumers from possibly eating in their cars, an eating pattern that is even less mindful and poses an all-new set of dangers? Might design researchers be able to suggest that dining spaces of convenience style environments should be made to feel more “convenient” with the goal of discouraging consumers from sitting and eating? Might that remind consumers that they are eating “conveniently” and that there is a definitive difference between that style of eating and eating at a traditional sit down restaurant or better yet eating home prepared food where the meal is fresher and more personalized? Because these questions begin to cross over into a whole new realm of research and complications, design implications for the purpose of this study will look at what design components of the dining space and therefore dining experience create opportunities for mindful dining and social interaction.

Findings from the survey suggest that the main design component of the dining space that impacted the majority of consumers' experiences was the presence of comfortable accommodations. Simple design interventions to enhance the level of comfort include choosing appropriate chair shapes and cushion materials and fabrics; ergonomics on which there is a great deal of research. However, comfort was not limited to those physical components; per survey findings it was also apparent that non-physical comfort such as adequate and natural lighting played an important role in the consumer's dining experience, supporting design interventions discussed in section 5.4.3.

What also became apparent is that the consumer experience while dining in the BCCFE is subjective. Certain participants found different components enjoyable and while others found the same not as enjoyable; similarly, the importance of those design components varied from consumer to consumer. The strongest examples of this were the levels of privacy provided (or not provided, according to some participants) as well as the attitude towards non-food programs, particularly play areas. The implication these findings have on the design of the BCCFE is a call for flexibility and variety. For example, a play area proved important for participants with children and therefore should still be an option; consumers without children may not enjoy this feature and in fact be distracted by it, however. Therefore, for families with small children who may want to utilize the play area, designers may decide to incorporate a play space that is physically and visually separated from the main dining space but still provides adequate and desirable seating options for the families, whether within that play space or directly next to. It appears that some modern convenience food establishments are moving in this direction but it can be take a step farther by limited the visual connection between those

spaces or possibly moving it to a more indoor/outdoor location. Similarly, some patrons desire more private or less private options and designers can provide that variety of spaces by creating different flows into those spaces and “looking at how we can manipulate the ceiling planes, wall boundaries, and seating heights to create spaces that are immediately identifiable as more intimate quiet areas or non-demand, energizing spaces” (Horwitz-Bennett, 2015).

One component that also proved important during observations was a variety of seating options. It appears that a few modern convenience food establishments are beginning to recognize that their consumer may fall into a variety of personas and therefore should provide dining spaces to accommodate that variety. The traditional BCCFE approach to this issue was by moving away from the bolted tables and chairs to tables and chairs that can be moved if necessary, as observed during observations, but there are more creative design approaches that can be utilized (Gapp, 1985; Langdon, 1985 & 1986). One example to be researched further is to provide “modular systems that can be transformed for different functions” during different times of day and according to different users (Horwitz-Bennett, 2015). Also, different seating options, which some convenience food locations are beginning to do, can be provided within those different spaces discussed previously. For example, bar stools, counters and high top tables in the less intimate areas or booths and larger tables in some of the more intimate spaces (Horwitz-Bennett, 2015). Additionally, designers should look into providing more outdoor seating options that are preferably set within a more natural setting as opposed to on the concrete curb directly next to the parking areas. For the more social spaces, it may be beneficial for designers to look into providing a variety of large communal tables that

drive home the social component of mealtimes, which is a critical component of the consumer-food relationship. Lastly, a design intervention aimed at creating different spaces for different users for maximum comfort and mindfulness is to separate the takeout ordering/waiting area from those dining areas. One potential strategy might be a separate, quick ordering counter directly adjacent to the counter or even off of an exterior patio.

#### 5.4.5 External Factors

Many of the design implications previously discussed may be met with trepidation from convenience food establishments due to the call for transparency regarding food processes and composition (Berry, 2009). However, there is a potential that the increasing consumer demand for knowledge regarding what they put in their body (as previously discussed in section 1.2) may encourage the convenience food industry to make necessary changes and for policy makers to take another look at the convenience food system, their process of getting food to the consumer's tray and the tactics they use. Convenience food establishments have begun to address these concerns by offering healthier menu options (Harris et al., 2013); however, as chapter two points out, developing intrinsic, healthy eating behaviors is more than listing calorie and nutrient counts and more about providing a richer, interactive, and mindful experience between consumers and their food. To an extent, this struggle between consumer awareness, industry transparency and regulation parallels that of the tobacco industry during the late 20<sup>th</sup> Century (Costello, 1997). That parallel ends though with the understanding that all

citizens across the spectrum of age are consumers within this industry whose product is a critical component in individual and nationwide health and well being. As a result, a similar if not more powerful call for reform and regulation is necessary, validated and yields potential for a beneficial outcome. Creating this optimal environment that helps to restore the consumer-food relationship will be a balancing act between what is in the best interest of the consumer and what allows the convenience food establishments to continue acting as a commercial enterprise. However, by finding that proper balance and utilizing a variety of design implementation and policy approaches, stakeholders can work to develop the most effective intervention strategy (Glanz and Hoelscher, 2004). If the design implications uncovered during this study can be woven into the design of modern BCCFEs with moral and honest intentions there is a huge implication to impact obesity rates, associated co morbidities, healthcare costs and quality of life for millions of people.

