

**FOOD PRODUCTS IN IMPULSE BUYING AREAS OF GROCERY
STORES: IS TEMPTATION MAKING AMERICANS OBESE?**

An Undergraduate Research Scholars Thesis

by

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ABSTRACT

Food products in impulse buying areas of grocery stores: Is temptation making Americans obese? (May 2014)

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Americans are trying to figure out what to do about the increase of obesity and the related issues. I sought to understand the effects of a grocery store's environment and the effect that it has on the behavior of buyers. This study explored environmental influences, focusing on areas described in the study as impulse buying areas. Data were collected through diagramming and recording grocery store impulse product placement. Data were gathered from 24 stores throughout Texas in the West Coast.

CHAPTER I

INTRODUCTION

The purpose of this case study was to describe the contents of impulse sections in retail grocery stores, guided by social cognitive theory (Bandura, 1986) to conceptually relate the grocery store environment to consumers' behavioral and personal determinants. This study described environmental influences that could possibly lead to a future change in buying behavior. Understanding these effects could provide a basis for further research into how impulse buying relates to obesity in the US.

According to the national campaign, *Let's Move*, the rate of childhood obesity in the US has tripled in recent years (Obama, 2010). If this trend continues, a projected one-third of all children born after 1999 will at some point develop diabetes (Obama, 2010). Diabetes is only one of the 60 chronic diseases linked to obesity (campaign to end obesity, 2011). Obesitycampaign.org stated two thirds of adults and one in three children struggle with being overweight (Campaign to end obesity, 2011). Aside from the health issues caused by obesity and diabetes, these diseases also act as an economic burden on societies (Yach, Stuckler, & Brownell, 2006). In 2010, the nonpartisan Congressional Budget Office reported that nearly 20% of the US healthcare spending increase from 1987 to 2007 was an effect of obesity (Campaign to end obesity, 2011). Eating more fruits and vegetables can help control weight and may also lead to eating fewer high-fat foods (Glanz & Yaroch, 2004). In 2011, First Lady Michelle Obama and others introduced *My Plate*, a new alternative to the food pyramid (Vilsack, 2011).

CHAPTER II

LITERATURE REVIEW

Purpose Statement

The purpose of this case study was to describe the contents of impulse sections in retail grocery stores, guided by social cognitive theory (Bandura, 1986) to conceptually relate the grocery store environment to consumers' behavioral and personal determinants. In this chapter, an overview of social cognitive theory is presented, followed by a detailed description of each component of social cognitive theory. Subsequently, an explanation of how social cognitive theory guided this study is presented, followed by a summary of literature related to each component of social cognitive theory.

Social Cognitive Theory

According to Bandura (1986), social cognitive theory “favors a conception of interaction based on triadic reciprocity” (Bandura, 1977a, 1978a). In this model of reciprocal determinism, behavior, personal factors, and environmental influences all operate interactively as determinants of each other (Bandura, 1986, p. 23). Although the factors are influential to one another, they are not to be interpreted as symmetrical influences. The strength of each component may vary for different activities, different individuals, and different circumstances.

Social cognitive theory provides a “conceptual framework within which to analyze the determinants and psychosocial mechanisms through which symbolic communication influences human thought, affect, and actions” (p. 267; see Figure 1).

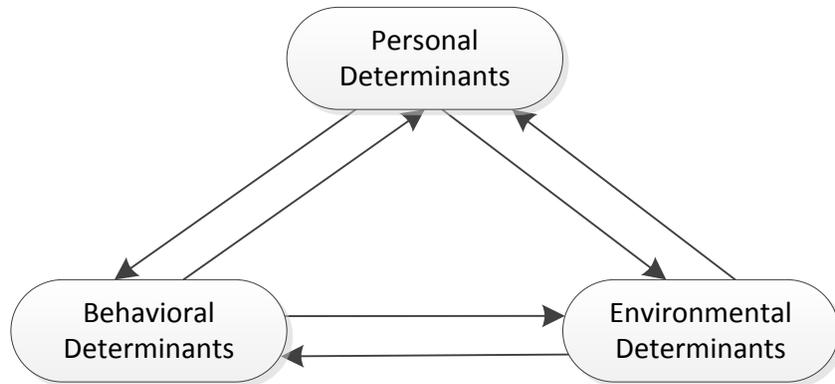


Figure 1. The triangular outline creates a visual representation of a triadic reciprocal relationship among personal, environmental, and behavioral determinants (Bandura, 1986).

Environment

Bandura (2001) suggested that environment has a triadic reciprocal relationship with personal and behavioral determinants. Further, Bandura (2001) stated that people are able to create their own environments and exercise control over them. Once an individual settles into their environment, he or she will be greatly impacted by his or her environment. “Social influences operating in the environments that are selected continue to promote certain competencies, values, and interests long after the decisional determinant has rendered its inaugurating effect” (Bandura, 2001, p. 270). In turn, effects brought on by the environment are not necessarily temporary.

