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A Practical Guide to Eye Tracking Using Qualitative and Quantitative Means

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A PRACTICAL GUIDE TO EYE TRACKING USING QUALITATIVE AND QUANTITATIVE MEANS

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ABSTRACT

This research sought to define how typical eye tracking studies are executed and improve the process with qualitative and quantitative methods. Eye tracking is a tool to collect and analyze the behavioral biometrics of consumers. Eye tracking can facilitate a wide range of research, and is commonly used in conjunction with other forms of data collection. The availability of eye tracking has increased in the last decade, leading to more companies using this technology as an avenue for market research. Despite the popularity of eye tracking technology, there is little emphasis in literature concerning the development of benchmarks of aggregate data for common retail grocery categories. Utilizing real consumers in an immersive consumer retail experience laboratory, eye tracking studies were conducted on 28 product categories within the consumer product goods (CPG) sector to create a benchmark. Data models were created to show "norms" for each category to be used by researchers in the future to prevent them from spending the time and resources on creating a comprehensive control dataset.

In conjunction with this largely quantitative study, two research projects were completed in order to help answer questions that eye tracking cannot answer alone. A study using a mixed methods approach to eye tracking by implementing surveys and interviews sought to better understand why participants looked at a particular item within the competitive array and *did not* ultimately purchase it, found that both methods should be used to follow-up eye tracking based on the specific questions being asked. In the vein of understanding why consumer do what they do, comes the idea of purchasing the products on the shelf. In the consumer goods market today, it is important for companies

to make their brand or product stand out within the vast competitive array. Even though it is highly unlikely that a product would be purchased without having been noticed, it is important to investigate if products that garner high attention are in fact purchased in the marketplace, and if a correlation exists between the two metrics. Utilizing real consumers in an immersive consumer retail experience laboratory, a specific eye tracking study was conducted to test the correlation between attention and sales data.

DEDICATION

This dissertation is dedicated to my loving family. My parents, Paul and Diane Rice, have played a tremendous role in my educational journey. Both being in academia, they have always led by example by being determined, focused, and hard-working parents. I have never once heard my parents say that they were "tired" even though they worked so hard to provide the best life for my twin sister and I. From graduating college in Pennsylvania and moving to Clemson to pursue my doctorate, they have always supported me with unconditional love and I hope to be half the people they are one day. My twin sister, Allison, deserves as much credit as I do for this accomplishment. Not a day went by over the past four years that she did not ask about my projects and how she could help. From editing to counseling, she was always by my side when times got tough, and for that I am forever grateful. My boyfriend, David, thank you for your support and unconditional love. Ultimately, this journey would not have been possible without my Lord and Savior, Jesus Christ, who helped me through the most overwhelming of times and gave me the strength to make this all possible.

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CHAPTER ONE

INTRODUCTION

In the vast array of products on the shelves within the fast-moving consumer goods (FMCG) sector, packaging can act as a spokesperson for a brand. Accordingly, over the past eight years there has been increase in the availability and use of eye tracking technology in consumer research (Young, 2014). Brand owners, marketers, members of the academic community, and designers have acknowledged the benefit of this technology.

Eye tracking can give researchers insight into the nonconscious reactions of users in reference to the products in front of them. Similar to ethnography, the science of the lived experience of consumers, eye tracking emphasizes direct contact and observation of the consumer in the natural context of product acquisition and usage (Wimmer & Stiles, 2001). Unlike ethnography, eye tracking is able to live the experience of the consumer without any human interaction, as it is all acquired through state-of-the-art glasses that generate descriptive statistics by observing where consumers look. Within the retail grocery sector, evaluating consumer preferences and delivering persuasive communication are critical aspects of marketing various products and marketing strategy ("Imotions Biometric Research Platform," 2016). While self-reports and surveys give researchers valuable insights into respondents' attitudes and awareness, they are limited in capturing emotional responses unbiased by self-awareness and social desirability ("Facial Expression Analysis Guide," 2016). The bottom line is that consumers are not always aware of how something makes them feel, and eye tracking technology can help

to shed light on this. When prompted to describe their feelings, consumers may feel pressured by formal self-critical exercise to give what they think is the "right" answer ("Understanding Human Behavior," 2016).

Eye tracking can be easily applied to consumer insights research, as it has the ability to uncover unconscious consumer actions and product annoyances that might otherwise go unnoticed. However, eye tracking in consumer behavior research has limited value when used in isolation because most studies aim to answer research questions that cannot be addressed solely with eye tracking (Boijko, 2013). Through the use of complementary multiple methods such as surveys, interviews, and eye tracking, researchers can get the full understanding of the consumer experience. Eye tracking can affectively be used to augment more conventional research methods (Boijko, 2013). The relationship between eye tracking findings and other findings is by no means one sided. Eye tracking not only can help researchers better understand what participants do and say, but the opposite is true as well—other data are often needed to interpret and explain eye tracking findings (Boijko, 2013). A synergetic relationship is thus formed between the quantitative eye tracking data and more qualitative survey data.

Qualitative data can help interpret eye tracking findings since it is not typically decisive enough information to know that a person looked at something. Researchers may also want to know why consumers looked, or if their looking resulted in comprehension, retention, or action. In order to accomplish this, this work implements a mixed method approach, specifically an explanatory design. By accompanying the biometric device (quantitative) with a qualitative interview portion, researchers are able to understand if

there is a difference between what consumers are saying and what they are actually doing as measured through the scope of eye tracking technology. This design will allow us to collect a second form of data (interview) to augment and/or support the primary form of data (eye tracking). Implementing a mixed methods approach allows researchers to use a combination of the key elements for both qualitative and quantitative methodology for the broad purposes of breadth and depth of understanding. Consumer biometric response provides real data on how consumers interact with products, while qualitative tools are used to expand on this information by asking "why", "how" and "to what extent." This research is novel in the field, because unlike focus groups and other market research where consumers are taken out of their natural shopping environment, this work strives to focus on retail context, where so much information can be found at the depth of the subconscious. By complementing the biometric technology with post hoc phone interviews and a survey section, researchers are getting the best of both worlds by combining qualitative and quantitative methods to better understand the total consumer experience.

Affordable biometric devices have proliferated in the last few years, allowing researchers to generate data on a wide variety of nonconscious human activity. Biometric tools such as eye tracking are gaining traction in social quantitative research and considered standard practice for retail packaging analysis. However, the broader impact of this data is limited as there does not exist a standard benchmark to compare collected biometric results to the current marketplace. Researchers, industry professionals, retailers, and the academic community seeking to understand the effects of packaging on consumer behavior do not have a comprehensive and practical eye tracking control to test

design variables against. It is not uncommon for researchers to invest more time and resources creating a control dataset than the actual work of testing the variable of interest. Thus, a benchmark of aggregate data for common retail grocery categories will provide a beneficial resource for the academic community who are researching how to quantify design impact on human behavior. This research takes a multidisciplinary approach to developing a resource for researchers within the social, behavioral and economic sciences by encouraging further biometric research in one of the largest markets in the world: retail grocery. This benchmark proposes to leverage biometric devices (quantitative) and qualitative methods to understand how consumers interact with products on a nonconscious level at the point of purchase. The quantitative aspect of this benchmark paired with qualitative research allows researchers to understand the difference between what consumers are saying and are actually doing. For example, biometric data may indicate that users spend more time fixating on a certain marketing element (e.g. a photo of the product printed on the package), but cannot explain why, while the complementary qualitative methods can add insight for what is behind the fixation. Within this proposed project, the combination of quantitative measures (eye tracking and regression) alongside qualitative (interviews) measures will produce a comprehensive understanding of the products desirability within retail grocery.

The proposed research will advance knowledge in the social, behavioral and economic sciences to a great extent by providing a benchmark of biometric data consisting of quantitative and qualitative methodology which aims to encourage and support future studies in retail grocery. A biometric benchmark for packaged products

within retail grocery does not exist to date. Because this information is lacking, data collected on consumer packaged goods is limited and cannot be compared to the competitive array unless the researchers invest further time and funds. By having access to a set of aggregate data across the 28 common categories in retail grocery, researchers, developers, designers, brand owners, marketers, and retailers would be able to quickly assess the market viability of new products with minimal time, effort, and resources. The applications of such a benchmark for packaging in retail grocery could benefit every sector of the $753 billion consumer packaged goods industry in the United States.

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CHAPTER TWO

REVIEW OF LITERATURE

Justification

The desired societal outcomes of this project are to empower brand owners, designers, developers, retailers, and members of the academic community with the knowledge to quantitatively and qualitatively assess new product and package development. With the majority of new products launched to the retail grocery market failing in 2016, it is important that industries develop products that are relevant to consumers, minimize waste, and provide a higher quality of goods for national consumption. With this being said, according to a researcher from the university of Toronto, the failure rate for new products is 70 to 80 percent (Linton, 2017). Too often do consumer insight companies get calls about products that may be the next "big thing" on the market, but upon being asked if the product they are promoting has been researched to support the claims, many brand managers respond with the assumption that the product is immediately ready to be sold at retail without any market research going into the process (Schnieder & Hall, 2011). Because of the lack of pre-launch product research, approximately 75% of the consumer packaged goods and retail products fail to earn $7.5 million during their first year (Schnieder & Hall, 2011). In addition to this startling statistic, Nielsen data shows that first year marketing expenditure in the United States average a $15 million per launch, which does not even include salaries of developers, the times it takes to bring a product to market, and the many other expenses during product development (Sorweid, 2017). Unsuccessful product launches can be

caused by mistakes before product launch, mistakes during product launch, and mistakes after product launch (Karuppalya, 2016).

During the pre-launch phase for a product, one crucial mistake is failing to do market research concerning the new product. Market research is useful to help ensure that the product launch will hit the "right buttons" for the consumer and ensure that the product idea itself addresses the desires of the consumers for that product category (Pejak, 2017). In addition to this, companies gearing up to launch a new product should be aware of the preferences of their target consumers, their price range, and quality requirements. It is also important to understand the scope of their potential customers and their basic demographics (i.e. age, race, income, education). Ultimately, it is good to focus on potential consumers that are most likely to buy the product. For example, consumers that are currently buying a rice cereal will appreciate the added features of the product being launched (i.e. organic, gluten free) (Pejak, 2017). It is easier to fill an existing need than to create a new one, such that the best customers have a need for the product, can afford it, and have demonstrated the willingness to make a purchase (Pejak, 2017). Along with understanding the consumer, it is also important to understand the competitive sphere for the product. Even if the product being launched is extremely innovative with very little competition in the eyes of the team working on it, they should put themselves in the shoes of their target consumers and consider what they could buy instead of what is planning to be launched (Pejak, 2017). It is important to review the competitors marketing materials to evaluate how the new offering will stand up against what is available. The product being launched needs to be unique, stand out from the

competition, and be able to meet the needs of the consumer, along with being to demonstrate why and how it does such. Most importantly and extremely relevant to the realm of this work, is the idea of testing the products prior to launch. The response of the customer is the most important and thus will determine which features of the product to emphasize and which marketing approach to use (Pejak, 2017). An eye tracking quantitative design paired with a qualitative section allows researchers to investigate the attention drawing power of the new product and the reasoning behind it. A process of test, redesign, repeat should be used within this phase.

Mistakes can also be made during the product launch. First off, products are often launched without being advertised correctly, such that not enough attention was creating during the pre-launch period (Karuppalya, 2016). If the product was not properly tested and failed to respond to all the consumer concerns, it may be met with backlash during the launch. These issues should be dealt with prior to the product launch with iterative testing with real consumers. It is key to make sure that the product launch is targeted to the right customers, which again can be sorted out in the pre-launch phase. Other issues can occur with the actual product itself, such that the product promoters overpromised and under delivered the product (Karuppalya, 2016). Along with this issue, another mistake during the launch of the product can be the fact that the product launch was done without having any backup data for the product and/or failing to document the product launch process and product development process (Karuppalya, 2016). Again this issue can be solved with prior iterative testing using quantitative and qualitative means.

Lastly, unsuccessful product launches can be caused by mistakes after product launch. The failure to track the performance closely post-launch and ability to plan for different outcomes is the fundamental mistake in an unsuccessful product launch ("The 6 Biggest Product Launch Mistakes," 2015). Often times product launches do not go as planned. This is not a problem; however, it is a problem if the company is unaware about what is happening post-launch and is not equipped to deal with new events that occur ("The 6 Biggest Product Launch Mistakes," 2015). To correct for this mistake, the performance of the product should be closely monitored with a contingency plan intact. For instance, a company in this stage should ensure that they are prepared for major variations in initial sales predictions. By regularly checking into core metrics such as sales and traffic, companies can see how their new product is performing and these insights can help make informed decisions moving forward to help the new product launch have a better chance of succeeding ("The 6 Biggest Product Launch Mistakes," 2015).

As discussed above, a major issue during the product launch process is the lack of iterative testing and information concerning the target consumer. However, testing products prior to launch to ensure relevancy to consumers can be expensive. For example, using a consumer insights company to gather quantitative and qualitative data for on-shelf packaging can add up quickly with a baseline study starting at $8,000 and with additional variables ranging from $5,000 to $12,000. In all respects, a benchmark of eye tracking data and best practices to run a study as discussed herein could be used by the food and CPG industry during the product development process. When developing a

new product brand owners and companies are faced with a plethora of decisions concerning their product and packaging, such as design, color, text, logo, branding, etc. A database of eye tracking data on various products within broader categories allows for the ability to use the products tested as a key for product and package development in the future. For example, if a package was tested that was 6 inches tall, with a paperboard substrate, and with colorful graphics, it can be used as a key to identify other packages, shapes, and/or products that have a similar design. The key can then basically compare "X" results and consumer attention from that package to the new package being tested and thus use the "key" to tweak and adjust a product based on the success of the eye tracking metrics. Having a benchmark such as this would be extremely helpful from a market standpoint because researchers and brand owners would be able to use this work as a starting point.

Overall, because a practical benchmark of aggregate eye tracking data in retail grocery does not exist, most academic and company testing in this area is limited to the differences reported between test variables. Though this information is critical, it is missing the applied component that compares the collected data to aggregate market category data. For instance, a research team could study if one material or structure receives significantly more attention than another, but understanding how this difference compares to the entire category is missing. Answering the question, "how does this compare to the competitive array" is ultimately the most important question. By having access to a set of aggregate data across the most common categories in retail grocery, researchers, developers, designers, brand owners, and retailers would be able to quickly

assess the market viability of new products with minimal time, effort, cost, and resources. Although the failure rate for new products is daunting, businesses can learn from the successes and the failures by paying greater attention to market research prior to the launch of a product and putting resources into marketing, starting with a benchmark of data such as this.