#### 5.5.0 Future Research

There is very little research regarding this intersection of the built environment and the consumer-food relationship and as a result, the findings from this study have start to lay the path for proceeding steps regarding this area of interest. In order to refine the resulting design implications of this research it is necessary to develop are more encompassing, well-rounded understanding of the consumer's convenience food experience. The first step in developing that encompassing data is to conduct interviews with those consumers to gather more in-depth data. Another method would be to look to the increasing prevalent convenience food establishments that aim to provide healthier food options as well as a more transparent, educational experiences. Conducting similar



research in these environments may provide the opportunity to determine if exposure to food processes and natural foods truly does impact the consumer-food relationship. Therefore, future studies should be comparative in nature and aim to see how findings from this study differ from those that might arise when looking at those health-focused BCCFEs. Similarly, researchers may need to assess the necessity to uncover the experience that individuals who rarely dine at convenience food establishments have when in the BCCFE.

Another interesting approach to help develop a sense of the larger picture regarding the consumer experience in the BCCFE would be case study analyses. For example, research with findings regarding activities that help reestablish the consumer-food relationship may provide insight as to programs to incorporate/make visible in the BCCFE. Similarly, research looking at the environments in which individuals make healthier food choices may provide grounds on which to draw parallels for other design interventions to create the optimal BCCFE that reestablishes the consumer-food relationship.

This study not only opened doors for where research should be focused next but also uncovers deeper questions that need to be answered in order for definitive progress to be made. For example, do some of those design interventions discussed in section 5.4.0-5.4.3 truly have an impact on the consumer experience and what is the consumer interpretation. Another larger question that needs to be looked at is the notion that was discussed in section 5.4.3: does a dining space in a convenience food establishment create an automatic confusion for consumers in regard to what it takes to put a meal on the table? And if so, does the benefit of providing space for consumers to partake in social

interactions, which are a critical component of the food relationship, outweigh that confusion? Lastly, in order to create definitive findings and therefore concrete changes it is necessary to determine how to measure the consumer-food relationship. For the sake of this study, which was an early approach to researching the topic, researchers utilized self-reported reasons for dining/food choices and well as self-reported assessments and interpretations of the environment. Is there a more accurate and structured way to determine the state of the consumer's relationship with food?

#### 5.6.0 Research Summary

Due to the grounded theory approach in this research project, certain decisions regarding methods and tools could not be determined in their entirety at the beginning of the research framework development and therefore were determined in real time. These circumstances created a multitude of opportunities to say “this should have been done this way” and “maybe that would have been better if approached this way.” Some of these hindsight observances will be discussed in the following sections.

#### 5.6.1 Research Challenges

As discussed in chapter two, understanding what attitudinal components play a role in food choices is generally an unclear process and results in findings that are hard to define because, very often, individuals are unaware of what influences their eating behaviors and what is the state of their relationship with food (Choi and Zhao, 2012). Attempting to uncover those attitudinal components during this research project, specifically those related to the consumer-food relationship, proved to be a relatively abstract process, which was inevitable in a grounded theory approach regarding such a subjective and attitudinal research subject.

### 5.6.2 Opportunities for Improvement

Having been through the data collection, analysis and translation into design implications, areas for improvement during the process have become apparent. For example, although the main goal of research method two was to audit the modern BCCFE in order to develop survey questions, incorporating more consumer actions and interactions into the observation would most likely have uncovered another depth of findings. In regard to survey questions, providing greater opportunities for participants to answer open-ended questions especially regarding what specific design components they felt contributed to their feelings of familiarity and comfort within the BCCFE. Some of the most impactful and useful findings came from participant interjections when they were asked, “what do you notice” or “describe how the environment feels.”

Additionally, setting more specific parameters in regard to what environments in which to observe as well as what participants to survey would have yielding richer and deeper results. For example, during observations it became apparent to researchers that convenience food establishments are changing so rapidly and are currently making strong efforts to update their interior and exterior design. Therefore, more background research regarding when specific convenience food locations were built and creating a cut off for how old observed spaces could be would have created a sampling base that was much for representative of the current design of BCCFEs. Along those same lines, sampling participants for the survey who specifically frequented the locations that were visited during observations would have allowed researchers to draw more definitive conclusions about the impact of certain design components. Similarly, a larger sampling of the population could lead to more generalizable findings in future studies. Overall, by

allowing more opportunity for free form responses and creating a framework around the research methods that would allow for more definitive comparisons this study's results could have yielded stronger and potentially more impactful findings.

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APPENDIX A  
FINAL SURVEY

**Lainie Plattner**  
Masters of Science of Design - Healthcare  
Masters of Healthcare Innovation Candidate  
**Arizona State University**  
Design School  
College of Nursing & Healthcare Innovation

## Your Participant ID

---

Create your reproducible, anonymous ID by using first 2 letters of your mother's first name, followed by day of the month of your birth, followed by the last two digits of your cell phone number.

***Example:***

**Mother's name:** Rhonda

**Birthday:** 12/05/1986

**Cell phone:** 602-920-7002

**Participant ID:** Rh0502

Participation in this study is optional. You can end the study at anytime and your information will not be used in the study.

We will not be using any personal information or identifying characteristics when we collect or analyze the data. The results of this study will be used in reports, presentations or publications but your personal information will never be used.

\*SUBMISSION OF THIS DOCUMENT WILL SIGNIFY YOUR CONSENT  
TO PARTICIPATE IN THIS STUDY.

# Diary Study/Survey

This Diary Study/Survey is the last part of the research project, aiming to “capture the experience” of making food and eating choices for your own vantage point.

## How to use this diary?

This diary is a guiding artifact that is meant to allow you to conveniently and expressively convey personal details about your thought process behind and experience of making food choices.