Within each environment, there are three related structures (Bandura, 2001): imposed environment, selected environment, and constructed environment. An imposed environment is forced on the individual; however, he or she still has the choice of how he or she reacts to his or her environment. Constructed environment deals with the cultural aspect of environment and the selected environment is what the individual chooses to do within the environment. This study will focus on the imposed environment, (i.e., grocery stores) and the effects of imposed environment on consumers.

Behavior

Behavior is shaped and controlled either by environmental influences or by internal dispositions (Bandura, 2001). Most external influences affect behavior through cognitive processes rather than directly.

Personal

Bandura (2001) defined personal determinants as “personal factors in the form of cognitive, affective, and biological events” (Bandura, p. 266). These personal determinants lead to people’s perception of the other two branches on the outline, behavioral and environmental determinants.

Personal determinants come from various human capabilities. Symbolizing capability guides people to make decisions based on knowledge they gain from themselves as well as others (Bandura, 2001). Self-regulatory capability is the self-worth that individuals receive when fulfilling valued standards, similar to personal reward systems. People view things with an end purpose, and to reach their destination, goals are set to maintain motivation. Self-reflective capability is the ability to verify one’s own thoughts in a practical manner and align them with reality (Bandura, 2001).

Social cognitive theory in this study

This descriptive study that was focused on the environment of grocery stores, specifically on the contents of the impulse goods areas. Based on the assumption that behavior is influenced by environment, describing the contents of the impulse goods areas provided greater insight into

what is available to consumers in impulse buying areas of grocery stores. As previously mentioned, not all components of Bandura's theory are equal. Personal determinants of customers did not play a major role in this study; however, research has discovered specific traits that influence impulsive buying behavior.

Environment

Environmental psychologists (Merhabian & Russell, 1974; Merabian, 1980; Russell & Pratt, 1980) have presented what is considered a valuable theoretic model for studying effects of store atmosphere on shopping behavior (Donovan & Rossiter, 1982). Impulsive behavior can occur in any setting, especially in the context of consumer impulse buying. Research on impulse buying has been present for many years in different topics such as retail shelf location (Patterson, 1963) and amount of shelf space (Cox, 1964).

Donovan et al.(1994) discovered a positive correlation between customer's feelings of happiness in shopping environment and impulse buying behavior. In each of their studies, positive feelings led to increased unplanned spending (Jeffery et al., 1994).

Behavioral

Behavior within an environment can be classified as either approach or avoidance behaviors (Donovan et al., 1982). Approach behaviors are related to a desire to move towards, stay in, explore, interact supportively in, perform well, and return to the environment. Avoidance behaviors are related to the opposite: deteriorated performance and dissatisfaction; feelings of anxiety or boredom; unfriendliness to others; and a desire to leave the environment and not

return. These behaviors are a result of the emotional states an individual experiences within an environment (Donovan & Rossiter, 1982).

In 2012, *Prevention Magazine* released information showing that in comparison to the previous year, 32% of shoppers bought more foods based on nutrition components (FMI, 2012). It has long been recognized that food availability and cultural factors are dominant in food selection (Steptoe, Pollard, & Wardle, 1995). In a study by Jeffery et al. (1994), a university cafeteria increased their selection of fruit by 50%, along with adding three new vegetable options to the salad bar. Prices of both items were reduced by 50% during the nine-week span of increased amounts of healthy foods. The results showed that during a three-week period, sales of both items increased three-fold over baseline levels (Jeffery et al., 1994). The increase of healthy options led to an 82% of the variability in salad sales and 69% of variability in fruit sales. (Jeffery et al., 1994). When students had access to more healthy options, they chose to buy more. Fast food chains experienced a drop in French fry purchases due to the customers shift towards nutritious alternatives. (Verplanken et al., 2005).

To encourage lifestyle changes, Whole Foods, one of the leading, natural grocery supply chains is piloting their wellness club, a program to promote healthy eating. Members who choose to join receive various types of nutritional support and are given grocery discounts (Horovitz, 2011). A study conducted by Nielsen in 2013, titled *Connecting what consumers demand with what shoppers buy*, results from consumer engagement data behind 50,000 purchases across 100 fast-moving consumer goods indicated consumers plan to buy 72% of the category purchases that end up in their carts before they even head to the store. Conversely, the remaining 28% of purchases

reflect remainder categories that may not be “top-of-mind” and the highly sought impulse buys. The study focused mainly on consumer engagement, stating when a customer lacks engagement, he or she is just navigating the store on auto-pilot and making habitual purchasing decisions. Rook (1987) defined impulse buys as “a consumer experiences a sudden, often powerful and persistent urge to buy something immediately” (p. 190).

Personal

Impulsive behavior has been present in the literature for many years. Much human activity is driven by impulses that are biochemically and psychologically stimulated (Donovan & Rossiter, 1982). Buying impulses are often forceful and urgent; contemplative purchasing is less so. Impulsive buying is a fast experience and is more spontaneous than cautious. The consumer is more likely to feel out-of-control when buying impulsively than when making contemplative purchases.