Importance of Packaging: Unseen is Unsold

When shopping in a grocery store the choices are endless, with shape, size, design price, and brand all coming into play before the final purchase decision is made. Across the world shoppers are overwhelmed by 30 and 40-foot product categories, often including up to 200 different choices (Young, 2010). From cereal to baby wipes, categories have grown exponentially, which ultimately changes the in-store experience. The result of several years of a sluggish economy led to a greater pressure on marketers to drive brand growth. With 82% of consumers' purchasing decisions being made in-store and being heavily influenced by point-of-purchase marketing material, product packaging has the opportunity to be one of the greatest influencers in the formation of consumers' brand preferences ("Point of Purchase Advertising Institute," 2014). To lift brand awareness and drive growth at the point-of-purchase, a product must grab the consumer's visual attention within the first impression. This is the first step in driving consumer behavior through the retail marketing funnel from a first impression through to purchase (Figure 2.1).

Figure 2.1. The retail marketing funnel ("Point of Purchase Advertising Institute," 2014).

For food products specifically, the ability of a package to capture attention has been shown to increase the probability of purchase (Garber et al., 200). Visual attention, as stated by Pieters and Warlop (1999), has a significant positive effect on brand choice and is "a vital and often the only way to acquire information about brands in consumer choice contexts." Numerous studies, including a 2007 study by the Wharton School of Business (Chandon et al., 2007), have proven a positive and significant relationship between consumer attention and purchase intent (Hurley et al., 2012; Klockner, 2013). One such study reports that, "in addition to branding, consumer attention also increases purchase intent, in particular first choice of purchase" (Scheier et al., 2003).

When it comes to shoppers in the grocery store, consumers are often overwhelmed by the choices presented to them, which turns a rational exercise into an emotional one (Young, 2010). Because of the plethora of options presented to shoppers, they often do not have enough time or "mental bandwidth" to actively and logically compare all of their options (Young, 2010). The experience of a shopper is thus driven

largely by what shoppers see in the aisle and the feelings triggered by these packages (Young, 2010). Typically, what shoppers do in the store and what they say they do in the store are vastly different, causing many challenges for marketers, designers, and researchers. For example, when a consumer is asked about how they shop, they are likely to speak based on logical factors, however when they are face to face with an overwhelming amount of options at the store, this logic is often abandoned (Young, 2010). Through the use of in-store eye tracking technologies (this technology is discussed in later chapters), it has been found that several key factors come into play when consumers are shopping such as: unseen is unsold, default to the familiar, and shopping by feel.

When it comes to navigating the filled shelves in the grocery store, amazingly shoppers never see more than two-thirds of products on the shelf, such that many brands are not purchased because they are never even considered (Young, 2015). Since over 68% products are not even looked at, there is an increased fight for the first moment of truth ("Unseen is Unsold: An Interview with Dr. Andrew Hurley," 2015). If a shopper is exposed to anywhere from 30,000 and 100,000 items during a shopping trip and if they are buying 40-60 items, they have eliminated 99.99% of their choices ("How to Level the Playing Field When You Are Competing Against Giants," 2016). Brand owners only have mere seconds for their product to make an impression on the shelf and ultimately be purchased within the small window of products even seen. The bottom line is that there is not a lot of time to go from seen to sold ("How to Level the Playing Field When You Are Competing Against Giants," 2016). Oftentimes, leisurely shoppers have a product

category in mind (i.e. cereal) but not a specific brand, which in turn gives the products more of a chance to be seen at the shelf level ("How to Level the Playing Field When You Are Competing Against Giants," 2016). However, many consumer and primary shoppers for their households do not have the luxury of time. Based on research conducted by P&G, the average consumer takes between 3 and 4 seconds to make a selection with the competitive array of product within the category they are shopping for ("How to Level the Playing Field When You Are Competing Against Giants," 2016). When it comes down to it, it only takes seconds of looking at a product category to identify which brands a consumer would consider purchasing and once they touch the product there is a high likelihood that they will purchase that product.

Studies completed by top market research firms have found that increases in shelf visibility were the single largest driving factor of sales increases at the moment of truth ("How to Level the Playing Field When You Are Competing Against Giants," 2016). These studies also found that if a new design system can drive a higher percentage of consumers to engage with a brand on the shelf, it is highly likely to drive purchase also ("How to Level the Playing Field When You Are Competing Against Giants," 2016). It has been found that reexamination of the products or getting the shopper to take a second look at the product, is a powerful predictor of purchase, such that new packaging that gets the shoppers to take a second look actually translates to giving the brand a second chance and ultimately considering it for purchase.

Package InSight, a company known for using biometric testing technology, conducted an eye tracking study at in CUshop™, a consumer experience research

laboratory on Clemson's campus, on a new innovative tray within the seasoned breading sector. After the initial product launch for this tray, the company was disappointed in the shelf performance. It was found that only 1 out 37 people purchased the tray, it was ranked 15 out 34 for Total Fixation Duration metric (TFD), and 16% did not see the tray. Due to this poor performance, the Package InSight team saw an opportunity to improve this packaging, and increase this company's competitive position and market share. After several iterations, both parties decided on a winning design, resulting in a sales increase as a direct result of Package InSight's involvement.

Another issue with shoppers is that they often default to the familiar. Since consumer often decide to purchase what they are used to, many new options and brands are essentially and immediately tuned out. Through eye tracking, it has been revealed that shoppers often spend a lot of their time searching for a specific product, rather than comparing products or price checking (Linton, 2017). A study conducted by Nielsen found that shoppers get more excited about fresh products and are more likely to buy something new and different when it is marketed by a brand the consumer is familiar with and trusts (Peterson, 2013). This study found that 60 percent of global consumers with internet access choose to buy new products from a familiar brand rather than switch to a new brand altogether (Peterson, 2013). Ultimately habit plays a large role in determining how we shop. Shoppers tend to move around familiar stores in a predictable manor and select products that are familiar to their typical shopping list (Lewis, 2013). A study conducted on brand familiarity found that if a shopper is presented with two products, one familiar and one unfamiliar, they typically find the former suiting their

needs more than the latter. Using the recognition rule, relating to the ease, or fluency, with which information can be processed, it was found that when investigating a product such as dish soap, the consumer will place the identifiable brand into their shopping cart, while ignoring or possibly not even seeing the cheaper and less familiar product (Lewis, 2013). Though it may seem that defaulting to familiar products is a concept that market research cannot fix, comprehensive eye tracking studies (quantitative and qualitative) can be used to help companies understand where their product stands amongst the competitors and which brands that are familiar to them, in an attempt to rebrand or adjust the product being tested to be ideal to the consumer.

Along with shopping for the familiar, consumers also tend to shop by feel, such that they are more inclined to use symbols and intuition, rather than words and logic (Linton, 2017). Shoppers often use various shapes, colors, and icons to navigate the vast array that encompasses their product of choice. For example, a shopper may associate a certain color to a specific brand and also may use shape to bring depth to a product form (Linton, 2017). A professor of neuroscience at the University of Southern California, argues that emotion is a necessary ingredient to most decisions that we make (Murray, n.d.). The major role emotion plays in consumer behavior and decision making has been well documented. For example, when evaluating brands, fMRI neuro-imagery shows that consumers primarily use personal feelings and experiences rather than information (i.e. brand, facts, features) (Murray, n.d.). Research has shown that the emotion of likeability can foretell if an advertisement will increase the sales of a brand (Murray, n.d.). It has also been found that positive emotions have a larger impact on consumer loyalty than

trust and brand attributes (Murray, n.d.). Though design is very important in packaging market research, this discipline does not determine the final package just based on appeal. Thus, to make a package that is safe to consume, desirable to consumers, and shelf stable, a team of disciplines from food technology, marketing, and packaging must come together to ensure the product hits the mark on all accounts.

Importance of Packaging in Food Technology

Packaging undeniably plays a large role in a variety of different sectors, such that it is present all over the world, in every household, business, and industry (Bix & Lockhart, 1991). By definition packaging is the science, art, and technology of enclosing or protecting products for distribution, storage, sale, and use (Gangar, 2015). The vast web of packaging also includes the process of design, evaluation, and production of packages. Packaging plays a large role in a wide range of disciplines from food technology to marketing. Specifically, on the food technology side, packaging can be of strategic importance to a company or brand, as it can be a key competitive advantage to the food industry (Coles at al., 2003).

The primary roles of food packaging are to protect the food products from outside influence, contain the food contents, and to provide consumers with ingredient and nutritional information (Coles at al., 2003). In terms of protection and preservation of food, packaging can assist in preventing deterioration, retaining the beneficial effects of processing, extending shelf life, and maintaining or increasing the quality and safety of food (Marsh & Bugusu, 2007). In a nutshell, food packaging provides protection from

three major classes of external influences: chemical, biological, and physical (Marsh & Bugusu, 2007).

Chemical external influences can cause compositional change triggered by environmental influences such as exposure to gases, moisture, and/or light (Marsh & Bugusu, 2007). Gases, specifically oxygen, have detrimental effects on the nutritional quality of foods. Thus, it is desirable to maintain many types of foods at low O_2 tension, or at least prevent a continuous supply of O_2 into the package (Robertson, 2006). Lipid oxidation, resulting from the formation of hydroperoxides, peroxides, and epoxides, will in turn oxidize with carotenoids, tocopherols, and ascorbic acid causing a loss in vitamin activity (Robertson, 2006). Further decomposition of the hydroperoxides to reactive carbonyl compounds leads to losses of other vitamins. Packaging is employed to help deal with the undesirable changes in the gas atmosphere in packaged foods. This change is largely dependent on the package, thus adequately sealed metal and gas containers can be used to effectively prevent the interchange of gases between the food and the atmosphere (Robertson, 2006). However, not all food products are suitable for the use of glass or metal. With flexible packaging, the diffusion of gases depends on both the effectiveness of the closure as well as the permeability of the packaging material which depends on the physiochemical structure of the barrier (Robertson, 2006). In addition to the type of packaging used, gas exposure can also be prevented using modified atmosphere packaging (MAP). This type of packaging modifies the gas atmosphere inside the food package prior to closing by pulling a vacuum and removing most of the gasses present, or by flushing the headspace area inside the package with inert gas. This

type of packaging is becoming increasingly popular with fresh fruits and vegetables as well as bakery products.

Moisture, another chemical external influence, can have detrimental effects for moisture-sensitive foods, such as caking in powdered products, softening of crispy products (i.e. crackers), and moistening of hygroscopic products (i.e. sweets and candy) (Brody et al., 2008). The rate of moisture exchange through packaged materials and the rate of change of water activity in food towards a critical limit will determine the shelf life of a product (Niewenhuijzen et al., 2008). Maintaining moisture at a desired level is critical to avoid microbial spoilage and preserve the appearance and flavor characteristic of the food products to extend shelf life and protect brand integrity (Sabdo, 2008). Packaging is often relied on to make sure food products achieve their expected shelf life (Steele, 2004). Glass and metal have almost perfect barrier properties, while plastics are more permeable to water vapor. In terms of plastic packaging materials, polyethylene (PE) and polyvinylidene chloride (PVDC) have good moisture control, while ethylene vinyl alcohol (EVOH) is susceptible to moisture so it is generally not used alone for this application (Shin & Selke, n.d.). Paper and paperboard are the most common packaging materials, thus wax-laminated paper is often used to package goods to provide a moisture barrier and heat-sealable layer (Shin & Selke, n.d.). Moisture regulation technology such as moisture absorbing sachets are often implemented to help absorb or desorb moisture to stabilize the total amount of moisture in the package at pre-specified levels (Niewenhuijzen et al., 2008). Water activity can also be controlled by using additives and maintaining favorable storage conditions.

Light, another chemical influence, in conjunction with oxygen can lead to rapid quality loss or spoiling of the packaged food due to fat oxidation, vitamin and color loss, and adverse effects on taste. The use of transparent plastic packaging is growing rapidly in the food industry, however compared to glass, metal, and aluminum-laminated films, this type of packaging provides less projection against light (Danzi & Ziegleder, 2007). The use of more opaque films works better as light barriers, however some transparent films will preferentially absorb certain wavelengths of interest, blocking them from the product (Morris, 2017). For example, amorphous nylon absorbs light in the UV wavelength that is often used in supermarkets. Foil, certain types of paperboard, and metalized films provide good light barriers. Metalized polyethylene terephthalate, is not only a good moisture barrier, but will also block UV rays. Paperboard offers a relatively good protection against light, whereas unbleached board offers an even better barrier. If paperboard is foiled with aluminum, it becomes virtually impermeable to light (Yam, 2009). Aseptic packaging, made from unbleached or bleached paperboard, polyethylene, and aluminum foil is impermeable to liquid, gas, and light. (Shin & Selke, n.d.). Pigments and fillers, such as titanium dioxide, are often used to create opacity (Yam, 2009). This chemical is an effective additive as a light barrier because of its high refractive index (Yam, 2009). Light absorbers, derived from benzophenone, are also used to add light barrier properties to plastics by acting in the initial phase of degradation as they absorb UV radiation energy and prevent the formation of free radicals (Zweifel, 2001). Polyolefins alone (PP, HDPE, LDPE, and LLDPE) are responsible for more than 70% of the light stabilizers marketed in the world (Zweifel, 2001).

Food packaging also protects against biological influences. In terms of this external influence, the major concerns are microorganisms. Biological protection provides a barrier to these influences, thereby preventing disease and spoilage (Marsh & Bugusu, 2007). In the case of pasteurized products, or foods preserved by drying, freezing or curing, the role of packaging to prevent microbial contamination is vital (Packaging Functions, n.d.). A primary role of packaging is to withstand thermal processing conditions and act as a barrier to contamination (Rooney, 1995). For example, the success of the metal can is due to its ability to withstand thermal processing and provide a barrier against chemical and biological contamination (Rooney, 1995). However, when packaging fails to perform its protective functions, the product may be unsafe for consumption. Safety may be compromised when package components migrate to the food or when there is a loss of integrity resulting in contamination by pathogenic microorganisms. Packaging needs to act as a barrier between the food and the environment, in order to prevent contamination (or re-contamination after processing) of the food from both environmental chemicals and pathogenic microorganism (Rooney, 1995). For glass and metal, which have strong barriers, preventing contamination has to do with closure integrity. However, with the advancement of polymeric material, the barrier properties are of central focus to packaging developers (Rooney, 1995). Post-packaging microbial contamination is also a threat to the food safety, so it is necessary to ensure there is a strong seal/closure and that there are no gaps, holes, or tears in the packaging material.