## What information should you record?

Each page will have specific prompts for you to record your thoughts, feelings, behaviors and/or observations. The goal is to understand your experience of dining at a convenience food location and uncover factors that influence eating/meal patterns and food choice.

## Fast Food location you chose?

### Location?

### Date and Time?

\* Convenience food, for the purpose of this study, will be defined as locations that “feature a common menu above the counter and provide no wait staff...customers typically pay before eating and choose and clear their own tables”.

1. When you dine at a convenience food location what factors play a role in deciding what establishment to go to? (1 meaning it had a slight impact on my experience and 5 meaning it had a profound impact. If “no” leave everything blank. Mark as many as desired - and can use numbers as many times as necess.)

Check here	Example	Rank
<input checked="" type="checkbox"/>		1
<input type="checkbox"/>	It was a spur of the moment decision: location was easily accessible and convenience.	
<input type="checkbox"/>	It was a spur of the moment decision: there was something about the building's exterior that helped me make my decision.	
<input type="checkbox"/>	A specific food item.	
<input type="checkbox"/>	It's where I've always gone.	
<input type="checkbox"/>	I enjoy the space/ambiance.	
<input type="checkbox"/>	The establishment offers specific programs (ie play area).	
<input type="checkbox"/>	I know what to expect when I go there.	
<input type="checkbox"/>	Other (please elaborate below):	

## Arrival

2. The location's structure is  
(circle one)

a stand alone building, in a stripmall, other?

3. The exterior structure's shape feels:

(circle a number on the scale - circling "1" means you think the structure shape feels/looks like a home and "5" means you think it resembles a more corporate, industrial structure)

1      2      3      4      5  
home-like      ←      →      industrial/

4. To what extent do you believe the exterior of the building reflects the region in which you live? (ie a cabin in the woods is highly reflective of the region in which it is placed)

1      2      3      4      5  
It is highly      ←      →      It does not  
reflective of      the region      reflect the  
the region      at all

5. To what extent does the exterior of the building remind you of other locations of the same establishment you have been to before? (1 meaning it is highly familiar and 5 meaning it is not familiar at all; leave blank if you have never been to another establishment location)

1      2      3      4      5  
highly      ←      →      Not  
familiar      familiar

4

6. In order, what are the first things you notice while approaching the building  
(List 3-5 things)

## Interior

7. To what degree does this location remind you of other locations of the same establishment you have been to before: (1 meaning it is highly familiar and 5 meaning it is not familiar at all; leave blank if you have never been to another establishment location)

### A. In terms of spacial layout

1      2      3      4      5  
highly      ←      →      Not  
familiar      familiar

### B. In terms of aesthetics

1      2      3      4      5  
highly      ←      →      Not  
familiar      familiar

## Counter/Ordering

8. In order, what are the first things you notice while at the counter/looking towards the counter  
(List 3-5 things)

5

9. What is the visibility of the kitchen/food preparation space from the counter?  
(Check all that apply)

- ☐ It is an open kitchen (see people cooking etc)
- ☐ I can see un-prepped food in its natural state (ie you see the lemons they will use to make lemonade)
- ☐ I can see people prepping that un-prepared food (ie slicing those lemons)
- ☐ Fresh food is on display (ie freshly made cookies)
- ☐ I can see people packaging food (ie putting those cookies in wrappers)
- ☐ I can see already packaged & ready food (ie prepackaged cookies)
- ☐ I can only see beverages (in fridge, behind counter, soda machine etc)
- ☐ I cannot see any food, food interaction or beverages

10. When you look at the counter/kitchen area (if visible) does it feel more organic/natural or industrial (industrial can refer to an assembly line-like feel etc.)?  
(Circle a number)

1 ← 2 3 4 → 5  
Natural ← Industrial

## Ordering/Food

11. What were determining factors in your food choice?

(Check all that apply)

- ☐ You knew what you wanted when you came in
- ☐ It is what you always order
- ☐ It was a recommendation/you saw someone else eating it
- ☐ You saw a picture of the food product already packaged
- ☐ You saw a picture of the food in its natural state
- ☐ An advertisement
- ☐ Nutritional information
- ☐ You saw the item being prepared
- ☐ Other (please elaborate below)

**Aesthetics**

12. Describe the overall aesthetics of the interior (color and materials used etc)?

**Meal**

14. Overall how would you describe the actual dining area? (circle a number)

1      2      3      4      5

←————→

Home-like      Industrial

1      2      3      4      5

←————→

Comfortable Relaxed      Uncomfortable Rushed

17. Please check all that apply to your dining experience

*(If applicable check the box and rank its impact - 1 meaning it had a slight impact on my experience and 5 meaning it had a profound impact. It "no" leave everything blank. Mark as many as desired - and can use numbers as many times as necess.)*

Check or leave blank

☒      ☐      ☐      ☐      ☐      ☐      ☐      ☐

**Example**

Seating accomodations were comfortable

Seating accomodations were uncomfortable

Noise level was appropriate

Noise level was too loud

Tables were too close to one another & I could not move them

Tables were appropriately spaced

Ranking

1 = small impact

5 = profound impact

3

13. Do these aesthetics described above feel more natural, home-like or industrial?

(Circle a number)

1      2      3      4      5

←————→

Home-like      Industrial

14. To what extent do you believe the interior aesthetics of the building reflects the region in which you live? (ie a cabin in the woods is highly reflective of the region in which it is placed)

1      2      3      4      5

←————→

It is highly reflective of the region      It does not reflect the region at all

15. When you look at the colors and aesthetics of the interior what words come to mind? (please give 3 -5 ie rustic/happy/dreary)