In Rook’s (1987) study, consumers reportedly succumbed to their buying impulses despite the awareness of potentially negative consequences:

Impulse buying occurs when a consumer experiences a sudden, often powerful and persistent urge to buy something immediately. The impulse to buy is hedonically complex and may stimulate emotional conflict. Also, impulse buying is prone to occur with diminished regard for its consequences. (Rook, 1987, p. 191)

Purchasing unplanned items is a psychological impulse. One definition of a physiological impulse described it as a “strong, sometimes irresistible urge; a sudden inclination to act without strong deliberation” (Goldenson, 1984, p. 37). Often, impulse buying might involve breaking

budgetary or dietary rules and leave consumers feeling guilty about being tempted to be bad (Rook, 1987). Social psychologists have also studied impulsiveness through experimental research on the capacity for delaying gratification. A positive correlation has been found between factors such as age, intelligence, social responsibility and the presence of a father in the home. The ability to delay gratification has also been found to correlate negatively with an acquiescent personality, a disadvantaged family, and the length of the delay interval (Rook, 1987). The profile of an impulsive purchaser, noted by Verplanken, Herabadi, Perry, and Silvera (2005) is an individual who is low on conscientiousness, autonomy, personal need for structure, high levels of extraversion, and action orientation. It can be expected that the impulsive customer is particularly vulnerable when presented with unhealthy food choices (Verplanken et al., 2005).

Environment

Unhealthy snacks are easily available and more often displayed in ways that trigger a quick and unintended purchase. Impulse buying generates more than \$4 billion in annual sales volume in the United States, accounting for up to 80% of all purchases in certain product categories (Kacen & Lee, 2002). There is reason to believe that if healthy products were to be placed in areas ideal for impulse buys (creating a different environment) then the behavior may change.

A 2012 study by Nielsen, *Understanding shopper mindset with Jasper Mortensen*, noted that understanding the shopper's path to purchase was vital for any marketer to unlock category sales opportunities. Results of the study indicated that products bought on impulse included beer, ice cream, carbonated soft drinks, chocolate bars, and crisps (chips). According to Nielsen (2012), positioning items toward the front of store and the use of secondary sites is vital to maximize impulse potential.

Specific Guidance for this study

This study was primarily focused on describing the environment (retail grocery store layout).

Behavioral determinants are important; however, conducting an experiment to test behavior was beyond the scope of this study. Therefore, following the guidance provided by Nielsen (2013), we proceeded under the assumption that 28% of consumer purchases are made on impulse.

Personal determinants are also fundamental to social cognitive theory. Because personal determinants of consumers vary greatly in the literature, we proceeded under the assumption that on average, the effect of grocery store environment would influence the behavior of typical consumers similarly—customers who would purchase items from an impulse buying area would buy them regardless of the content.

CHAPTER III

METHOD

The purpose of this case study was to describe the contents of impulse sections in retail grocery stores, guided by social cognitive theory (Bandura, 1986) to conceptually relate the grocery store environment to consumers' behavioral and personal determinants. . As noted in chapter two, social cognitive theory (Bandura, 1986) can be described by the triadic, reciprocal relationship among or between personal, behavioral, and environmental determinants. Environmental determinants were the focus of this study; therefore, the exploration of the impulse buying areas in retail grocery stores was guided by three research questions:

RQ1: What are the layouts of the selected stores?

RQ2: What is the distribution of impulse buying areas in the selected stores?

RQ3: What products are placed in impulse buying areas of the selected stores?

The first half of the study was conducted during a 16-day period in July 2013 throughout California and Nevada at various times to investigate West Coast impulse goods. The sample consisted of large supermarkets, which for this study, will be defined as "corporate owned chain stores" (Morland, Wing, Diez Roux, & Poole, 2002). Among the sampled stores were various Ralph's, Vons, Whole Food Markets, Albertsons, Sprouts, Fresh and Easy, Stater Bros., Trader Joe's, Smith's, Grocery Outlet, Safeway, and Lucky's. A convenience sample included grocery stores Google or cell phone mapping systems and direct line-of-sight along the route of an undergraduate research field trip. Superstores that did not focus primarily on food were not studied, e.g., Walmart.

Texas data were collected from a convenience sample near major cities in Texas, including San Antonio, Dallas, Houston, and Corpus Christi, during September, October, November, and December 2013. The Texas grocery stores included H-E-B, Kroger, Randall's, Whole Foods Market, Central Market, Trader Joe's, and Fiesta, identified by the same method used during data collection in California and Nevada.

Measures

According to Lewison (1994) "selling floor layouts are important because they strongly influence in-store traffic patterns, shopping atmosphere, shopping behavior and operational efficiency." Lewison (1994) noted three major types of store layouts: grid, racetrack/boutique and freeform, which is referred to in this study as "other."

Grid (see Figure 2)

The grid, is a rectangular arrangement of displays and long aisles that generally run parallel to one another. "It has been shown that the grid layout facilitates routine and planned shopping behavior, providing consumers with flexibility and speed in identifying pre-selected products which appear on their shopping list. It is widely favored by the grocery sector because the majority of customers visiting grocery stores have planned their purchase" (Lewison, 1994).