Physical protection is also crucial in food packaging. Mechanical damage, especially during distribution, can affect food packaging. Physical barriers, typically made from paperboard or corrugate, are often implemented to help resist impact, abrasions, and crushing damage, thus they are widely used for shipping containers and to package delicate foods (Marsh & Bugusu, 2007). Physical changes in polymer material may lead to decrease in structural, mechanical, and barrier properties of the packaging (Steinka et al., 2006). These changes affect the functionality of the packaging and can lead to migration of microbiological and chemical contaminants into the packaged product. Additional ways packaging can detract from food safety are illustrated in Table 2.1.

Table 2.1. Type of food safety issues due to packaging (Steinka et al., 2006)

Examples	**Consequences**
Microbial contamination Loss of integrity	Seal rupture, leaking cans, incomplete, glass finishes allow contamination. Low oxygen environment resulting from product or microbial respiration, which can lead to toxin formation by anaerobic pathogenic microorganisms.
Chemical contamination Migration Environmental contamination	Transfer of package components to foods. Environmental toxicants can permeate films.
Insect contamination	Some insects can bore through many common packaging materials.
Foreign objects	Glass shards, metal pieces
Loss of nutritional and sensory quality	Aroma and nutrient sorption by polymers
Tamper evidence	Malicious and innocuous
Inadequate processing	Under processing can lead to food poisoning. Loss of integrity can lead to food poisoning.

Overall, the final package that consumer sees at market is limited by the external factors as well as processing procedures that keep the product safe for consumption. Specifically, products based on their pH and moisture content are packaged differently. For example, acidified or acid products are not required to have as severe thermal processes as for low acid foods. Thus, thermal processing is at lower temperatures for these products and used to destroy vegetative pathogens and spoilage organisms only. Accordingly, the type of packaging is the often limited by the type of processing the product needs based on the characteristics of the components inside. For example, glass is commonly used for low acid and acidified foods and sealed with vacuum type closures. Other than the metal packaging types that work well for low acid foods that require more stringent temperature requirements, the first flexible pouch used for low acid foods was the retort pouch. This pouch is made of layered polyester, aluminum foil, and polypropylene and can withstand temperatures greater than 212°F (usually 240 to 250°F). The retort pouch can be beneficial to processing because it weighs less than metal and is flexible, and it also takes up less space and take less time than metal does to heat the contests to the point of commercial sterilization. This led to the development of new reportable packages such as the plastic container with a heat sealed end as well as paperboard packages for retort. These semi rigid and flexible packages are composed of single or multi-layers of PE, PP, PET, paperboard, aluminum foil, or silicon oxide. These flexible pouches must be able to meet specific performance needs such as the ability to withstand high temperatures and pressures of the retort, barrier to oxygen, moisture, and

light, durability to protect the product, resistant to container/product interaction, and ability to form and maintain a hermetic seal. Flexible and semi-flexible packages that are not designed to withstand high temperatures and pressures of retort are successfully used in low acid aseptic or hot-fill-old processes for acidified and acid foods. Paperboard can also be used for products that are cold filled, retorted, or aseptically processed.

Ultimately, when deciding what packaging to use, the packaging limitations, as well as costs, must be considered. The section of processing technology that limits the packaging options depends on pH, moisture content, and heat stability. With this being considered, it is crucial to have a multidisciplinary approach to food packaging. Not only do package designers and developers need to design what consumers want and what will sell, but they also need to understand the basic idea behind the limitations of packaging types based on the products within. Thus, research and development teams should implement the many skills of food technologists, designers, and marketers to make sure a product is ready for consumption, has an acceptable shelf life, and will attract consumers.

Packaging Influences on Consumer Behavior

In order for companies to create packaging for their products, they must first understand the consumer buying process and the role and impact that packaging can have on the consumer's purchase decision (Ziekiri & Hasani, 2015). Consumers today are faced with over 20,000 product choices within a 30-minute shopping session and because of this, it is increasingly difficult to attract and hold the attention of consumers in the retail environment (Keller, 2008; Pieters et al., 2002). As discussed in previous sections, the primary purpose of packaging is to protect the product, however packaging can also

be used as an instrument for marketing campaigns, as it is the marketing vehicle that 100% of the consumers who buy a product see (Ziekiri & Hasani, 2015; Black, 2011). Nonetheless, a good package does not only protect the product, but also helps identify and differentiate the product from the competitive array. Consumers get in touch with their learned reactions and individual preferences when responding to packaging (Aaker, 1996). Packaging elements such a shapes, colors, printed information on labels, packaging material, structural design, orientation, and contrast can help attract the attention of consumers and influence their buying behaviors (Ziekiri & Hasani, 2015).

Color, for example can influence consumer behavior. Color is often used to attract attention, by using the colors of a specific brand or using color with specific emotional appeal to help brand products with specific nuances ("How Packaging Influences Consumer Behavior," 2016). According to research by marketing specialists, consumers make a nonconscious judgement about a product in less than 90 seconds of viewing it, and 62-90% of them base that assessment solely on color, which could be attributed to the fact that color registers much faster than text or complex graphics (Clark, 2017). For example, the blue box from the famous Tiffany jewelry store is one of the most famous brand colors used in packaging ("How Packaging Influences Consumer Behavior," 2016). The color blue here evokes luxury and wealth because of the brand associations developed over generations by loyal shoppers for this product, and thus this color palette has become iconic to the brand ("How Packaging Influences Consumer Behavior," 2016; Clark, 2017). Another example of this iconic effect is Coca Cola's use of red and Cadbury's use of purple (Clark, 2017). When utilizing color to influence buying

behavior, it is crucial for package designers to take into consideration the product's marketing goals. For example, using bright colors for a cereal for children would have attention drawing power for children, whereas softer shades may be more appealing way to market health-focused cereals for adult consumers (Clark, 2017). Color is a critical component of packaging because consumers expect certain types of colors for particular products and associate these colors with certain moods (Ziekiri & Hasani, 2015). For example, red may be used to represent energy, while green is used to signify organic and fresh. Colors also symbolize different meanings to consumers and color perceptions vary across cultures.

Labels on packaging can help consumers differentiate a product more easily (Ziekiri & Hasani, 2015). Labeling provides consumers with information in the product category, ingredients, and instructions. It has been found that labels can help consumers spend less time when searching for products and when under time pressure, their decisions are influenced when the package comes with a distinctive appearance that contains simple and accurate information (Silayoi & Speece, 2004). A study in Europe that utilized a structured questionnaire to find out what packaging elements have an impact on the buying behavior of consumers, found that 48% of participants agreed that the label is important on buying behavior, 32% strongly agreed with this statement, and only 2% that disagreed with this statement (Ziekiri & Hasani, 2015).

Packaging materials also plays a large role in protecting the product as well as attracting the attention of consumers. This element has a strong impact on buying behavior, thus it is more likely that a high quality material would attract the consumer

more than a low quality material would (Ziekiri & Hasani, 2015). It has been found that consumer perception regarding certain materials could change the perceived quality of a product (Smith & Taylor, 2004). A study conducted by Package Insight at Clemson University found that adding foil stamping to chocolate increased attention and purchase decisions, as well as making consumers feel that they were purchasing a premium and high quality product (Chadwick, 2017). It was also found that foil stamping did not perform as well on cereal, and consumers want a more natural, Kraft board to infer healthiness and organic.

A package's structural design also plays a key role in attracting the consumer and their purchase decisions. Even though a package's color, labeling, and graphics can help attract the attention of consumers, package structure is now being modified to attract consumers in retail environments (Schoormans, 1997). A study utilizing mobile eye tracking in an immersive retail environment, tested the effect of product visibility on package structure (Hurley et al. 2012). Grillware producers were packaged in four distinct packaging structures which included, a fully enclosed visible hanging carton with a graphical representation of the product on front (0% actual product displayed), a hanging carton with a small cut-out window in the graphical representation (displaying approximately 40% of actual product), a hanging carton with a large cut-out window (displaying approximately 90% of actual product) and a hanging flat sheet of corrugated board with product attached directly to it using zip ties (displaying approximately 100% of product). It was found that participants purchase the 100% visible package, and eye tracking data supports this finding by indicating that the 0% product displayed took

longer for participants to notice and they spent less time looking at it (Hurley et al. 2012). Overall, the researchers concluded that partially or fully visible product is more effective in capturing the attention of consumers. Ultimately, the product packaging must be designed in such a way to appeal to consumers, and market research companies can help to create the 'right' packaging for a product, as well as the packaging elements that might be of importance to consumers (Ziekiri & Hasani, 2015).

Packaging Market Research

As discussed in previous sections, packaging plays a vital role for products to attract, inform, preserve, and transport. However, the market intelligence needs of brand owners and design firms is dramatically different today than it was a few years ago ("Packaging Market Research," 2017). In order to have a product succeed on the shelf, it is also no longer enough for it to simply attract attention. The packaging industry today is shifting towards more complex, diverse, and attractive packages to meet an increase in internationalism and globalism business (Rundh, 2005).

From a consumer perspective, packaging is the first thing that the consumer sees before making the final decision to buy a product (Giovannetii, 1995). With this function, the arrival and popularization of self-service sales systems has increased, which have caused packaging to move to the foreground in attracting attention and inciting a purchase (Ampuro & Villa, 2006). Thus, packaging has been called the "silent salesman," as it informs consumer of the benefits of the product right on the package and it provides companies with a last chance opportunity to persuade potential buyers (Giovannetii, 1995; McDaniel & Baker, 1977). Because of this fact,

it is essential that all packaging elements, such as graphics, text, color, and structure are combined into one platform to provide the consumer with visual sales negotiation when purchasing a product (McNeal & Ji, 2003). Consequently, well-designed packages can build up brands and drive sales, and become an important element for building customer value and competitive advantage (Rundh, 2013). Accordingly, research needs to be implemented to understand the needs of consumers when it comes to the packaging presented at the point of purchase.

Market research is the process by which companies inquire about the needs, wants, and desires of consumers. It typically involves the systematic gathering, recording, and analyzing of data about consumers, competitors, and the market. Market research is often used in product/package development research to minimize the risk of failure and use it as a form of insurance (Cupman, 2012). Market research can be used in all stages of the product life cycle as seen in Figure 2.2.

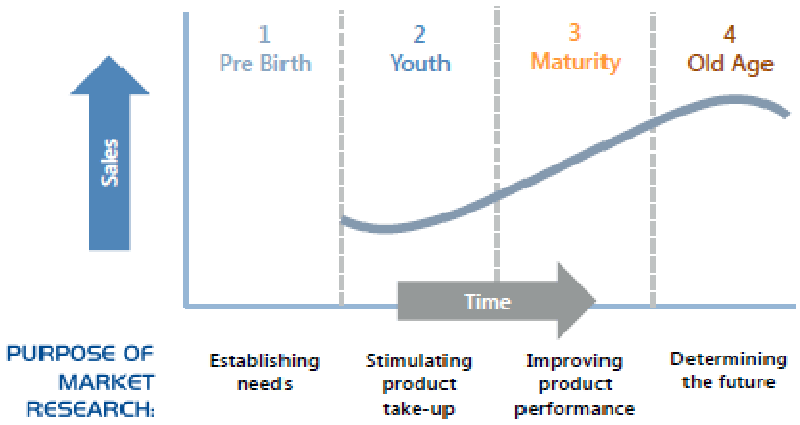

Figure 2.2 Applications for market research (Cupman, 2012)

Market research typically requires a mixture of qualitative and quantitative research. Qualitative research is implemented in order to obtain a deeper understanding of the

consumer and it allows for more freedom in exploration depending on the respondents' areas of interest (Cupman, 2012). Quantitative research is typically done a larger scale to provide a robust and statistically valid result. Utilizing a mixed method approach to packaging market research is so crucial, since it has been found that 58% of new launches fail because consumers are unable to determine differences from the new product and the existing one, as well as 32% failing because of poor product positioning (Soroka, 2002). It has been deduced that product performance accounts for only 12% of launch failures and therefore the marketing of the product though packaging structure and graphics is vital to the success of the product (Soroka, 2002; Cottrell, 2016).

Mixed Methods Approach

Mixed methods research is a type of inquiry that requires the researcher to combine elements of qualitative and quantitative research approaches in terms of data collection, analysis and inference techniques, for the broad purpose of breadth and depth of understanding and corroboration (Johnson et al., 2007). Mixed methods can be defined as a method that focuses on collecting, analyzing, and mixing both quantitative and qualitative data in a single study or series of studies. Its fundamental premise is that the use of quantitative and qualitative approaches, in combination with each other, offer a better understanding of research problems than either approach alone (Creswell & Clark, 2011). Through the use of mixed methods, researchers are able to utilize the strengths and weaknesses of both quantitative and qualitative data, and add strength to the individual findings through the utilization of a combined platform. Where quantitative studies typically use large samples, the results generated are typically more generalizable,

compared to qualitative studies that use smaller samples to generate more details and in-depth analysis. Blending these two methods are a perfect marriage of two different, yet equally useful approaches. A mixed methods approach may be applied when one data source for a study may not be enough, initial results need to be further explained, or a second method is needed to enhance a primary method (Creswell & Clark, 2011). The five major mixed method designs include convergent parallel, explanatory sequential, exploratory sequential, embedded, and the transformative design.

Convergent Parallel Design

A major mixed method design is the convergent parallel design. The purpose of this design is to best understand or develop a more complete understanding of the research problem by obtaining different by complementary data (Creswell & Clark, 2011). This type of design is often implemented to bring together the strengths of both quantitative and qualitative research in order to compare findings. Likewise, it is used to validate, confirm, or corroborate quantitative results with qualitative findings (Harrison & Reily, 2011). Within this method, the qualitative and quantitative data are collected concurrently, analyzed separately, and the different results are converged during the overall interpretation (Creswell et al., 2003). A researcher using this design type may ask, "To what extent do the qualitative results confirm the quantitative results?" (Harrison & Reily, 2011). This design works to prioritize the methods equally, while keeping the data analysis independent. Through the analysis of the quantitative data (descriptive statistics, inferential statistics, and effect size) and qualitative data (coding and theme development), there are specific strategies to merge the two sets of results (Creswell &

Clark, 2011). For example, the researcher should identify the content areas represented in both sets of data and use those to compare, contrast, and/or synthesize the results (Creswell & Clark, 2011). When interpreting the merged results, the separate results should be summarized and interpreted. Looking for contradictions, convergence, divergence, and/or relationships are instrumental to the overall interpretation of the data. For this type of design, data can be collected from one source or different sources (survey/interview) and are typically collected from different groups (sample sizes may be equal or unequal).