<input type="checkbox"/>	Privacy level was appropriate	_____
<input type="checkbox"/>	There was very little privacy	_____
<input type="checkbox"/>	Dining area was too close to where people were order/waiting for take out	_____
<input type="checkbox"/>	The way food was served to me emphasized “quick dining”	_____
<input type="checkbox"/>	The way food was served made me feel that I could sit and take my time	_____
<input type="checkbox"/>	Food packaging (ie disposable vs. regular dishware) emphasized “quick dining”	_____
<input type="checkbox"/>	Food packaging (ie disposable vs. regular dishware) made me feel as I could sit and take my time.	_____
<input type="checkbox"/>	There were too many people going by or too close to my table	_____
<input type="checkbox"/>	Lighting was natural and pleasant	_____
<input type="checkbox"/>	It was too dark/lighting was artificial & unpleasant	_____
<input type="checkbox"/>	Presence of non-food programs (ie play areas) were distracting/unpleasant	_____
<input type="checkbox"/>	I enjoy the presence of non-food programs (ie play areas)	_____
<input type="checkbox"/>	I could easily see the cars in line for the drive thru and it was distracting	_____
<input type="checkbox"/>	There were not adequate seating options for me/my group	_____
<input type="checkbox"/>	Any other components that you feel impacted your dining experience:	_____

Thank you for completing this study!  
Please either email researcher at  
***LPlattne@asu.edu or call at 602.920.7002*** to  
coordinate a time to pick up the diary or obtain a  
mailing address where you can send it.

The Herberger Institute of Design & the Arts in  
partnership with the College of Nursing & Health  
Innovation

Who can I talk to?  
If you have questions, concerns, or complaints, talk to the research team at  
Arizona State University

Lainie Plattner 602-920-7002  
Email: LPlattne@asu.edu

APPENDIX B

IRB APPLICATION MATERIALS

Instructions and Notes:

- Depending on the nature of what you are doing, some sections may not be applicable to your research. If so, mark as “NA”.
- When you write a protocol, keep an electronic copy. You will need a copy if it is necessary to make changes.

## 1 Protocol Title

Include the full protocol title: **The built fast-food environment and health: A systematic approach to understanding how design components of convenience food environments impact our food choices and eating habits.**

## 2 Background and Objectives

### Background

The growing negative impact our country's rising obesity level has had on our overall health, productivity and healthcare costs has become difficult to ignore. America's obesity rate has been steadily increasing over the second half of the 20th century and now over 66% of U.S. adults are overweight or obese (Aronne and Havas, 2009). Per capita spending for obese individuals exceeds spending for a normal weight individual by 38% (Haidar and Cosman, 2011) and if the rate of obesity continues to increase it is estimated that healthcare costs attributed to obesity would reach \$957 billion by 2030 and account for 16-18% of America's total health care costs (Haidar and Cosman, 2011).

In its most basic sense, obesity is an issue of one's energy intake exceeding their energy output. However, the obesity epidemic is actually extremely complex, taking place in the context of politics, culture, family, psychology, and social and economic factors (Barbour et al, 2013). Historically, most interventions have been incremental and reactive, focusing on education alone, policy changes such as altering the food pyramid, encouraging people to exercise or behavioral or pharmacological approaches (Lake and Townshend, 2006). Obesity levels have continued to rise in spite of those efforts. Looking at an issue with as many facets as obesity requires a comprehensive approach and calls for an intervention that influences the system as a whole and recognizes that it is made up of interactive and interconnected entities (Fonseca, 2002). Why we eat at the locations we do, why we choose the foods we consume and why we partake in the meals that we do is an underlying issue that is interwoven with the many influences of obesity and understanding those actions has the potential to impact the complex problem of obesity as a whole (Fonseca, 2002).

Food choice is of course influenced by monetary, socioeconomic and lifestyle characteristics unique to the individual but “food choice [also] takes place within a network of social meanings” (Ogden, 2010). These “social meanings” are constructed by the food industry and food system, product marketing, our cultural experiences and the food environment in which we live and consume our meals. In America, spending on convenience food has increased eighteen times over since 1970, inflating from an annual rate of \$6 billion to \$110 billion (Schlosser, 2001). Considering research has found a strong link between one's frequency of eating out and consumption of foods high in calories and fat, foods that are low in fiber, an overall diet of low quality and increased body weight, further research into why people choose to eat at these locations and the environment's influence on our food choices is justified. (Freeland-Graves and Nitzke, 2002) (Brownell and Battle-Horgen, 2004).

The exploration of obesogenic environments, “environments that appear to promote obesity,” (Kohler et al., 2013, p. 129) has become prevalent in recent research regarding convenience food locations. However, the focus has centered on how the evolution of food deserts on an urban scale, portion size distortion, food nutritional quality and how the use of incentives impact food consumption and health (Ohri-Vachaspati et al., 2015). Research concerning the interplay between and influence of the design of the built environment in regard to food choice and eating habits from a comprehensive approach is less extensive. This gap in research can be filled by utilizing a systematic approach to analyze if there are barriers and leverage points to healthy eating that are manifested through the built environment and, if so, what those are. Barriers within a system are explained as points that impede on the ideal end results, which in the case would be healthy eating choices, and leverage points are opportunities within the system to create a beneficial change (Meadows, 2008).