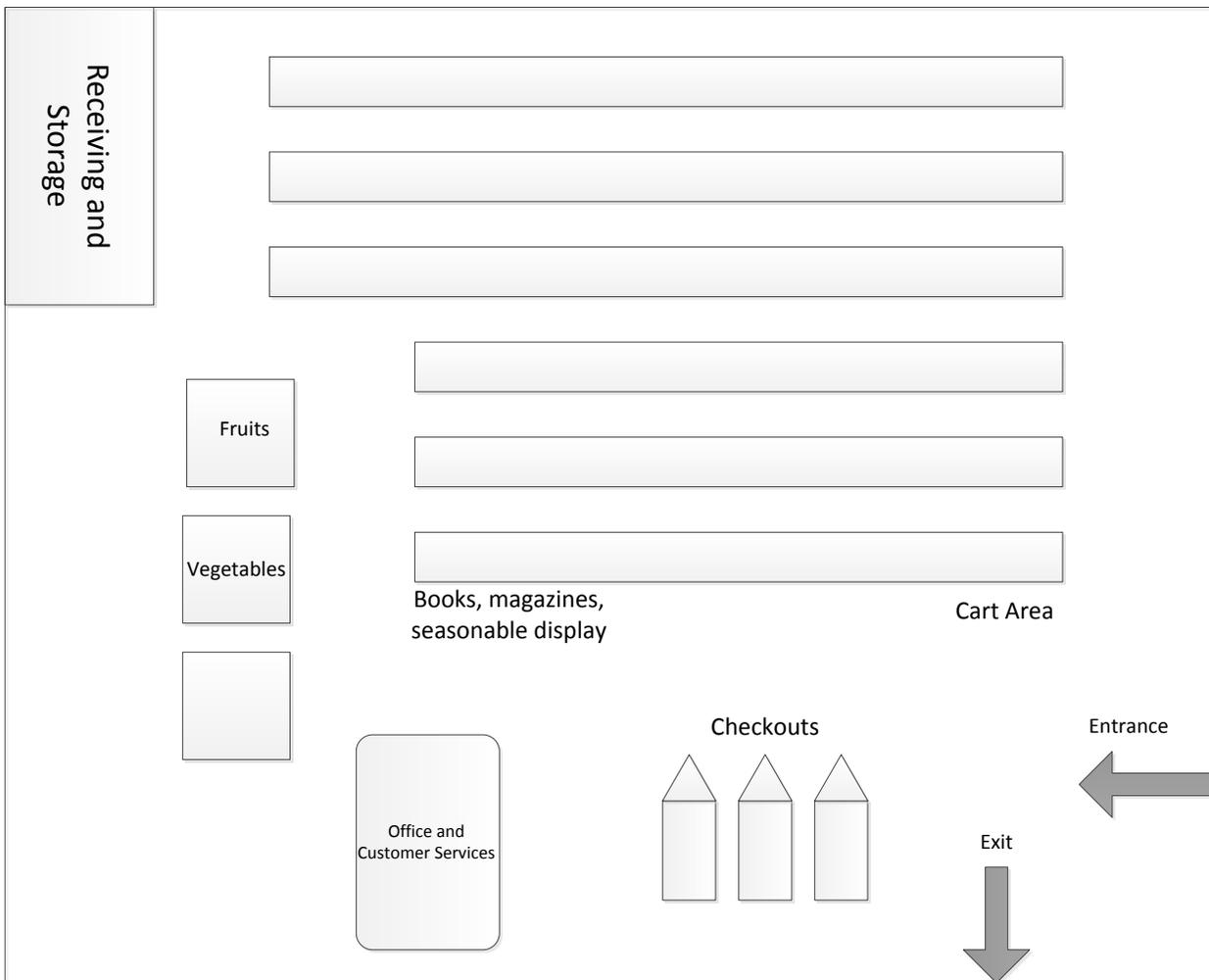


Figure 2 A grid layout of a grocery store, adapted from Lewison, 1994.

Free-Flowing and Asymmetric (see Figure 3)

The second form of layout is a free-flowing and asymmetric arrangement of displays and aisles, including various different sizes, shapes and styles of display. This pattern gives the customer more freedom to move in any direction within the store. It is most commonly used by large department stores, and as seen in this study, a select number of grocery stores.