An example of the convergent design model applicable to this field of research is a study that collected both quantitative and qualitative data to examine the relational norms that determine social capita in virtual communities (Mathwick et al., 2008). In this instance, the researchers chose to use an online survey tool from 1,001 visitors of a virtual community website along with an observational data using netnography. This is a type of online ethnography conducted through digital communications, such that researchers in this study analyzed discussion threads to develop insight into community interactions (Kozinets, 2010). For the quantitative analysis, a measurement model was estimated. For the ingratiation of data, themes that emerged from the data were used to provide additional support for the researchers' initial characterization of virtual activity (Mathwick et al., 2008). The results for each data strand were presented separately and mixed in the discussion section.

Another example of this type of design, similar to this field of research, is a study done to investigate customers who experience service failures but do not voice

complaints (Voorhees et al., 2006). Researchers used a critical incident survey that included both qualitative and quantitative sections to gather the pertinent data. In order to explore the reasons why customers do not complain following dissatisfactory service experience, qualitative data were collected from consumers in which they described a recent service experience with which they were dissatisfied and then scale items were used to gather quantitative data surrounding their response to the said incident (Voorhees et al., 2006). The findings supported current knowledge of the customers who do not complain, and the results were also presented separately and mixed in the discussion section. Due to the fact that the data in the two examples above were collected simultaneously and equal weight was given to both strands, the nature of the design lends itself to rigorous collection and analysis in both strands.

Explanatory Sequential Design

The explanatory sequential design is a prominent mixed methods approach, and is the design implemented in the research discussed herein. The purpose of this design is to use qualitative approaches to explain quantitative results (Creswell & Clark, 2011). The question to be asked when using this method would be, "In what ways do the qualitative data help explain the quantitative results?" Unlike the convergent parallel deign where the quantitative and qualitative data are collected concurrently, the explanatory sequential design is a two phase design, where the quantitative and qualitative data are collected at a different time (Curry & Smith-Nunez, 2015). Priority is typically given to the quantitative approach due to the fact that this type of data comes first in the sequence and often represents the major aspect of the mixed methods data collection process. The smaller

qualitative component follows in the second phase of the research. While in the convergent parallel design where the data collection methods for both qualitative and quantitative were prepared and implemented at the same time, for this design, the quantitative results that need additional explanation are used to design the qualitative portion. The participants used for this design should be the same in both the qualitative and quantitative sections. For the qualitative sample, researchers want to investigate participants who are representative of different groups, have extreme scores, and scores that differed in significant predictors (Creswell & Clark, 2011). Both the convergent parallel and the explanatory sequential design interpret connected results and use both types of data to see if it helps understand the research problem better than one type would alone. However, while the convergent design is used more to validate or corroborate findings between the data types, the explanatory design heavily relies on the qualitative results to provide a better understanding of the quantitative results, thus using a more step-wise building approach. In this type of design, the data sets are usually connected, or mixed, during the interpretation stage and in the discussion section. The data are integrated though embedding or connecting, as shown in Figure 3 (Curry & Smith-Nunez, 2015).

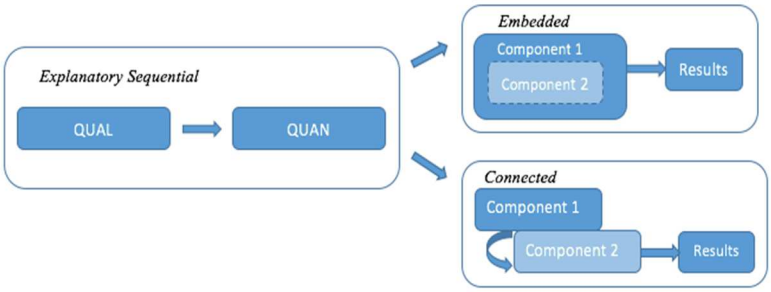

Figure 2.3. Mixed Method Designs (Curry & Smith-Nunez, 2015).

An example of this type of design similar to this field of research is a study investigating the consumer response capability (Jayachandran et al., 2004). Researchers used 31 depth interviews to triangulate the study finding from survey data to generate further understanding of the phenomenon. Similarly, a study executing this type of design was done on how consumer behavior affects album sales in the music industry (Bentley, 2015). This study aimed to help marketing professionals to be able to market albums to consumers in the right way, leading to increased album sales, as well as to further investigate consumer behavior within the music industry. Researchers first used an online questionnaire for the quantitative portion, which was followed up with qualitative semi-structured applied to a smaller subset of the participants. The results from this study found that there is a need for marketing professionals to identify consumers into their specific demographic groups and to use social media to target consumers. A basic example stemming from similar type of work would be a brand manager collecting and analyzing quantitative data to identify the key factors in wine bottle graphics. Finding an association between the color of a label and text on the primary display panel from executing an eye tracking study, the researcher then conducts qualitative interviews with women who purchase wine about what specific package element or combination of elements prompts them to make a purchase.

Exploratory Sequential Design

Another major mixed method design commonly implemented is the exploratory sequential design. The purpose of this design is to be able to generalize qualitative finings and is often referred to as an instrument to developmental design (Creswell & Clark,

2011). Unlike the convergent parallel design, and similar to the explanatory sequential design, this design exists in two phases. The exploratory sequential design is also sequential like the explanatory design, but this design begins and prioritizes with the collection and analysis of qualitative data in the first phase (qual➔quan). Following and building on the results from the qualitative phase, the researcher then conducts a quantitative phase to test or generalize initial findings (Creswell & Clark, 2011). The question to be asked when this method would be, "In what ways do the quantitative results generalize the qualitative findings?" While for the explanatory design the participants in the qualitative study should be a subset of the same participants, for the exploratory design the participants in the quantitative study are not necessarily the same individuals who provided qualitative data. In this instance, the quantitative study uses the larger sample. When utilizing this type of design, researchers need to decide what qualitative results to use to be able to develop a good instrument. Building can involve identifying the types of questions that might be asked and determining the items/variables/scales for instrument design (Harrison & Reily, 2011).

Exploratory design is very common in market research, essentially because it is useful for exploring relationships when study variables are unknown, developing new instruments, generalizing qualitative findings, and refining or testing a developing theory (Harrison & Reily. 2011). An example of this type of design applicable to this field is a study investigating household resource allocation in household where wives earn more than their husbands (Kozinets, 2010). In this study, the researchers interviewed 20 couples a total of 64 times, followed by testing their theory in an online survey among

126 married participants. The results were presented separate and mixed in the discussion section (Kozinets, 2010). Another exploratory design found in literature is a study investigating how consumers respond to influence attempts by sales people and service personnel (Kirmani & Campbell, 2004). The qualitative portion was accessed through consumer diaries (n=36), semi-structured interviews (n=34), and in-depth interviews (n=9). Following this, a total of 96 participants then participated in an experimental study to test relationships within the developed typology (Kirmani & Campbell, 2004). The results from the qualitative study and the experimental study were presented separately and were mixed in the discussion section. A basic example stemming from this area of work would be the researcher collecting qualitative interviews about the factors that influence people to purchase items online during the holiday season. Following this, the researcher develops a quantitative instrument (survey) and uses it to assess numerically if people purchase items online because of ease of delivery, convenience, or price.

Embedded Design

Another major mixed method approach commonly implemented in many disciplines is the embedded design. The purpose of this design is to answer different questions that require different types of data (Creswell & Clark, 2011). This type of design occurs when the researcher collects and analyzes both quantitative and qualitative data within a traditional quantitative or qualitative design. This design allows for the researcher to add a qualitative strand within a quantitative design or a quantitative strand within a qualitative design. This type of data is typically used when a single data set is not enough, so a supplemental strand is added to enhance the design of the study. In this

form of integration, a dataset of secondary priority is embedded within a larger, primary design. Within each evaluation tool, the primary data collection varies. Data can be collected either sequentially or concurrently, similar to the previous designs discussed. Embedded designs are most often conducted when there are different questions requiring different data (Harrison & Reily, 2011). When implementing this design, a researcher would ask, "How do the quantitative findings enhance the interpretation of the experiments or correlational outcomes?" (Harrison & Reily, 2011). Contrasting with the explanatory design that uses the findings of the quantitative data to inform the design of the other, embedded design uses the findings of one type of data to inform or explain the findings of the other.

An example of this type of design done by this research team was a study on the effect of metal can labels on consumer attention though eye tracking methodology. The participants were asked to shop as they normally shop for canned creole in a realistic retail environment and then asked to take a post-survey with study-related questions (Hurley et al., 2016). This survey tool consisted of an embedded design consisting of both quantitative and qualitative questions. For example, a quantitative portion on this survey consisted of questions that showed an image of the canned creole with and without lithographic ends and asked which they preferred (A/B). This question was then followed by a qualitative question asking to explain why they preferred A or B. While this data collection tool is widely qualitative in nature with the free response and open-ended questions, quantitative questions are still embedded within the survey framework and answered at the same time by the respondent.

Transformative Design

Transformative design is another depiction of the mixed methods approach. The purpose of this design is to address issues of social injustice and call for change for underrepresented or marginalized populations (Creswell & Clark, 2011). This design is more related to content than the methodology and goes beyond the first four methods described herein because it is shaped within a transformative theoretical framework. The timing, priority, and mixing are all decided based on the transformative framework (Creswell & Clark, 2011). This type of research identifies and challenges social injustices. Basically the quantitative data collection and analysis is followed by qualitative data collection and analysis then interpretation within a transformative theoretical lens. This type of design can be either concurrent or sequential with equal quantitative or qualitative emphasis. For example, the researcher uses a feminist perspective to quantitatively uncover the stereotypes in the workplace and then qualitatively investigates how women feel about this and how they are working to stop it. Other examples include a disability perspective and socioeconomic class lens. There is little guidance in the literature as to how a researcher should implement mixed methods in a transformative way, other than having expertise in theoretical frameworks of the study.

Qualitative Research Tools

Within every mixed method design lies a quantitative strand, whether it be through experiments and/or surveys, and an equally important, yet different, qualitative strand encompassing a multitude of possibilities including but not exclusive to interviews, focus groups, ethnography, and/or open ended responses in surveys. Mixed methods methodology is used when this integration provides a better understanding of the research problem than either of each alone. The qualitative tool chosen to implement depends heavily on the research question and field of study. Within the food and packaging industry qualitative methods can be used for a myriad of research projects. Qualitative research can be used to generate ideas, explore attitudes of consumers on various products, investigate habits and usage of products, study a new product and development, and evaluate packaging. In the FMCG field, qualitative research can also help understand the feelings, values, and perceptions that underlie and influence behavior, for example when shopping for cereal. This type of research, in addition to quantitative research such as eye tracking, can also help identify the needs of consumers and capture the language they use to describe and relate to a product ("When to Use Qualitative Research," 2017). To explore this depth of understanding through qualitative research a variety of tools are implemented with interviews, focus groups, and ethnography being the most common.

Interviews

Interviews are one of the most common qualitative methods used in mixed methods methodology. The overarching purpose of this tool is to explore the opinions,

experiences, and beliefs on specific matters (Gill et al., 2008). Interviews can provide in-depth information concerning the participant's experiences and viewpoints of the topic being discussed and are often triangulated with other tools of data collection in order to provide for a well-rounded analysis (Turner, 2010). Four types of interviews are common when implementing this tool: informal conversational interviews, the general interview guide approach, standardized, open-ended interviews, and closed, fixed-response interviews.

The sole purpose of the informational conservational interview is to rely entirely on the spontaneous generation of questions in a natural environment. No predetermined questions are asked in order to remain as open and adaptable as possible to the thoughts of the interviewer (Valenzuela and Shirvastava, 2002). This type of approach allows for the researcher not to ask any specific types of questions, but rather relies on the interaction with the participants to determine how the interview will proceed (McNamara, 2009). Because of the lack of structure, this type of interview allows for flexibility in the nature of the interview. While this style can be beneficial due to the "go with the flow" nature of it, many researchers believe that this type of interview is unstable because of the inconsistency in the interview questions, which ultimately makes the data more difficult to code (Creswell, 2007).

The general interview guide approach has some flexible characteristic of the informational conservational interview; however, this style is more structured in its composition (Gall et al., 2003). This type of approach is implemented to ensure that the same general topics are collected from each interviewee, which allows for more focus

than the conversational approach, while at the same time offering adaptability during the questioning (Valenzuela and Shirvastava, 2002). Since the questions can be worded differently depending on the researcher conducting the interview, issues may arise from the lack of consistency in the way the research questions were posed. Because of this, the respondents may not consistently answer the same questions based on how they were posed from the interviewer (McNamara, 2009).

Contrasting the previous approaches, the standardized, open-ended interview is extremely structured in the wording of the questions. In this approach, participants are always asked identical questions, however the questions are worded so that the responses are open-ended in all respects (Gall et al., 2003). This format of questioning allows for detailed responses from the participants along with the ability of the researcher to ask probing questions. This approach is the most popular form of interviewing used in research studies due to the nature of the open-ended questions, which allows participants to fully express their opinions on the subject matter being discussed (Turner, 2010). The depth and breadth of information gathered from the open-ended approach for this style of interviewing can be a blessing and curse for researchers due to the plethora of information gained, but also the difficulty of coding the detailed data (Creswell, 2007). Even with the cumbersome process of sifting through narrative responses to extract themes, the standardized, open-ended approach is ideal for research that involves many participants because it can reduce researcher biases within the study (Gall et al., 2003).

The closed, fixed response interview implements the same questions for all participants, where they are asked to choose answers from among the same set of

alternatives. This style is essentially a verbal questionnaire, in which the questions and choices are determined prior to the interview. While this type of interview may be quicker to conduct and simpler to code, there is potential that the exact answer that the participant wants to give is not a choice, leading to unreliable data. This may lead to participants selecting answers that are most similar to their opinion, even though it is in fact different than what they would have said in a more open-ended format.