The historical evolution of food environments has played on our cultural advancements and over time manipulated our eating patterns (Langdon, 1986). Specifically, the convenience food industry has “[remade] our food environment... [limiting] our ability to take control of our food system and make healthier choices” (Gagnon and Freudenberg, 2012) and “[overrides] health considerations” in addition to “the social and cultural meanings of meals and mealtimes” (Nestle, 2002). Why can't this influential relationship be used for creating healthy eating patterns? Where we consume our meals, the foundation of our health and well being is one of Gallagher's (1993) “behavior settings” that has the “power to alter our perception of the real world” including how we relate to and interact with food. Therefore it is crucial and justified to start looking at the built environment as a tool to create a positive change in our eating behaviors.

<p><b>Purpose:</b></p> <p>This study aims to (1) propose design guidelines and policy interventions for the optimal healthy eating environment that encourages healthy food choice and facilitates a beneficial relationship with food. To accomplish this qualitative study I will be utilizing a grounded theory approach (2) relying on the Experience Based Design method (Shraiky et al., 2012) to uncover the participants' choices involved in eating out at convenience food locations from a systematic perspective that begins with the initial thought of the upcoming meal and ending with the act of food consumption and pays specific attention to how participants interpret and are influenced by components of the built environment. (3) Collected data will then be analyzed to understand what are the barriers to and facilitators for making healthy eating choices specifically in the context of the built environment; (4) from that information as well as existing studies, leverage points for interventions in the form of design guidelines and policy interventions will be determined (Meadows, 2008, P.145-147).</p> <p>See attached document entitled "Resources"</p>		
<p><b>3 Data Use</b></p> <p>Describe how the data will be used. Examples include:</p> <table border="0"> <tr> <td> <ul style="list-style-type: none"> <li>• Dissertation, Thesis, Undergraduate honors project</li> <li>• Publication/journal article, conferences/presentations</li> <li>• Results released to agency or organization</li> </ul> </td> <td> <ul style="list-style-type: none"> <li>• Results released to participants/parents</li> <li>• Results released to employer or school</li> <li>• Other (describe)</li> </ul> </td> </tr> </table>	<ul style="list-style-type: none"> <li>• Dissertation, Thesis, Undergraduate honors project</li> <li>• Publication/journal article, conferences/presentations</li> <li>• Results released to agency or organization</li> </ul>	<ul style="list-style-type: none"> <li>• Results released to participants/parents</li> <li>• Results released to employer or school</li> <li>• Other (describe)</li> </ul>
<ul style="list-style-type: none"> <li>• Dissertation, Thesis, Undergraduate honors project</li> <li>• Publication/journal article, conferences/presentations</li> <li>• Results released to agency or organization</li> </ul>	<ul style="list-style-type: none"> <li>• Results released to participants/parents</li> <li>• Results released to employer or school</li> <li>• Other (describe)</li> </ul>	
<p>Data from this research project will be used for my Masters of Science of Design – Healthcare and Healing Environment Graduate Thesis as well as my Masters in Healthcare Innovation Capstone project. Although journal article publication is not a definitive end goal it is a possibility that I would not be opposed to. Therefore it is possible that the data could be published however, steps will be taken to ensure that all participants' identities remain anonymous. Results of the research project will be made available to participants if requested.</p>		
<p><b>4 Inclusion and Exclusion Criteria</b></p> <p>Describe the criteria that define who will be included or excluded in your final study sample. If you are conducting data analysis only describe what is included in the dataset you propose to use.</p> <p>Indicate specifically whether you will target or exclude each of the following special populations:</p> <ul style="list-style-type: none"> <li>• Minors (individuals who are under the age of 18)</li> <li>• Adults who are unable to consent</li> <li>• Pregnant women</li> <li>• Prisoners</li> <li>• Native Americans</li> <li>• Undocumented individuals</li> </ul>		
<ul style="list-style-type: none"> <li>• Frequent convenience food consumers will be the inclusion population for this study. "Frequent convenience food consumption" for the sake of this study will be defined as 2 or more times per week (Anderson et al., 2011).</li> <li>• Individuals between the age of 18-49 being members of either sex will be included in this study. Research shows that young adults ages 18-29 eat most often and that convenience food consumption frequency declines with age with a drop of 5% from the 30-49 age group to the 50-64 age group saying they eat convenience food weekly (Dugan, 2013).</li> <li>• Individuals to be excluded will be minors (under the age of 18), and vulnerable populations including adults unable to voluntarily consent, prisoners, Native Americans, pregnant women and undocumented individuals will not be specifically targeted for the study.</li> <li>• Convenience food, for the purpose of this study, will be defined as locations that "feature a common menu above the counter and provide no wait staff...customers typically pay before eating and choose and clear their own tables" (Harris et al., 2013).</li> </ul>		