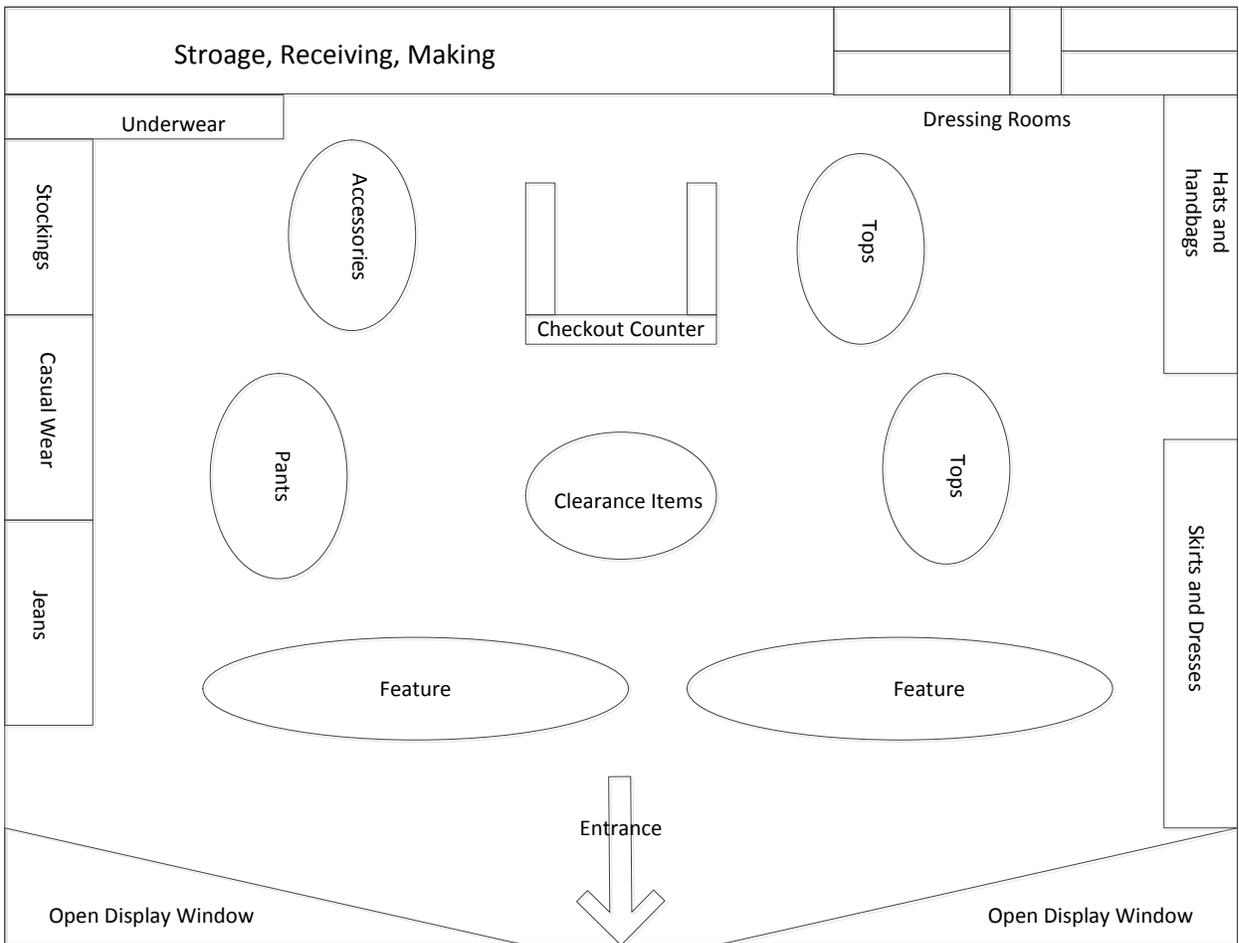


Figure 3. A free-flowing and asymmetric layout of a grocery store, adapted from Lewison, 1994.1994.

Racetrack/Boutique (see Figure 4)

The third form described by Lewison (1994) is the racetrack/boutique layout. This layout separates the sales floor into individual, semi-separate areas. The racetrack/boutique store layout leads the customer along specific paths to visit as many sections of the store as possible because the main aisle/corridor facilitates customer movement through the store. A very small number of grocery stores recorded had racetrack/boutique layouts.