After deciding which of the four approaches to implement, researchers need to decide whether they want to conduct the interview face-to-face or over the phone. In terms of investigating the two methods, little research has been conducted comparing the benefits of these two means of data collection due to the difficulty in scope (Knox & Burkard, 2009; Shuy, 2003). However, two studies that did study phone and face-to-face interviews found that there was a slight advantage for face-to-face interviews due to the quality of data collected (de Leeuw & van der Zouwen, 1988). Surprisingly, in another study, it was found that when discussing sensitive subjects, social desirability bias was worse over the phone then for face-to-face interviews (Tourangeau & Yan, 2007). Nevertheless, the phone interview technique is a common tool amongst researchers for qualitative interviews. Phone interviews allow for researchers to include participants from any geographic region, which is appealing to many budgets and allows data to be captured from a more diverse population (Knox & Burkard, 2009). Since phone interviews are not in person, they can offer participants more anonymity allowing participants to be more open with their responses. In terms of interaction between the interviewer and interviewee, phone interviews allow the interviewer to take detailed notes

without making the interviewee feel uncomfortable or rushed (Hill et al. 2005). The access to nonverbal data can potentially lead to response bias because participants may try to read the reactions of the interviewer and change their responses accordingly (Musselwhot, et al., 2006). Overall, phone interviews can reduce interviewer effects, facilitate quick turnover from data collection phase to analysis phase, and are cost-effective.

Contrary to phone interviews, face-to-face interviews allow for verbal and nonverbal observation and cues (Hiller & DiLuzio, 2004). Along with the ability to view facial expressions and gestures, face-to-face interviews allow researchers to build a rapport with participants that may induce a more inviting environment (Shuy, 2003). Face-to-face interviews may help prevent participant dropout more readily than phone interviews. Interviewing hard of hearing participants, face-to-face interviews may be easier to communicate what is being asked. When comparing the use of phone or face-to-face interviews, it is often up to the researcher to weigh out the advantages and disadvantages (discussed in the previous paragraphs) and chose a method that fits the project at hand the best.

When implementing any of the interview approaches discussed above, it is crucial to construct effective research questions. When thinking about the interview design, researchers should ensure that each question will facilitate the interviewer to delve into the experiences and opinions of the participants (Turner, 2010). In order to gain optimal data from the interview approach, a researcher should implement neutral open-ended questions, questions should be asked clearly, and the interviewer should be careful asking

“why” questions (Turner, 2010; McNamara, 2009). Researchers should be careful asking “why” questions because they can often times be followed by overly simplified answers rather than descriptive narratives (Hsiung, 2010). These type of questions may also pressure interviewees to justify their actions or provide an answer that is socially acceptable. Due to the fact that the goal of qualitative research is not to find causal relationship, using “how” questions are more beneficial than “why” questions because they allow participants to discuss the specific conditions under which their decision was made or influenced (Turner, 2010).

Interviews are often used in consumer research to investigate how consumers shop a certain category, for example choosing a private brand over a name brand. Interviews may also help researchers probe the thoughts and opinions of consumers. For example, researchers may want to know how consumers’ shop the cereal category in Walmart and what barriers there are when attempting to purchase a product. To attempt to answer these questions, in-store observations and interviews can be conducted. The observation phase allows researchers to directly watch how consumers physically shop the category and the interviews can be implemented to further understand the nuances that arise from their experience while shopping (“Shopper Insight Case Studies, n.d). Observation and interview tools can help researchers gain insight during the purchase decision process, as well as what actions were tied directly to what type of responses. Eye tracking technology can also be used in place of observation in this example. In-home interviews are also used in consumer insights to be able to uncover pre-and post-shopping rituals, as well as gain a deeper understanding of what influences and motivates the

shopper. This technique allows researchers to gain richer insights of who the shopper is and what influences their attitude and behavior within specific categories at the retail level ("Leveraging Qualitative Techniques to Uncover Shopper Insights," 2017). Another example of this technique is an in-depth interview study on young and adult smokers that investigated how participants perceive tobacco branding and plain cigarette packaging with larger health warnings (Hoek et al., 2012). It was found that smokers used tobacco brand imagery to define their social attributes and standing. Another study based in South Africa, investigated consumer perceptions of food packaging using 25 semi-structured interviews and ambiguous stimuli (Venter et al. 2010). While the semi-structured interviews were used to gather detailed information about the participant's perception of the food packing, the ambiguous stimuli (mock packaging) was used to give participants the chance to project their true motives, attitudes, and perceptions onto the object (Schiffman & Kanuk, 2009; Donogue, 2000). This study found that participants mainly based their perceptions of food packaging on its functional and physical attributes (Venter et al. 2010). The findings also indicated that information and visual attributes of packaging are important to gain attention of consumers while shopping in-store. It was found that participant's thought of packaging as a whole in terms of associations of specific food products with certain types of packaging, for example association with quality and shelf life. Participants associated packaging that was difficult to handle, poor quality products, and products with environmental problems as negative (Venter et al. 2010).

Focus Groups

Focus groups are readily used to supplement quantitative research. This tool is implemented to gather people's opinions, ideas, and beliefs on a certain topic or product. Focus groups also encourage dialogue within the group and listening to individual concerns/opinions (Samure, 2001). However, focus groups do not aim to obtain data on representativeness of a particular stance. Focus groups typically include 7-15 people who are unfamiliar to each other and are selected and screened based on certain characteristics that they have in common that relate to the topic of the focus group (Marczak & Sewell, 1990). During carefully planned discussions, lasting anywhere from 90 to 120 minutes, researchers aim to learn about the perceptions, feelings, attitudes, values and ideas of the participants in a defined area of interest (Zanoli, 2004; Kahan, 2001). Systematic analysis of the discussions generates insights as to how the product is perceived by the group (Marczak & Sewell, 1990). Focus groups represent a commonly used technique in consumer insights and market research, and can be traced back to the 1930s, where it was found that people in the groups were the most revealing when they found themselves in a safe, comfortable place with individuals similar to themselves (Samure, 2001).

Even with the long tenure of using focus groups as a tool for qualitative research, there are several advantages and disadvantages to this technique. As far as the advantages, focus groups can allow researchers to see the facial expressions and body language of the participants, hear social cues in language expression, and provide insights on the most appropriate way to talk about the product(s) of interest. As far as the disadvantages, focus groups are often limited to small, non-representative groups, an artificial environment (i.e. not in actual store setting), lack of anonymity, potentially

biased results due to group influence, and results that are not projectable. Focus groups allow researchers to explore various subjects in depth, but ultimately do not give definitive answers. Focus groups should not be used to draw conclusions, but to understand the conclusions drawn (Mora, 2011).

Focus groups are often used in consumer research to explore the values that underlie consumer's purchasing decisions for various food products (Padel & Foster, 2005). In a study investigating why consumers buy or do not buy organic food, a focus group was used to explore the perceptions of organic consumers, their level of knowledge concerning organic and similar competing products, and to identify the most effective way to teach target groups about organic products (Padel & Foster, 2005; Dabbert et al., 2004). Combining said focus groups with laddering interviews, this research indicates the complexity of the consumer-decision making process and the likelihood of variation between different product categories (Padel & Foster, 2005). The results show that the majority of the consumers associate organic with fruits and vegetables as well as a heathy diet with organic products. The authors cite a need for future research to consider tradeoffs that consumers make between values and product (Padel & Foster, 2005). An exploratory study investigating packaging and purchase decisions also used a focus group as a tool to gain in-depth insights into the consumer shopping behavior for packaged food products (Silayoi & Speece, 2004). Focus groups were specifically used for this research to generate hypotheses and interpret the consumer's thinking. In this instance, two focus groups of six housewives and six working women were conducted based on a screening process to get participants who were responsible for household shopping in Bangkok.

This research found that both sets of participants identified packaging elements such as color, shape, and size as the main factors in their assessment and decisions on household purchases (Silayoi & Speece, 2004).

Overall, focus groups have advantages along with restrictions, such that they should primarily be used in a triangulation approach to qualitative research (Threlfall, 1999). The validity of the research will be improved if the triangulation approach is implemented in a study. Focus groups as a qualitative technique can be useful in the early stages of a research project or to validate the participants' perspectives on a given topic either during a study or as an evaluation of a product (Threlfall, 1999). They are ideal for capturing dynamic, real-life interaction among participants when topics assess individuals' attitudes, perceptions, and opinions and can be used to uncover the "why" behind the quantitative data (Threlfall, 1999).

Observations/Ethnography

One of the oldest qualitative approaches in consumer research is the observational method. This type of research originated in the anthropological method of ethnography (Angrosino, 2007). Ethnography is a method that studies the members of a culture in depth through the techniques of participant observation. Ethnography, a primary approach to qualitative research, can be described as "the study and systematic recording of human culture." It is also called field research, observational research, or participant observation. Ethnographic research occurs in the natural setting and insights are gathered in the field of interest of the researcher (Sunderland & deny, 2007). This

type of research allows for up close insight to go where the shopper goes, which no other tool allows. Specifically, in the field of consumer insights and marketing, ethnography can be taken as a theoretical perspective that focuses on the concept of culture and its relation to observed behavior as the principal tool for classifying and explaining consumer dynamics (Mariampolski, 2006). Culture in this context is the foundation of a worldview and value system, which in turn gives meaning to people's concept of self and their roles in daily life (Mariampolski, 2006). Ethnography emphasizes direct contact and observation of the consumer in the natural context of product acquisition and usage. Among the myriad of marketing research techniques, ethnography embraces the more humanistic, naturalistic, creative, and intuitive ways of acquiring knowledge and making sense of the world (Mariampolski, 2006). This type of research has been commonly used is social sciences, especially in anthropological studies. It can be easily applied to consumer insights research, as it has the ability to uncover unconscious consumer actions, product annoyances that might otherwise go unnoticed, or potential unfulfilled needs of emerging markets (Wimmer and Stiles, 2001). Ethnography may also help, not only in establishing the context and subjective significance, but in the interpretation of these behaviors (Arnould & Wallendrof, 1993). This field of research looks to put the researcher where the action is, enabling them "to experience the lives of informants" (Bernard, 2000).

Ethnography in terms of consumer research has many advantages such as it can provide a clear representation of the decision making process that consumers process through rather than the consumers' perception of that process, allowing the researcher to

uncover unconscious actions (Wimmer and Stiles, 2001). In the area of applied research, ethnography does not necessarily require becoming a long term resident in the community, adopting a role, and/or assimilating into a culture not your own (Mariampolski, 2006). An example of the classical approach would be a researcher spending three years in a Chicago community making observations about political sentiments among working class neighbors, whereas an applied approach would be a researcher observing a predetermined demographic of shoppers in a Target for a shorter period of time. When implementing this technique, participants are able to behave naturally and portray their "ideal selves." Also when conducting observational research, recall error is not a problem. Along with the advantages of observational research comes some limitations. Since this type of research is typically conducted in the natural habit of participants (i.e. retail store, home), researchers have little control over the situations and environments used. Because of the costly and time consuming nature of this research, researchers typically work with small sample sizes.

Ethnographic market research can take place wherever a consumer is utilizing a product or service, such as a coffee shop, restaurant, or boutique. An example of on-site ethnographic market research is a study focusing on the importance of packaging design for own-label food brands (Well et al., 2007). The study sought to investigate the importance of packaging deign for a UK premium own-label food brand, by following groups (317 in store A and 168 in store B) from two different stores from Monday to Saturday, to develop an understanding of how consumers evaluate own-label packaging and to offer insight into their shopping behaviors that influence purchase decision (Well

et al., 2007). Findings indicated that there is a strong association regarding the influence of packaging on the purchase decision, with over 73 percent of consumers stating that they would rely on packaging to aid their decision making process at the point of purchase (Well et al., 2007). Similarly, this type of research can also occur in a home environment, where the researcher is immersed in the living quarters and observes, asks questions, and listens in order to obtain insight into consumer trends and problems. An example of this type of research is a study of the ethnography in household kitchen pantries (Coupland, 2005). This work sought to investigate "invisible brands" or more commonly brands that are considered mundane and blend into the household environment. A 16-month ethnography of households and their kitchen pantries was used to yield insights into the process that shapes the invisible brand. It was found that people use different, habitual brand storage strategies that are analogous to types of camouflage in the natural word such as blending into the background (Coupland, 2005).

Overall, there are many examples of observational research. Usability testing can be used to watch a subject use a prototype or new software system, while eye tracking can be used to show how people navigate the various nuances of websites. Through this technique, heat maps of where the participants looked at the site can be produced, which gives researcher information about what was seen and unseen in order to redesign and optimize the stimuli at hand (more on this in the following chapter) [61]. In-home observation as well as in-store observations are widely used to be able to watch a family look for items in a pantry or observe a shopper in action looking for spices.

For consumer insights research, quantitative methodology is at the forefront as the dominant paradigm (Monika, 2008). Recently, researchers have looked towards a more mixed-methods approach for their research. Qualitative research in this field includes but is not exclusive to interviews, focus groups, and ethnography. Quantitative research, on the other hand, implements surveys and eye tracking. Through the use of methodological triangulation, a mixed-methods approach combines the advantages of each method and helps to dissipate the weaknesses of the methods implemented (Monika, 2008). Because of this, consumer behavior research can benefit greatly if the mixed-methods approach is used more frequently.

Eye Tracking

Eye tracking is a technique used to measure a person's point of gaze (Gofman et al., 2009). In a few words, eye tracking is a technique that tells researchers where, how, and when people look. The ability for humans to process information is limited, thus in order to successfully process a stimulus, a person must focus their mental capacities only on a certain selection of a stimulus at a time (Holmes, 2014). The human brain is able to point our eyes at what we predict will provide the most useful visual information available to us at that time (What is Eye Tracking, 2017). Correspondingly, eye tracking is of great use to researchers because it can provide insights into what draws in a consumer's attention and what they find interesting about an object or scene. Interestingly, visual attention is of interest because 83 percent of the information used in cognitive processing is visually obtained (Wastlund et al., 2010).

Eye tracking works by shining an infrared light onto a face and recording the reflection of the infrared light from the retina, which helps to find the center of the pupil, and also the reflection of the infrared light from the cornea, which is called corneal reflection (Bojko, 2013). The parts of the eye can be seen in Figure 2.4. The retina, pupil, and cornea are all especially important to explain how eye tracking works. The retina is the light sensitive tissues at the back of the eye, whereas the pupil is the black opening that allows the light to enter the retina. The cornea is the transparent part of the eye. The relative position of the pupil and corneal reflection thus changes when the eye rotates and the head remains in one place, but does not change when the head moves but the person is looking at the same spot (Bojko, 2013). To further explain, if a person keeps their head still, but looks to the left, to the right, and down, the corneal reflection does not move, only the pupil does (Bojko, 2013). Subsequently, where a person is looking can be determined from the location of the pupil center relative to the corneal refection. This is made possible in modern eye trackers due to the source of near-infrared light and a camera sensitive to that said light (Bojko, 2013). The near-infrared light created a reflection in the eye, while the camera is focused on the eye and records the reflection. This technique called pupil center corneal reflection (PCCR) is used in non-intrusive eye tracking devices. The eye tracking software then is able to calculate a vector formed by the angle between the cornea and pupil reflections. The direction of this vector, combined with other geometrical features of the reflections, is then used to calculate the gaze direction and thus able to superimpose it onto an image of what was being looked at (Bojko, 2013; “How do Tobii Eye Trackers Work,” 2017).