5	<b>Number of Participants</b>
Indicate the total number of participants to be recruited and enrolled: Fifty (50)	
6	<b>Recruitment Methods</b>
<ul style="list-style-type: none"> <li>• Describe who will be doing the recruitment of participants.</li> <li>• Describe when, where, and how potential participants will be identified and recruited.</li> <li>• Describe and attach materials that will be used to recruit participants (attach documents or recruitment script with the application).</li> </ul>	
<p>Recruitment for research participants will begin immediately upon IRB approval with enrollment beginning between (estimation) April 10<sup>th</sup> and may continue up until September 30, 2015 or until participant quota is fulfilled. A cross sectional representation of individuals who eat convenience food at least once a week will be identified and recruited in the Phoenix, AZ metro area by posting recruitment material (See Appendix A) on the Arizona State University Campus as well as social media outlets. Recruitment material will invite the target demographics to participate in the study and explain the purpose of the study.</p>	
7	<b>Procedures Involved</b>
<p>Describe all research procedures being performed, who will facilitate the procedures, and when they will be performed. Describe procedures including:</p> <ul style="list-style-type: none"> <li>• The duration of time participants will spend in each research activity.</li> <li>• The period or span of time for the collection of data, and any long term follow up.</li> <li>• Surveys or questionnaires that will be administered (Attach all surveys, interview questions, scripts, data collection forms, and instructions for participants to the online application).</li> <li>• Interventions and sessions (Attach supplemental materials to the online application).</li> <li>• Lab procedures and tests and related instructions to participants.</li> <li>• Video or audio recordings of participants.</li> <li>• Previously collected data sets that that will be analyzed and identify the data source (Attach data use agreement(s) to the online application).</li> </ul>	
<ul style="list-style-type: none"> <li>• Participants will be given a a reproducible, anonymous ID will be created using first 2 letters of mother's first name, followed by date of the month born (ie a December 5 birthday will be "05"), followed by the last two digits of participant's cell phone number. Example would be AR0516 or ST2051.</li> <li>• Initially, participants will be informed as to instructions for their convenience food dine-in diary study (See Appendix C).</li> <li>• After journal completion and investigator review interviews will take place (See Appendix C).</li> <li>• See attached Appendix D for procedural protocol; two phases of research will engage participants. After participant consent has been verified, data collection will begin in the form of handwritten notes, audio recordings of interviews and electronic documentation. The study will consist of diary studies, EBD techniques and semi-structured interviews (Martin and Hanington, 2012). Data collected will be in the form of responses to interview questions and entries to participants' self-reporting experience journals. No identifiable information will be included in the study.</li> <li>• No lab or tests will be performed on participants</li> <li>• Collection of data will begin (estimated) April 10<sup>th</sup> and may continue up until September 30, 2015 or until participant quota is fulfilled. These dates depend on IRB approval.</li> <li>• Interviews will be transcribed and coded for uncovering main themes regarding the influence of the built convenience food environment on meal and food choice.</li> </ul>	

<p><b>8 Compensation or Credit</b></p> <ul style="list-style-type: none"> <li>• Describe the amount and timing of any compensation or credit to participants.</li> <li>• Identify the source of the funds to compensate participants</li> <li>• Justify that the amount given to participants is reasonable.</li> <li>• If participants are receiving course credit for participating in research, alternative assignments need to be put in place to avoid coercion.</li> </ul>
<ul style="list-style-type: none"> <li>• To increase likelihood of participation, study participants will be put into a drawing to win 1 of 2 \$100 Visa gift cards.</li> <li>• Source for the funds to compensate participants will come from the researcher's personal savings account set aside to pay school tuition.</li> <li>• Participants are not receiving any course credits for participation in this study.</li> </ul>
<p><b>9 Risk to Participants</b></p> <p>List the reasonably foreseeable risks, discomforts, or inconveniences related to participation in the research. Consider physical, psychological, social, legal, and economic risks.</p>
<p>There are no foreseeable risks involved to participants of this study. The study is voluntary enrollment and the interview can start, be paused or stopped at anytime. However, food issues can sometimes be a personal and sensitive topic for individuals and therefore may cause discomfort during the interview. Therefore, caution and care will be taken if participants exert feelings of discomfort with any interview questions and will be reminded that they are able to pause or stop the interview at any point. No questions are intended to cause harm or discomfort.</p>
<p><b>10 Potential Benefits to Participants</b></p> <p>Realistically describe the potential benefits that individual participants may experience from taking part in the research. Indicate if there is no direct benefit. Do <b>not</b> include benefits to society or others.</p>
<p>Study participants may benefit by partaking in the study by becoming more aware of their thought process involved in convenience food consumption and other unhealthy food choices, raising their awareness of their own personal diet and health.</p>
<p><b>11 Privacy and Confidentiality</b></p> <p>Describe the steps that will be taken to protect subjects' privacy interests. "Privacy interest" refers to a person's desire to place limits on with whom they interact or to whom they provide personal information. Click here for additional guidance on <a href="#">ASU Data Storage Guidelines</a>.</p> <p>Describe the following measures to ensure the confidentiality of data:</p> <ul style="list-style-type: none"> <li>• Who will have access to the data?</li> <li>• Where and how data will be stored (e.g. ASU secure server, ASU cloud storage, filing cabinets, etc.)?</li> <li>• How long the data will be stored?</li> <li>• Describe the steps that will be taken to secure the data during storage, use, and transmission. (e.g., training, authorization of access, password protection, encryption, physical controls, certificates of confidentiality, and separation of identifiers and data, etc.).</li> <li>• If applicable, how will audio or video recordings will be managed and secured. Add the duration of time these recordings will be kept.</li> <li>• If applicable, how will the consent, assent, and/or parental permission forms be secured. These forms should separate from the rest of the study data. Add the duration of time these forms will be kept.</li> <li>• If applicable, describe how data will be linked or tracked (e.g. master list, contact list, reproducible participant ID, randomized ID, etc.).</li> </ul> <p>If your study has previously collected data sets, describe who will be responsible for data security and monitoring.</p>

- Data recording device will be kept secure at all times.
- Diary Studies will be linked with interviews and therefore record keeping to coordinate identities those two components of the study is necessary. Therefore, a reproducible, anonymous ID will be created using first 2 letters of mother's first name, followed by date of the month born (ie a December 5 birthday will be "05"), followed by the last two digits of participant's cell phone number. Example would be AR0516 or ST2051.
- Transcripts will be recorded into an electronic data base and each file will be password protected
- Additional recordings will be destroyed
- Data will be stored on electronic devices, such as recorders, phone based app recording devices, password protected laptop computers, password protected cloud storage such as Google drive or Dropbox
- Data will be stored no longer than required by normal research standards for data storage
- Data will be secured through password-protected devices, including handheld devices. Any transmission of information will be through password protected Dropbox/good drive and/or via password protected email.