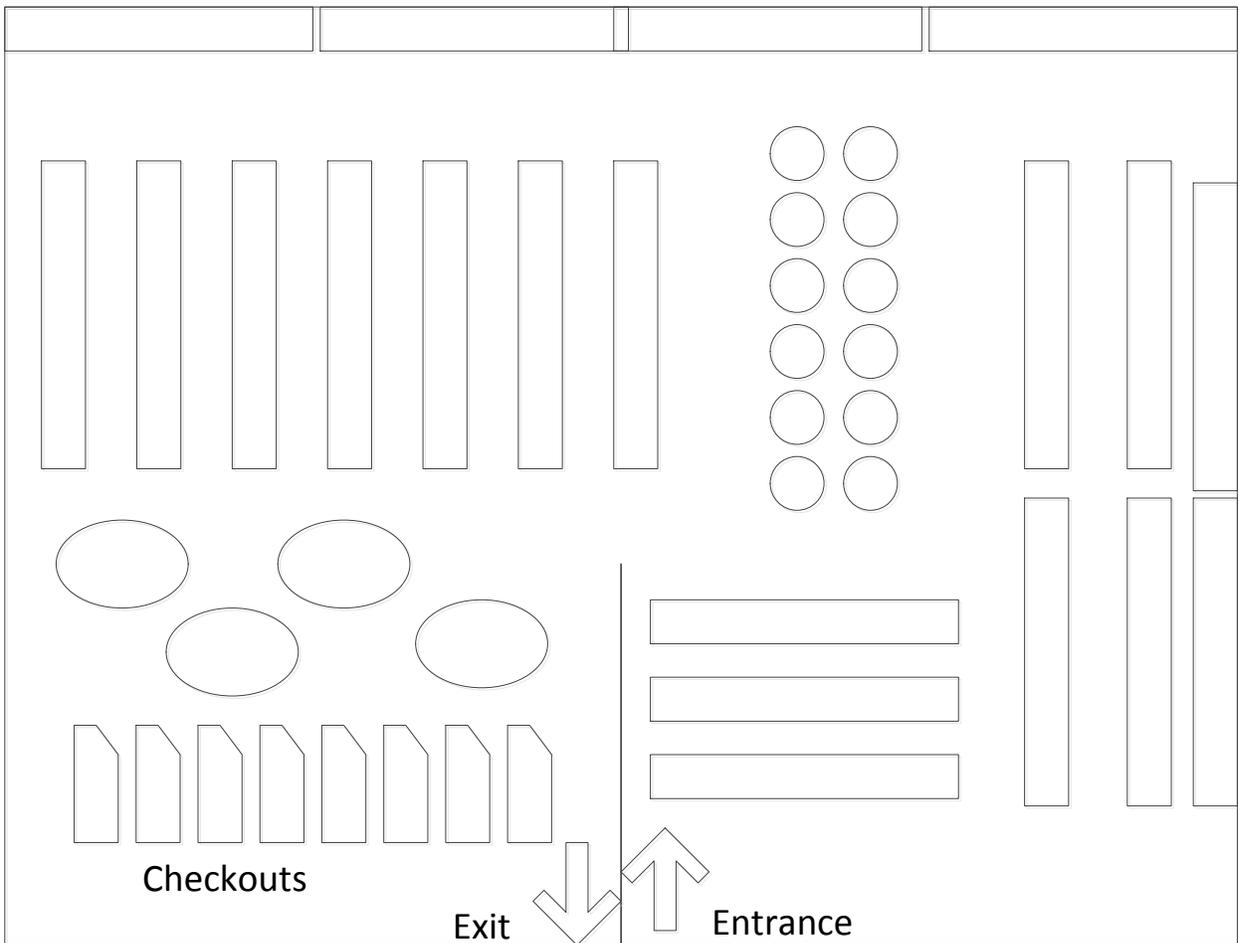


Figure 4. A racetrack/boutique layout of a grocery store, adapted from Lewison, 1994.

Data Collection

A group of student researchers from Texas A&M University diagrammed store layouts and recorded items placed in aisle end caps and at the end of check-out aisles. Drawings were manually recorded on graph paper, and labeled with the store name, address, and date. A pilot study was conducted using the first eight stores that were investigated; students each diagrammed the same layout of each store and continuously compared notes until all observers were consistent. For the next 12 supermarkets, student researchers were assigned to specific

duties: One researcher was instructed to draw the layout of each store, while two or three other researchers noted the contents of impulse buying areas, including end caps near the front and back of stores. In some larger stores, four researchers were necessary to note the contents of the end caps of aisles near the center of stores. Checkout aisles were also recorded for their contents.

Once data were collected, data were entered into a Microsoft Excel spreadsheet, including store number, store name, date, street address, city, zip code, store layout type (i.e., grid, racetrack/boutique, or free-flowing), location of impulse buying area in the store (i.e., check out, end caps and other; see Figure 1). The checkout aisles were located at the front of the store. Located closest to the checkout aisles were the end caps labeled A. End caps B and C were the end caps that faced the inner aisles of the store, seen in some large grocery stores. End cap D faced the back wall of the grocery store (see Figure 5).