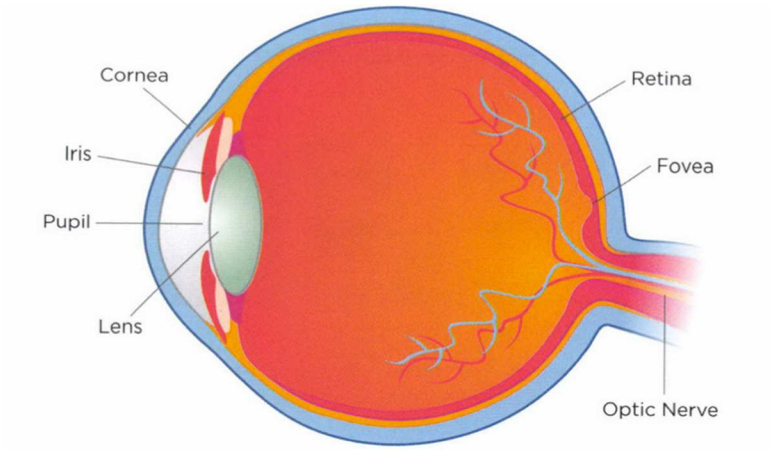

Figure 2.4. The human eye (Bojko, 2013).

An eye tracker is implemented to measure and track the eye movements of the human subjects. Even though multiple metrics can be investigated to understand the fixations behavior of a consumer, two basic forms of eye movements are typically explained: saccades and fixations (Holmes, 2014). A saccade explains how eyes jump around from place to place a few times per second. These rapid movements are the fastest movements produced by an external part of the body. A saccade occurs between fixations when a person fixated on a stimulus within a visual field and last on average between 50 and 150 milliseconds (Gofman et al., 2009). On the contrary, fixations are pauses in eye movements on a specific field, such that visual information is only extracted during these eye movements (Bojko, 2013). A gaze path as shown in Figure 2.5, is the combination of

saccades and fixations, with fixations lasting between one-tenth and one-half of a second, after which the eye moves via a saccade to the next part of the visual field (Bojko, 2013).

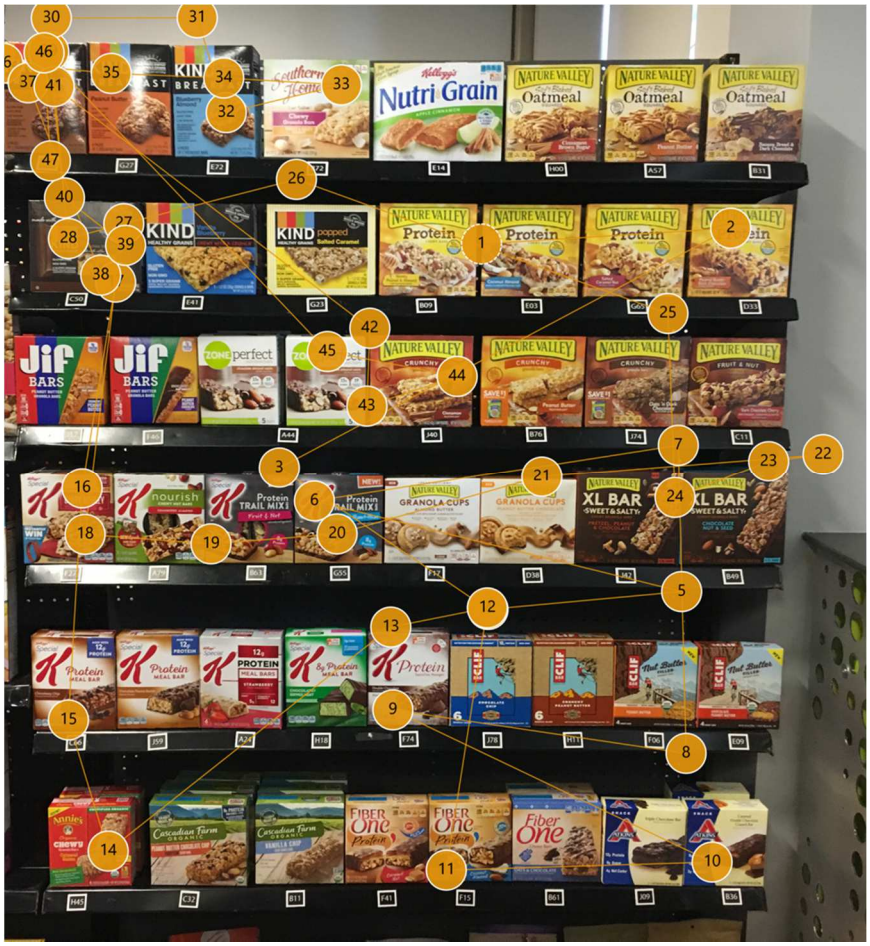

Figure 2.5. Gaze plot showcasing eye movements of a participant looking at a cereal bar planogram. Fixations are the dots and saccades are shown as lines connecting the dots.

Even though there has been a rapid increase in the use of eye tracking in commercial marketing research in the last decade, the study of the human eye movements and attention began in the 1800s (Weidel, 2013). Over 200 years ago, researchers where using eye tracking to analyze how the eye moves while reading (Rayner, 1998). In an applied context, researchers in the 1900s first used eye-movement research to determine

the value of magazine and newspaper advertisements through attention capture (Rayner, 1998). However, this work manually recorded the eye movements of consumers, and it was not until the 1940s that the use of eye cameras was implemented (Karslake, 1940). Following this, there was a period of scarcity in this research activity, potentially due to the commonly held, but erroneous view that attention is only the first stage towards higher cognitive processes (Starch, 1985). However, once it was established in the 1970's that eye movements were in fact tightly coupled with visual attention and that information attainment and higher cognitive process are intertwined, there was a revitalization of interest the potential of this technology (Van Raaij, 1978). Accordingly, with equipment becoming more advanced and less intrusive in the 1990's, there was an increase of the use and application for eye tracking. For example, several studies were documented that tested alcohol and cigarette warnings on packages (Fox et al., 1998).

In the CPG field, several studies using eye tracking have been completed to test a varying aspects of a package and/or product. For example, a study was conducted to test two different printing methods on fruit drink labels using eye tracking. With labels being increasingly important to consumers, this work sought to investigate the optimal print method for packaging that satisfies budgetary environmental, and consumer requirements. Participant's preference for either digital and flexographic fruit drinks were tested using eye tracking and purchase data. A total of 248 participants took part in this study which took place in an immersive retail environment at a tradeshow in Chicago. Three eye tracking metrics (TTFF, TFD, FC) were evaluated to investigate if the different printing methods had an effect on consumer attention. Through statistical analysis, it was

revealed that there was no significant differences between any metrics when comparing digital or flexographic labels. This study also concluded that the position on the shelf made no difference for either label type in terms of preference or attention (Hurley et al., 2015). Ultimately, this study found that eye tracking offers a useful way to investigate different printing techniques on beverage labels especially because attention measures based on memory have been reported to be poor indictors what consumer actually intend to do (Hurley et al., 2015).

Eye tracking can not only be used to test labels, but secondary packaging as well. A team of researchers from Clemson University partnered with a reusable packaging company to utilize eye tracking to test the role of secondary packaging on brand awareness using 2L carbonated soft drinks in reusable shells. Reusable packaging for 2L bottles of carbonated soft drinks packaged in propriety reusable shells with a multicolor logo of a major U.S. beverage company were tested against a standard reusable shell typically used in the industry designed by the same company. Data captured from over 80 participants revealed a strong preference for the new branded reusable shell. An increase in visual saliency of the primary package, the 2L bottle, was illustrated by an increase in fixation duration and an increase in number of fixations when displayed in the branded reusable shell. Results indicated that the use of unique secondary packaging as an in-store marketing campaign can lift brand awareness (Hurley et al., 2017).

Another study conducted at Clemson University used eye tracking to determine the effect of decorative foil stamping on consumer attention. This work sought to understand how applying foil stamping to the primary display panel of various CPGs

(popcorn, cereal, and boxed pasta dinners) would affect the attention and purchase preference of consumers. Over 170 participants took place in the study that combined eye tracking, purchase decisions, and a qualitative survey. Statistical analysis concluded that foil stamping did significantly affect consumer attention toward the respective product compared to the control, yet the effect was not consistent amongst product categories. Overall, results show that foil stamping can be a highly strategic influencer on consumer attention and purchase decisions (Hurley et al., 2016).

Similarly, a group of researchers used eye tracking to evaluate how consumers acquire information from food labels. Over 50 consumers completed this study, in which they were required to evaluate the perceived healthiness and willingness to purchase of three products (mayonnaise, bread, and yogurt) by looking at three unknown labels for these said products. By utilizing eye tracking, it was found that consumers directed their attention to selected areas on the food labels, searching for specific information such as brand, ingredients, nutritional information, and the image on the label, regardless of the type of product and label design (Ares et al., 2013).

Ultimately researchers use eye tracking as a way to identify where a person looks. Consumers are often unaware of what they look at when shopping in the vast array of CPGs and eye tracking can help gather information concerning different areas of interest on an object (Gofman et al., 2009). Packaging designers may aggregate data to show which areas of the package attract the most attention and, equally as important, where attention is void (Gofman et al., 2009). Traditional methods, such as interview, surveys, or focus groups consider that people are able to describe their own cognitive processes.

However, according to some researchers, the purchase process happens at a more nonconscious level, and that is where eye tracking comes in (Martinez, 2011). When eye tracking is paired with other data collection tools, it is an even more telling technique to be able to begin to understand the complex behavior of consumers. Thus, eye tracking is often used in the consumer packaged goods (CPG) industry to test package design and product placement.

Consumer Packaged Goods (CPG) Industry

Consumer packaged goods (CPG) refers to a broad spectrum of manufactures, sellers, and marketers of physical goods, that are typically packaged, used by consumers and sold through a retailer (Jain, 2015). Retail refers to the sale of products to the consumers, while CPGs represent a broader space that encompasses companies one step earlier in the supply chain during the development, production, marketing and selling of products targeted for end use consumption (Jain, 2015). CPG companies work in the wholesale level and manufacture the products that sit on the shelves at retail stores. Companies that have a wide range of brands and are top level contenders in the CPG industry are Proctor and Gamble, Johnson & Johnson, Unilever, and General Mills (Jain, 2015).

The CPG industry is one of the largest and most successful industries in North America. Due to the increase in both shareholder and revenue returns during the last few decades that was fueled by the expansions of merging-market economies and the increase in global consumption, the CPG industry has experienced remarkable growth ("Consumer packaged goods (CPG) industry sales in the United Stated in 2015 and

2020," 2017). In 2015, CPG sales in the U.S. was approximately 634.8 billion U.S. dollars ("Consumer packaged goods (CPG) industry sales in the United Stated in 2015 and 2020," 2017). Conversely, the last few years has seen a decline in people's disposable income as well as a general change in consumer attitudes ("Consumer packaged goods (CPG) industry sales in the United Stated in 2015 and 2020," 2017). Nonetheless, CPG sales figures were estimated to exceed over 720 billion U.S. dollars in 2020. With baby boomers and senior citizens accounting for over half of the country's CPG spending in 2014, consumers spent approximately 398 billion U.S. dollars ("Consumer packaged goods (CPG) industry sales in the United Stated in 2015 and 2020," 2017). It was found that grocery stores were the most popular distribution channel for CPGs, with 99 percent of U.S. households buying packaged goods from grocery stores ("Consumer packaged goods (CPG) industry sales in the United Stated in 2015 and 2020," 2017).

Looking at these statistics, CPG companies are not going away anytime soon, however, they must remain nimble and one step ahead of the curve (Jain, 2015). Since consumer's taste, preferences and needs evolve over time, consumer marketing research must be viewed as an ongoing activity (Thomas, 2017). CPG companies often have millions of dollars hanging the balance on the success or failure of a new product or package redesign (George, 2010). Because of this high stake investment, these companies often want to leave no doubt that their package will have the stopping power leading to a purchase. Eye tracking research is often implemented because these companies believe

that the path to success is discovering what appeals to the consumers, even if they cannot articulate why (George, 2010).

Research Objectives

1. Eye Tracking Benchmark for Retail Grocery Packaging
    a. Evaluate the baseline category norms for 28 categories within the retail grocery using three eye tracking metrics (Time to First Fixation, Total Fixation Duration, Fixation Count).
    b. Understand how each category performed in aggregate as well as by SKU.
    c. Build a one stop shop piece of literature that allows researchers to reference this categorical data to compare single studies against.
2. A Mixed Methods Approach to Consumer Behavior Research Through Eye Tracking and Interview Analysis
    a. Evaluate the use of post hoc interviews to better understand the quantitative eye tracking results.
        i. Understand why participants looked at the stimuli SKU within the competitive array.
    b. Evaluate survey and interview data collection tools to understand the depth of data gathered.
        i. Be able to use this data to determine the best practice data collection tool to follow-up eye tracking studies.

3. Influence of Visual Attention on the Likelihood of Choice Through Regression Analysis
    a. Determine if there is a correlation between attention and sales data.
    b. Identify how demographics play a role in the trends of individual participants when attempting to correlate attention with sales.
    c. Develop a predictive model to be used in a greater body of work.

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CHAPTER THREE

EYE TRACKING BENCHMARK OF RETAIL GROCERY PACKAGING

ABSTRACT

Eye tracking technology allows researchers from a wide arrange of disciplines to capture viewing patterns of consumers and provides insight into where people look at, when they look at something, and how long they look it. Eye tracking can help investigate the nonconscious thoughts of consumers, and can facilitate a wide range of research, especially in conjunction with other forms of data collection. The availability of eye tracking technology has increased in the last decade, leading to more companies using this as their primary avenue for their market research and consumer insights endeavors. Despite the popularity of eye tracking technology, there has been little literature in the development of benchmarks for common retail grocery categories. Due to this void, data collected on consumer packaged goods is limited and cannot be compared to the competitive array unless researchers invest further time and funds. Utilizing real consumers in an immersive consumer retail experience laboratory, eye tracking studies were conducted on 28 product categories within the consumer product goods (CPG) sector to create this benchmark. Data models were created to show "norms" for each category to be used by researchers in the future to prevent them from spending the time and resources to create a comprehensive control dataset. The results from this study showed significant differences between various categories, as well as significant differences within categories.