## 12 Consent Process

Describe the process and procedures process you will use to obtain consent. Include a description of:

- Who will be responsible for consenting participants?
- Where will the consent process take place?
- How will consent be obtained?
- If participants who do not speak English will be enrolled, describe the process to ensure that the oral and/or written information provided to those participants will be in that language. Indicate the language that will be used by those obtaining consent. Translated consent forms should be submitted after the English is approved.
- Consent will take place in Tempe, AZ on and/or near the Arizona State University Tempe Campus by the principal investigator
- Upon enrollment participants will be given self-reporting journal instructions followed by an appointment time slot. They will also be given the study purpose and expectations as well as the opportunity to discuss if they would like to partake in the study or withdraw.
- Participants must be at least 18 years old and no treatment of procedure will be involved in research.
- All participants will speak English
- See Attached consent form (Appendix B)
- 

## 13 Training

Provide the date(s) the members of the research team have completed the CITI training for human participants. This training must be taken within the last 4 years. Additional information can be found at: [Training](#).

James Shraiky 08/2012  
Lainie Plattner 10/2013



APPENDIX C

IRB EXEMPTION LETTER



EXEMPTION GRANTED

James Shraiky  
The Design School  
480/965-8965  
jshraiky@asu.edu

Dear James Shraiky:

On 4/15/2015 the ASU IRB reviewed the following protocol:

Type of Review:	Initial Study
Title:	The built convenience food environment and eating patterns: A systematic approach to understanding how design components of convenience food restaurants impact our food choices, determining barriers to healthy eating and finding leverage points to develop guidelines for the optimal healthy eating environment.
Investigator:	James Shraiky
IRB ID:	STUDY00002549
Funding:	None
Grant Title:	None
Grant ID:	None
Documents Reviewed:	<ul style="list-style-type: none"><li>• Consent Information, Category: Consent Form;</li><li>• Appendix A Recruitment, Category: Recruitment Materials;</li><li>• AppendixC Data Collection Outline, Category: Measures (Survey questions/Interview questions /interview guides/focus group questions);</li><li>• Specific research methods protocol, Category: Measures (Survey questions/Interview questions /interview guides/focus group questions);</li><li>• Diary Study Journal, Category: Participant materials (specific directions for them);</li><li>• IRB_Resources.pdf, Category: Resource list;</li><li>• Protocol overview version 2, Category: IRB Protocol;</li></ul>

The IRB determined that the protocol is considered exempt pursuant to Federal Regulations 45CFR46 (2) Tests, surveys, interviews, or observation on 4/15/2015.

In conducting this protocol you are required to follow the requirements listed in the INVESTIGATOR MANUAL (HRP-103).

Sincerely,

IRB Administrator

cc: Lainie Plattner  
Lainie Plattner

APPENDIX D  
PILOT STUDY

**Lainie Plattner**  
Masters of Science of Design - Healthcare  
Masters of Healthcare Innovation Candidate  
**Arizona State University**  
Design School  
College of Nursing & Healthcare Innovation

## Your Participant ID

---

Create your reproducible, anonymous ID by using first 2 letters of your mother's first name, followed by day of the month of your birth, followed by the last two digits of your cell phone number.

*Example:*

**Mother's name:** Rhonda

**Birthday:** 12/05/1986

**Cell phone:** 602-920-7002

**Participant ID:** Rh0502

Participation in this study is optional. You can end the study at anytime and your information will not be used in the study.

We will not be using any personal information or identifying characteristics when we collect or analyze the data. The results of this study will be used in reports, presentations or publications but your personal information will never be used.

**\*SUBMISSION OF THIS DOCUMENT WILL SIGNIFY YOUR CONSENT  
TO PARTICIPATE IN THIS STUDY.**

# Diary Study/Survey

This Diary Study/Survey is the last part of the research project, aiming to “capture the experience” of making food and eating choices for your own vantage point.

## How to use this diary?

This diary is a guiding artifact that is meant to allow you to conveniently and expressively convey personal details about your thought process behind and experience of making food choices.

## What information should you record?

Each page will have specific prompts for you to record your thoughts, feelings, behaviors and/or observations. The goal is to understand your experience of dining at a convenience food location and uncover factors that influence eating/meal patterns and food choice.

Fast Food location you chose?

Location?

Date and Time?

\* Convenience food, for the purpose of this study, will be defined as locations that “feature a common menu above the counter and provide no wait staff...customers typically pay before eating and choose and clear their own tables”

1. When you dine at a convenience food location what factors play a role in deciding what establishment to go to? (check all that apply and rank in order of importance with 1 being the most important factor. IF SOMETHING IS NOT A FACTOR IN YOUR DECISION DO NOT CHECK OR RANK IT).