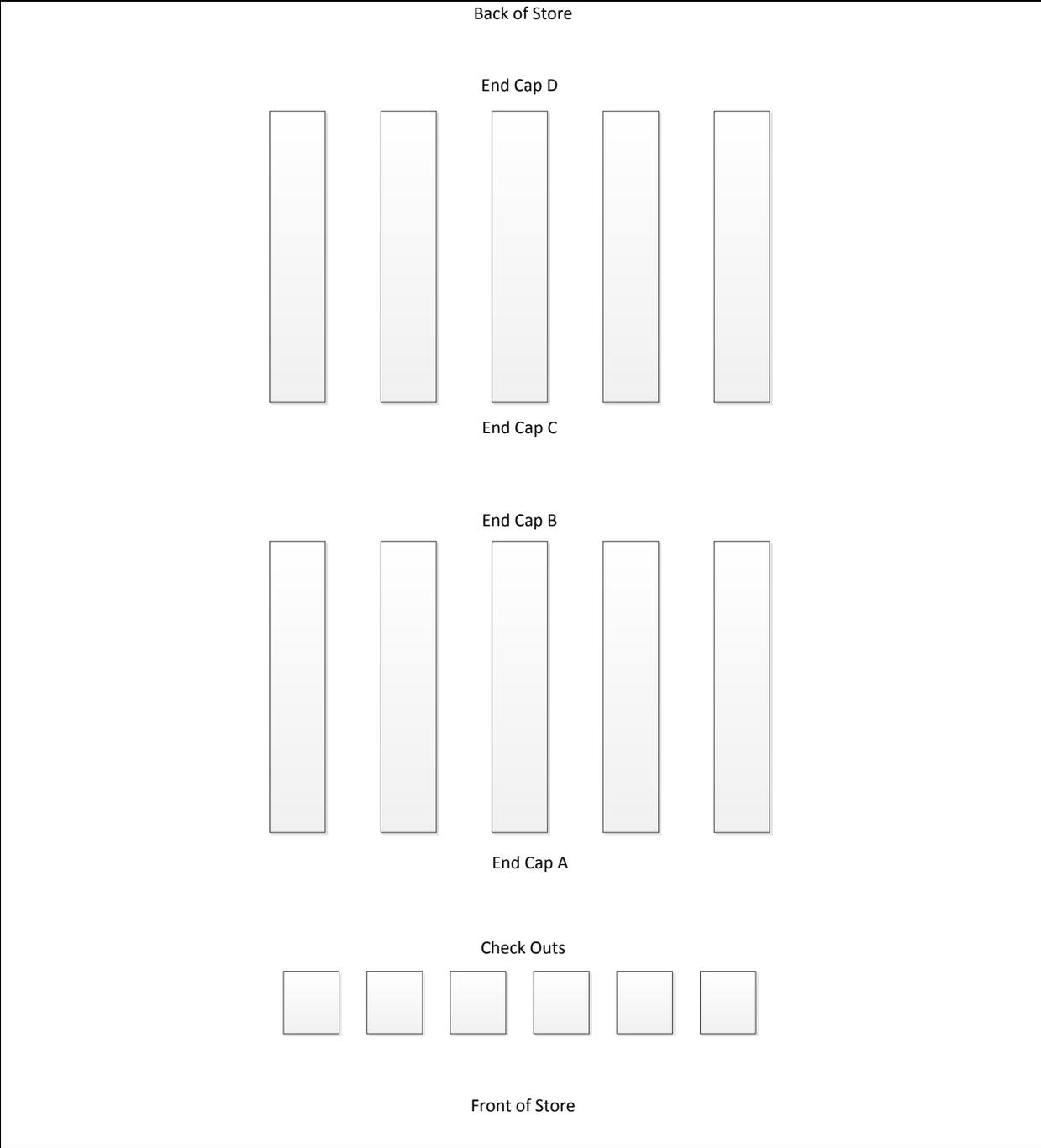


Figure 5. Example coding scheme depicting check out and end cap locations in a grocery store.

CHAPTER IV

RESULTS/FINDINGS

The purpose of this case study was to describe the contents of impulse sections in retail grocery stores, guided by social cognitive theory (Bandura, 1986) to conceptually relate the grocery store environment to consumers' behavioral and personal determinants. Data were collected from retail grocery stores in California ($n = 19$) Nevada ($n = 3$) and Texas ($n = 12$) between July and December 2013. The results in this chapter will be presented by each research question.

Research Question One: What are the layouts of the selected stores?

The purpose of research question one was to describe the layout of the retail grocery stores included in this study.

According to Lewison, (1994) there are three types of store layouts: grid, racetrack, and freeform. Grid is defined as “a rectangular arrangement of displays and long aisles that generally run parallel to one another” (Lewison, 1994). Racetrack is defined as a layout having “the sales floor organized into individual, semi-separate areas, each built around a particular shopping theme.” With the racetrack layout, the customer enters along specific paths to visit as many store sections as possible, because the main aisle/corridor facilitates customer movement through the store. The freeform grid is a free-flowing and asymmetric arrangement of displays and aisles, noted in the data as “other.”

Researchers noted the diagrams by Lewison (1994) and upon entering the stores, one researcher would draw out the store layout from a bird's-eye-view. When data was being analyzed, the

layout of each store was documented and included in the data. The findings are displayed in Table 1, which shows 68% of stores ($n = 17$) had a grid layout, eight% of stores ($n = 2$) had a racetrack layout and 24% of the stores ($n = 6$) were on a layout characterized by other. Each of the six stores with layouts described as other were grocery stores with a health and wellness emphasis such as Central Market, Whole Foods, and Trader Joe's.

Table 1
Summary of Store Layouts

Layout	<i>n</i>	%
Grid	17	68.0
Racetrack or Boutique	2	8.0
Other	6	24.0
Total	25	100.0

Research Question Two: *What is the distribution of impulse buying areas in the selected stores?*

The purpose of research question two was to note the number of impulse areas and determine how many impulse areas each store had.