INTRODUCTION

Researches have been studying gaze behavior as a way to investigate how stimuli are processed for many years [1]. The idea behind this is that when a person fixates or looks directly at an object, its image falls on the fovea, the part of the retina used for visual processing [1]. In order to inspect what is front of them, whether it be a shelf set, point-of-purchase display, or innovative package design, the eyes of consumers move sequentially. Thus, recordings of gaze behavior indicate where in a visual scene a person was seeking detailed information [1]. Accordingly, the eyes of consumers respond to visual stimuli, thus eye tracking can elucidate what shoppers actually see and do [2]. Companies spend millions of dollars every year on their shelf layouts, displays, signage, packaging, and marketing campaigns, however, the effectiveness of these efforts depends on whether consumers notice, pay attention to, and engage with these strategies [2]. Eye tracking is an efficient way to verify if these marketing methods are effective.

In the last decade, commercial applications of eye tracking technology have rapidly grown in the United States, Europe, Asia and Australia [3]. A multitude of companies including Kraft Foods, Pfizer, Google, Yahoo, and Unilever are prominent users in this field of technology to test products throughout the development period [3]. In terms of eye tracking technology, these companies have a lot to choose from. Some examples of eye tracking companies include Tobii Pro (9230 publications), Senso Motoric Instruments (6040 publications), Eye Link (5530 publications), and LC Technologies, Inc (1130 publications) [4]. A wide range of disciplines are taking advantage of this unobtrusive tool, with Figure 3.1 illustrating the number of peer

reviewed articles over the past 50 years (grouped into successive 5-year bins) containing the phrase eye tracking and/or eye movements [5]. Presently, eye tracking technology is implemented across a broad and interdisciplinary spectrum of both basic and applied research paradigms, and it is gaining traction in food technology and CPG research. However, eye tracking studies and reporting today are more focused on comparing one product to another within a larger planogram of like items. This work seeks to add to the body of knowledge by investigating eye tracking data in aggregate, rather than single, one off studies, in an effort to bring more context to the rich data across the board.

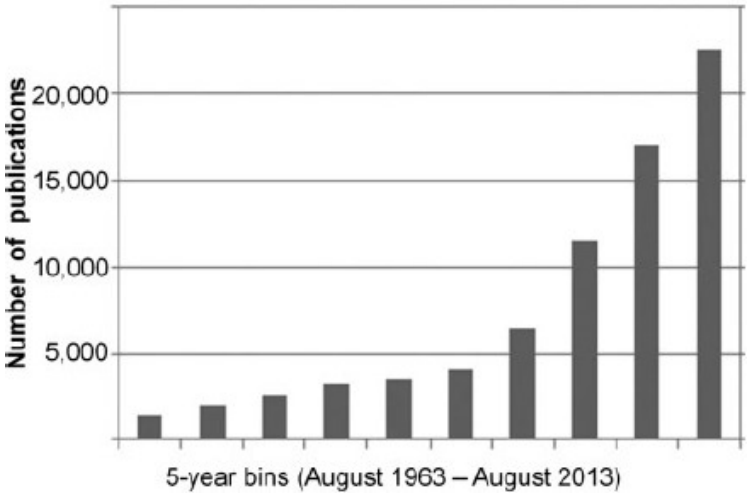

Figure 3.1. The number of peer reviewed articles in ProQuest Databases over 50-year period [5].

Within the vast CPG market, companies often leverage eye tracking to evaluate their products within the retail environment, but it is common to find only "one off" studies on a particular products as opposed to a comprehensive overview of a wide range of categories. For example, in the CPG arena, the consumer appeal of injection in-mold labeled (IML) packaging vs. glass jars, composite cans, and metal cans was tested using

eye tracking technology [6]. In this study, consumers shopped in an immersive retail space for a set of control products (chicken, nuts, and salsa) vs. a similarly decorated stimuli package that was made from IML plastic containers. A mixed methods approach was implemented to provide validation for the eye tracking findings with a follow-up post survey. Overall, results showed that participants trended towards finding IML packaging faster than any of the controls [6]. In this vein, a study was run to test the effect of metal can labels on consumer attention through eye tracking technology [7]. Over 200 participants were tested in an immersive retail space, to evaluate if adding can facts to the package label and lithographic printing to the ends had an effect on consumer attention compared to the control can. It was found that participants viewed the can facts and lithographic end cans significantly longer than the control, and survey findings indicated a strong preference for both stimuli over the control [7]. On the other end of the CPG spectrum, a study was conducted using eye tracking to test the cognitive style on visual processing and choice of yogurt labels [8]. Over one hundred consumers were asked to select their preferred yogurt label from 16 pairs of labels, and while they completed this task their eye movements were captured using eye tracking. These examples showcase three distinct ways eye tracking technology can be implemented into consumer goods research. However, studies like these all have specific products to be tested and goals in mind. Even with the plethora of eye tracking research published, an abundance of it is kept under wraps by market research firms due to non-disclosure agreements with the clients. Consumer insights companies such as Package Insight, LLC, based in Greenville, SC, test dozens of products per month, with their most common test

being an A/B study, or study testing a current packaging or alternative concept against a baseline.

Even with eye tracking being an emerging market, running studies can expensive. For example, a typical baseline study (testing products within a shelf set for basic understanding) can start at $7,000, with each additional variable costing thousands more. A/B design tests range from $10,000-$15,000. Along with being expensive, a typical eye tracking study involves many components that can be time consuming and require a team of people to complete. A basic study involves determining research questions, building a method, prototyping or producing stimuli, running an experiment, analyzing the data, and reporting the work [9]. However, it is not uncommon for researchers to invest more time and resources creating a control dataset than the actual work of testing the variable of interest. Currently there is a void in literature for researchers, industry professionals, retailers, and the academic community seeking to understand the effects of packaging on consumer behavior. A comprehensive and practical eye tracking benchmark to test design variables is thus missing. This body of work would assist they eye tracking sector in more ways than one. For example, two candy bars were tested, one current shelf design and one redesigned option (both equally delicious in taste). A researcher may want to run an A/B study to see which candy bar "wins" when investigating attention to the package. Utilizing the Total Fixation Duration Metric (TFD), it was found that the redesigned candy bar was noticed longer on the shelf when compared to the current design. Statistical analysis accordingly indicated that the redesigned candy bar was in fact looked at significantly longer than the current design. But what does this data really mean to

brand owners, marketers, and researchers? Ultimately the A/B study described above does not disclose enough information. Even though the study took weeks to complete, there was no aggregate analyzed for the entire candy bar category. Even though the redesigned candy bar increased attention and is significantly different than the current packaging, the critical question should be how this candy bar compared to the category average. Ultimately, even if the resigned candy bar wins on the shelf compared to the tested current design, that says nothing to how it would perform when the product hits the market and is compared against the competitive array. Eye tracking studies need to look at the bigger picture of the potential of data available. If a study shows an increase of attention on a package but still has a lower value or performs worse than category average, has anything useful been accomplished? Building an aggregate benchmark of categories within the retail grocery sector is not meant to replace control variables, but rather to add context to studies. By utilizing this body of work, researchers would now be able to run a simpler A/B study and test their values against a benchmark of data for the category of interest.

MATERIALS AND METHODS

Location and Participants

Research was conducted at CUshop™, a consumer experience laboratory at Clemson University's Sonoco Institute of Packaging Design and Graphics (Figure 3.2). CUshop™ is a realistic shopping environment with fluorescent lighting featuring three 12-foot shopping aisles, a frozen food section, produce area, and simulated open refrigeration. The space is set at ambient temperature with no overhead music or service

workers. Being human subjects research, this study was approved by the Institutional Review Board (IRB). All participants were required to complete and sign an approved IRB consent form to ensure the confidentiality of each participant. Within the 28 categories, each study had at least 30 participants and up to 120 participants (will be further detailed in Stimuli section). Generally, amongst all 28 categories, participant demographics stayed consistent, as were drawn from the same pool of consumers in the area. Participants on average were 65% female and 35% male ranging in age between 22 and 65. 60% were typically in the age range between 22-39 and most participants were college educated (75%). The income range distribution of the participants was diverse, ranging from less than $20,000 to over $200,000 annually. All participants were incentivized for their participation.

Figure 3.2. CUshop™ consumer experience laboratory.

Stimuli

28 categories within the consumer product goods (CPG) sector were tested. The categories include baby food, baby wipes, batteries, canned beans, chocolate, coffee, cold brew beverages, cookies, detergent, dish soap, frozen sausage, frozen treats, hot sauce, muesli, natural fruit drinks, olive oil, organic cereal, rice, ready-to-eat pasta, seasoned

breading, shelf stable tuna snack bars, snack cakes, sour cream, spaghetti sauce, sunscreen, tissues, and vegetables. The categories chosen ideally match the typical CPG categories present within retail grocery. For ease of understanding each category will be explained individually.

Baby Food

Within this category, four brands and 34 SKUs* were tested. The brands included Beech Nut, Plum, Parent's Choice, and Gerber (Figure 3.3). These products were placed on a 4ft x 6ft planogram and placed on five shelves within this space with fruit drinks for young children filling out the bottom shelf. The planogram was modeled after Walmart Neighborhood Market in Southeastern USA, with slight modifications made to adjust for budget and space allotment. Approximately 60 participants took part in this study.

Figure 3.3. Baby Food Planogram

Baby Wipes

Within this category, four brands and 30 SKUS were tested. The brands included Huggies, Pampers, Water Wipes, and Parent's Choice (Figure 3.4). These products were placed on a 6ft x 6ft planogram and took up six shelves. The planogram was modeled after Walmart Neighborhood Market in Southeastern USA, with slight modifications made to adjust for budget and space allotment. Approximately 60 participants took part in this study.

Figure 3.4. Baby Wipe Planogram

Batteries

Within this category, three brands and 21 SKUS were tested. The brands included Duracell, Energizer, and Walgreens (Figure 3.5). These products were placed on a 4ft x 6ft pegboard located within a shelving unit. The planogram was modeled after Walgreens in Southeastern USA, with slight modifications made to adjust for budget and space allotment. Approximately 90 participants took part in the study.

Figure 3.5. Battery Planogram

Canned Beans

Within this category, seven brands and 37 SKUs were tested. The brands included Luck's, Bush's, Great Value, KC Masterpiece, Whiskey Hollow, Van Camp's and Hanover (Figure 3.6). These products were placed on a 4ft x 6ft planogram and placed on three shelves within this space with spaghetti sauce and diced tomatoes cans filling out the remaining shelves. The planogram was modeled after Walmart Neighborhood Market in Southeastern USA, with slight modifications made to adjust for budget and space allotment. Approximately 60 participants took part in the study.

Figure 3.6. Canned Beans Planogram

Chocolate

Within this planogram, ten brands and 25 SKUS were tested. The brands included Old Dominion, Mars, Hershey's, Risen, DeMet's, Chocolove, Trader Joe's, Whitmans, LC, and Tootsie Roll (Figure 3.7). The Swiss Chocolate tube and Belgian Collection were not included in the 25 SKUs as they were stimuli of interest for a client and under a non-disclosure agreement. The products were placed on a 2.5ft x 6ft end cap and placed on both a peg board and five shelves within this space. The planogram was modeled after Walmart Neighborhood Market and Whole Foods in Southeastern USA, with slight modifications made to adjust for budget and space allotment. Approximately 60 participants took part in the study.

Figure 3.7. Chocolate Planogram

Coffee

Within this category, 21 brands and 34 SKUs were tested. The brands included Chock Full O'Nuts, Folgers, New England Coffee, Bigelow, Snapple, Laura Lynn, Maxwell House, Tully's, Café Bustelo, Harvest Farm, Peet's Coffee, Zapotec, Donut Shop, Eight O'Clock, Keurig Green Mountain, Gevalia, Medaglia Doro, Southern Home, Yuban, and Great Value (Figure 3.8). These products were placed on a 4ft x 6ft planogram with seven shelves. The planogram was modeled after Ingles and Walmart Neighborhood Market in Southeastern USA, with slight modifications made to adjust for budget and space allotment. Approximately 60 participants took part in this study.

Figure 3.8. Coffee planogram

Cold Brew Beverages

Within this category, five brands and 14 SKUs were tested. The brands included Chameleon, Stumptown, Starbucks, Caribou, and Califia (Figure 3.9). The products were placed in a 6ft x 6.5 ft refrigerated unit. Though these products are shelf stable, they are also seen in refrigeration units at common retail grocery stores. In stores like Ingles, these products are typically only represented in a small amount or on one shelf with the unit filled with other beverages. Following suit, in the study herein, the cold brew beverages take up three fourths of a shelf with the rest being filled with beverages common to these units. The planogram was modeled after Ingles in Southeastern USA, with slight modifications made to adjust for budget and space allotment. Approximately 40 participants took part in the study.

Figure 3.9. Cold Brew Planogram

Cookies

Within this planogram, six brands and ten SKUs were tested. The brands included Famous Amos, Quaker, Nabisco, Southern Home, Zone, and Keebler (Figure 3.10). The products were placed three shelves within a 2.5ft x 6ft end cap. The remaining two shelves comprised of items typically found in the snack section. The planogram was modeled after Walmart Neighborhood Market, with slight modifications made to adjust for budget and space allotment. Approximately 60 participants took part in the study.

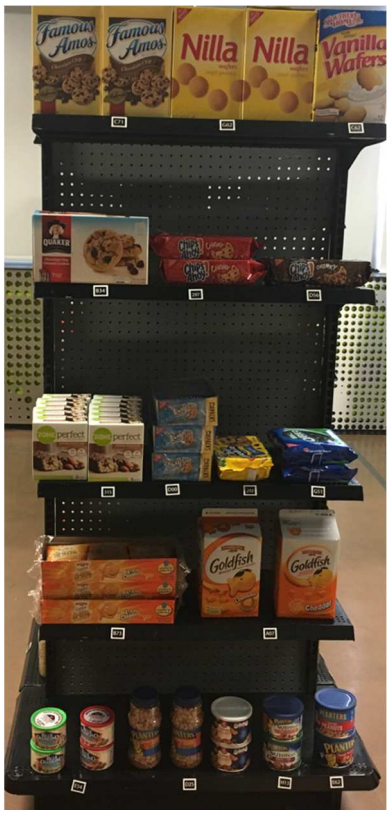

Figure 3.10. Cookie Planogram

Detergent

Within this category, three brands and eight SKUs were tested. The brands included Tide, Gain, and All (Figure 3.11). These products were placed on two shelves within a 4ft x 6ft with the rest of the space filled with laundry products and cleaning supplies. The planogram was modeled after Ingles in Southeastern USA, with slight modifications made to adjust for budget and space allotment. Approximately 40 participants took part in this study.