Check here		Rank
<input checked="" type="checkbox"/>	Example	1
<input type="checkbox"/>	It was a spur of the moment decision: location was easily accessible and convenience.	
<input type="checkbox"/>	It was a spur of the moment decision: there was something about the building's exterior that helped me make my decision.	
<input type="checkbox"/>	A specific food item.	
<input type="checkbox"/>	It's where I've always gone.	
<input type="checkbox"/>	I enjoy the space/ambiance.	
<input type="checkbox"/>	The establishment offers specific programs (ie play area).	
<input type="checkbox"/>	I know what to expect when I go there.	
<input type="checkbox"/>	Other (please elaborate below):	

### Arrival

2. The location's structure is  
(circle one)

a stand alone building

in a stripmall type location

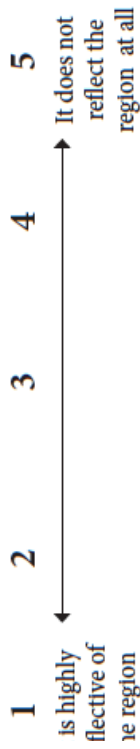
other (elaborate)

3. The structure shape feels:

(circle a number on the scale - circling "1" means you think the structure shape feels entirely homelike)



4. To what extent do you believe the exterior of the building reflects the region in which you live? (ie a cabin in the woods is highly reflective of the region in which it is placed)



### Interior

5. To what degree does this establishment remind you of other locations (of the same establishment) you have been to:  
(1 meaning it is highly familiar and 5 meaning it is not familiar at all)

A. In terms of spacial layout



B. In terms of aesthetics



### Counter/Ordering

6. In order, what are the first things you notice while at the counter/looking towards the counter  
(List 3-5 things)

7. What is the visibility of the kitchen/food preparation

space from the counter?

(Check all that apply; answers are cumulative from “very visible” to “not visible”)

- ☐ It is an open kitchen
- ☐ I can see un-preped food in its natural state
- ☐ I can see people prepping that un-prepared food
- ☐ Fresh food is on display
- ☐ I can see people packaging food
- ☐ I can see already packaged & ready food
- ☐ I can only see beverages
- ☐ I cannot see any food, food interaction or beverages

8. When you look at the counter/kitchen area (if visible) does it feel more natural or industrial?

(Circle a number)

1      2      3      4      5  
 Natural ←————→ Industrial

Ordering/Food

9. What were determining factors in your food choice?

(Check all that apply)

- ☐ You knew what you wanted when you came in
- ☐ It is what you always order
- ☐ It was a recommendation/you saw someone else eating it
- ☐ You saw a picture of the food product already packaged
- ☐ You saw a picture of the food in its natural state
- ☐ An advertisement
- ☐ Nutritional information
- ☐ You saw the item being prepared
- ☐ Other (please elaborate below)

### Aesthetics

10. Describe the overall aesthetics of the interior (color and materials)?

1 2 3 4 5  
Natural ← Home-like → Industrial

12. To what extent do you believe the interior aesthetics of the building reflects the region in which you live? (ie a cabin in the woods is highly reflective of the region in which it is placed)

1 2 3 4 5  
It is highly reflective of the region ← It does not reflect the region at all

13. When you look at the colors and aesthetics of the interior what words come to mind? (please give 3-5 ie rustic/happy/dreary)

### Meal

14. Overall how would you describe the actual dining area? (circle a number)

1 2 3 4 5  
Comfortable ← Relaxed → Uncomfortable Rushed

15. Please check all that apply to your dining experience

(If applicable check the box and rank its impact - 1 meaning it had a slight impact on my experience and 5 meaning it had a profound impact. If "no" leave everything blank)

Check or leave blank



Example

Ranking  
1 = small impact  
5 = profound impact

3

☐ Seating accommodations were comfortable

☐ Seating accommodations were uncomfortable

☐ Noise level was appropriate

☐ Noise level was too loud

☐ Tables were too close to one another & I could not move them

☐ Tables were appropriately spaced



<input type="checkbox"/>	Privacy level was appropriate	_____	
<input type="checkbox"/>	There was very little privacy	_____	<input type="checkbox"/> There were too many people going by or too close
<input type="checkbox"/>	Dining area was too close to where people were order/waiting for take out	_____	<input type="checkbox"/> _____ to my table
<input type="checkbox"/>	The way food was served to me emphasized the “quick dining” component and made me feel as if I had to eat and leave	_____	<input type="checkbox"/> Lighting was natural and pleasant
<input type="checkbox"/>	The way food was served made me feel that I could sit and take my time	_____	<input type="checkbox"/> It was too dark/lighting was artificial & unpleasant
<input type="checkbox"/>	The way food was packaged emphasized the “quick dining” component and made me feel as if I had to eat and leave	_____	<input type="checkbox"/> Presence of non-food programs (ie play areas)
<input type="checkbox"/>	The way food was packaged made me feel that I could sit and take my time	_____	<input type="checkbox"/> _____ were distracting/unpleasant
<input type="checkbox"/>		_____	<input type="checkbox"/> I enjoy the presence of non-food programs (ie play areas)
<input type="checkbox"/>		_____	<input type="checkbox"/> I could easily see the cars in line for the drive thru and it was distracting
<input type="checkbox"/>		_____	<input type="checkbox"/> There were not adequate seating options for me/my group
<input type="checkbox"/>		_____	<input type="checkbox"/> Any other components that you feel impacted your dining experience:

Thank you for completing this study!  
Please either email researcher at  
***LPlattne@asu.edu*** or call at ***602.920.7002*** to  
coordinate a time to pick up the diary or obtain a  
mailing address where you can send it.

The Herberger Institute of Design & the Arts in  
partnership with the College of Nursing & Health  
Innovation

Who can I talk to?  
If you have questions, concerns, or complaints, talk to the research team at  
Arizona State University

Lainie Plattner 602-920-7002  
Email: LPlattne@asu.edu