For the purpose of this study, impulse areas were defined as the checkout aisle end caps and the end cap of each grocery store aisle. Researchers documented the contents of each listed section. For this study, the front end cap was continuously labeled as “A” and the end cap closest to the back of the store was referred to as end cap “D.” Some stores were larger than others and included aisle end caps A, B, C, and D. Labels B and C referred to the inner aisle end caps. The findings are displayed in table 2.

Table 2

Summary of Impulse Buying Locations in Stores

In-Store Location	<i>n</i>	%
Checkout	23	24.7
End Cap A	24	25.8
End Cap B	13	14.0
End Cap C	10	10.8
End Cap D	20	21.5
End Cap E	3	3.2

The table reveals that of the 24 stores in the data, 23 checkout aisles were recorded, there were 24 findings for end cap “A”, 13 findings for end cap “B”, 10 findings for end cap C, 20 findings for end cap “D” and three findings for end cap E which was used to account for the sections labeled as “other”.

Research Question Three: What products are placed in impulse buying areas of the selected stores?

The purpose of research question three was to explore and describe the contents of impulse buying areas in retail grocery stores.

Researchers were each assigned a specific section to record in each store to assure inter-coder reliability. Researchers would record the contents of each end cap aisle numbering them in conjunction to the store aisle number. The results showed that overall, the contents of the impulse section can be regarded as “unhealthy”. Of the checkout aisles surveyed, 56.5 % of the stores ($n=13$) most frequently had candy and soda. Following these products as the most frequently carried items in the check-out section, were chips in 39% of the stores ($n=9$) and energy drinks in the checkout aisles of 34% of the stores ($n=8$). Packaged nuts were seen in 30% of the stores ($n=7$). In end cap A, the section in the front of the store, 75% of the stores ($n=18$) carried chips, 62% of the stores ($n=15$) carried soda, 50% of the stores ($n=12$) carried candy, and in 16% of the stores ($n=10$) ice cream and juice were present in end cap A. End cap B, the inner

end cap closest to the entrance seen in some larger stores carried water in 61% of stores ($n=8$) and in 38% of the stores ($n=5$) end cap B had cereal, chips, juice, and soda. End cap C, which faces end cap B in the inner aisles had slightly different impulse goods than seen in other sections. In 40% of the stores with an end cap C, ($n=4$) chips, frozen dinners, frozen pizza, and soda were recorded. In 30% of the end cap C sections ($n=3$), ice cream was recorded. The end cap facing the back of the store, end cap D carried chips in 55% of the stores ($n=11$), candy and soda in 45% of the stores ($n=9$) and cookies and wine in 30% of the stores ($n=6$).

Table 3.
Summary of Impulse Buying Location Content

Checkout				End Cap A Front of store				End Cap B Center of store				End Cap C Center of store				End Cap D Back of store			
Rank	Item	<i>n</i>	%	Rank	Item	<i>n</i>	%	Rank	Item	<i>n</i>	%	Rank	Item	<i>n</i>	%	Rank	Item	<i>n</i>	%
1	Soda	13	56.5	1	Chips	18	75.0	1	Water	8	61.5	1	Chips	4	40.0	1	Chips	11	55.0
1	Candy	13	56.5	2	Soda	15	62.5	2	Cereal	5	38.4	1	Frozen Dinner	4	40.0	2	Candy	9	45.0
3	Chips	9	39.1	3	Candy	12	50.0	2	Chips	5	38.4	1	Frozen Pizza	4	40.0	2	Soda	9	45.0
4	Energy Drink	8	34.7	4	Ice Cream	10	16.6	2	Juice	5	38.4	1	Soda	4	40.0	3	Cookies	6	30.0
5	Packaged Nuts	7	30.4	4	Juice	10	16.6	2	Soda	5	38.4	2	Ice Cream	3	20.0	3	Wine	6	30.0

CHAPTER V

CONCLUSION/DISCUSSION

Through the measures taken in the study, each of the research questions were able to be answered. Majority (68%) of the store layouts were grid style (Lewison, 1994). Majority of the impulse goods were seen in the checkout end caps ($n = 23$), end caps facing the front of the store ($n=24$), and the back wall of the selected stores ($n=20$). There were certain items that were seen periodically throughout the impulse sections. These items include soda, candy, and chips, all which ranked as the top three items recorded in the checkout section, end cap A, and end cap D.

Due to different researchers collecting data in the West Coast stores and the Texas stores, there may be some imprecision in the measures. Ideally, stores all around the nation would have been recorded, but due to the time and resources allowed for this project, only three states were able to be recorded. Another bias that could have affect the data were the environment of the store which was being recording. Time of day was not taken into account when recording data. Time of recording could have influenced how crowded the store was, therefore affected the researchers ability obtain the necessary data.

In order to test the theoretical significance that the environment of a grocery store has the ability to impact a buys to purchase healthier foods, further studies must be done. I hope this project is able to prompt research in discovering if healthy food in the impulse aisles leads to a change in consumer buying habits.

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