Dish Soap

Within this category, three brands and five SKUs were tested. The brands included Dawn, Palmolive, and Gain (Figure 3.11). These products were placed on one shelf within a 4ft x 6ft with the rest of the space filled with laundry products and cleaning supplies. The planogram was modeled after Ingles in Southeastern USA, with slight modifications made to adjust for budget and space allotment. The same planogram was used for both detergent and dish soap; however, the studies were implemented at different times with a different number of participants. Approximately 60 participants took part in this study.

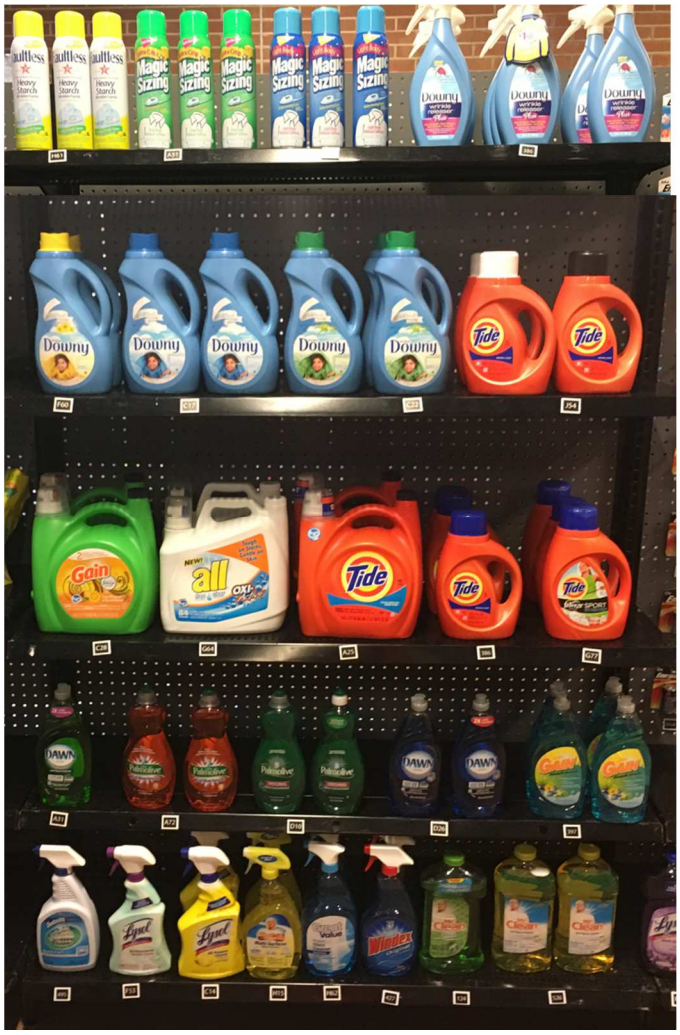

Figure 3.11. Detergent and Dish Soap Planogram

Frozen Sausage

Within this planogram, four brands and 24 SKUs were tested. These brands included Jones Dairy Farm, Applegate, Banquet, and Jimmy Dean (Figure 3.12). The products were placed on five shelves within a 5ft x 6ft commercial glass door display freezer. The planogram was modeled after Publix, with slight modifications made to

adjust for budget and space allotment. Approximately 60 participants took part in the study.

Figure 3.12. Frozen Sausage Planogram

Frozen Treats

Within this planogram, seven brands and eight SKUs were tested. These brands included Weight Watchers, Mars, Magnum, PET, Cadbury, Blue Bunny, Popsicle (Figure 3.13). The products were placed on five shelves within a 2.5ft x 6ft commercial glass door display freezer. The planogram was modeled after Walmart Neighborhood Market, with slight modifications made to adjust for budget and space allotment. Approximately 60 participants took part in the study.

Figure 3.13. Frozen Treats Planogram

Hot Sauce

Within this category, nine brands and 19 SKUs were tested. The brands included Texas Pete, Frank's, Moore's, Sweet Baby Rays, Crystal, Louisiana, Great Value, Huy Fong, and Tabasco (Figure 3.14). These products were placed on a 4ft x 6ft planogram and placed on the top shelf within this space with olive oil, cooking oil, and vinegar filling out the remaining shelves. The planogram was modeled after Walmart Neighborhood Market in Southeastern USA, with slight modifications made to adjust for budget and space allotment. Approximately 60 participants took part in the study.

Figure 3.14. Hot Sauce Planogram

Muesli

Within this category, three brands and four SKUs were tested. The brands included 365, Dorset Cereals, and Familia (Figure 3.15). These products were placed on a 4ft x 6ft planogram and placed on one shelf within this space with granola and healthy cereals filling out the remaining shelves. The planogram was modeled after Whole Foods in Southeastern USA, with slight modifications made to adjust for budget and space allotment. Approximately 60 participants took part in the study.

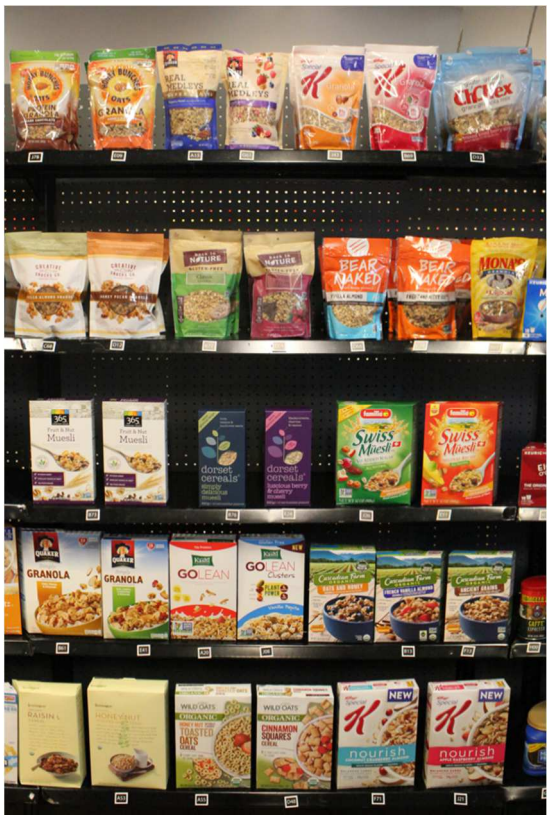

Figure 3.15. Muesli Planogram

Natural Fruit Drinks

Within this category, eight brands and 16 SKUs were tested. The brands included Bai 5, alo, Aloe Gloe, Amazonia, Glaceau, Fruit $_2$O, Nestle, and La Criox (Figure 3.16). The products were placed on three shelves in a 6ft x 6.5ft refrigerated unit. Though these products are shelf stable, they are also seen in refrigeration units at common retail grocery stores. The planogram was modeled after Ingles in Southeastern USA, with slight modifications made to adjust for budget and space allotment. Approximately 60 participants took part in the study.

Figure 3.16. Natural Fruit Drink Planogram

Olive Oil

Within this category, eight brands and 13 SKUs were tested. The brands included Pompeian, Bertolli, Colavita, Crisco, Olivari, Filippo Berio, Lucini, and Georgia Olive Farms (Figure 3.17). These products were placed on the top shelf of a 4ft x 6ft planogram with olive oil, cooking oil, and vinegar filling out the remaining shelves. The planogram was modeled after Walmart Neighborhood Market in Southeastern USA, with slight modifications made to adjust for budget and space allotment. Approximately 60 participants took part in the study.

Figure 3.17. Olive Oil Planogram

Organic Cereal

Within this category, three brands and three SKUs were tested. The brands included 365, Pure Vida, and Greenwise (Figure 3.18). These products were placed on a 4ft x 6ft planogram and placed on one shelf within this space with oats and healthy cereals filling out the remaining shelves. The participants were specifically asked to shop for organic cereal, so the remaining cereal was not analyzed in this work herein. The planogram was modeled after Whole Foods in Southeastern USA, with slight modifications made to adjust for budget and space allotment. Approximately 60 participants took part in the study.

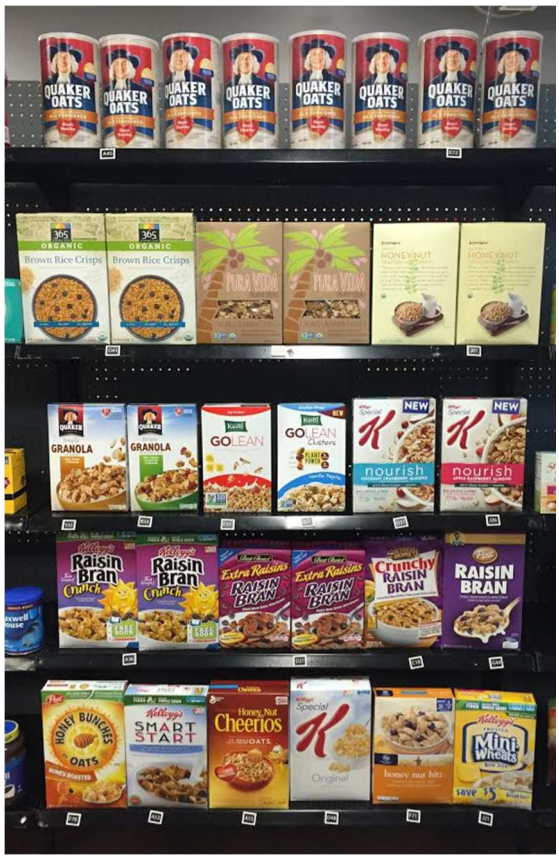

Figure 3.18. Organic Cereal Planogram

Rice

Within this category, nine brands and 18 SKUs were tested. The brands included Southern Home, 365, Organic Grains, Lunberg, Zatarain's, Success, Blue Ribbon, and Rice Select (Figure 3.19). These products were placed on five shelves within a 4ft x 6ft planogram. The planogram was modeled after Walmart Neighborhood Market and Whole Foods in Southeastern USA, with slight modifications made to adjust for budget and space allotment. Approximately 60 participants took part in the study.

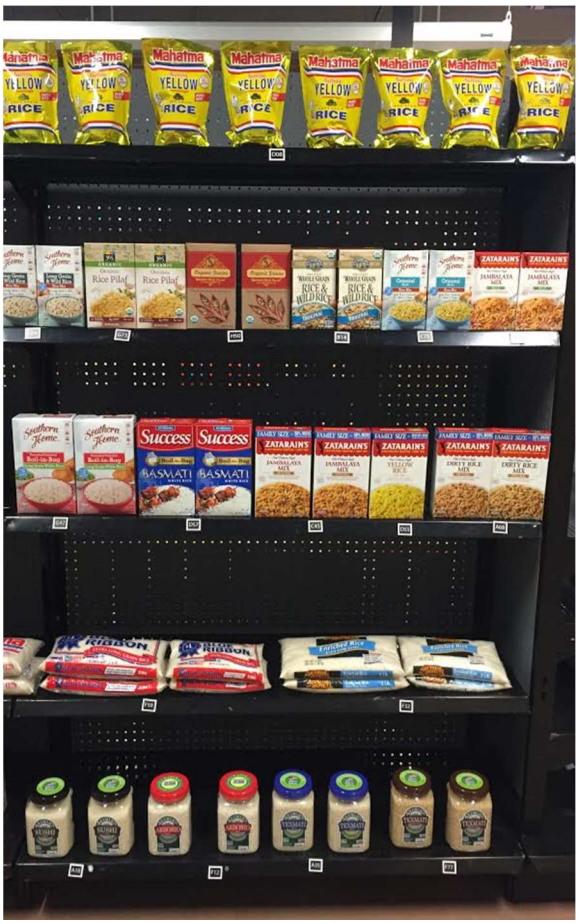

Figure 3.19. Rice Planogram

Ready-to-eat Pasta Meals

Within this category, six brands and 30 SKUs were tested. The brands included Velveeta, Pace, Barilla, Chef Boyardee, Great Value, and Campbell's (Figure 3.20). These products were placed on three shelves within a 4ft x 6ft planogram with the remaining planogram filled with pasta sauce and diced tomatoes. The planogram was modeled after Walmart Neighborhood Market in Southeastern USA, with slight modifications made to adjust for budget and space allotment. Approximately 60 participants took part in the study.

Figure 3.20. Ready-to-eat Pasta Meals Planogram

Seasoned Breading Mix

Within this category, ten brands and 32 SKUs were tested. The brands included Kikkoman, Progresso, 4C, House Autry, Kraft, Great Value, French's, Lawry's, Zatarain's, and McCormick (Figure 3.21). These products were placed on four shelves within a 4ft x 6ft planogram with the remaining planogram filled with cornbread and biscuit mixes. The planogram was modeled after Walmart Neighborhood Market in Southeastern USA, with slight modifications made to adjust for budget and space allotment. Approximately 40 participants took part in the study.

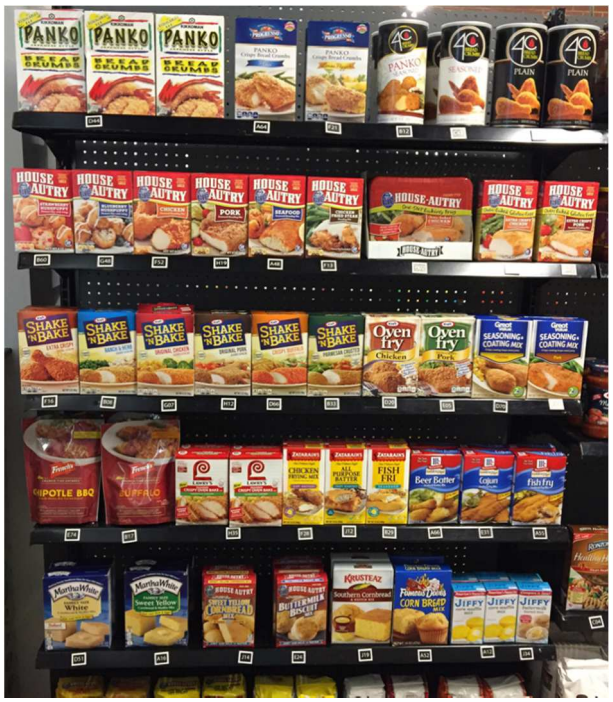

Figure 3.21. Seasoned Breading Mix Planogram

Shelf Stable Tuna

Within this category, four brands and 28 SKUs were tested. The brands included Bumble Bee, StarKist, Great Value, and Chicken of the Sea (Figure 3.22). These products were placed on a 4ft x 6ft planogram and placed on three shelves within this space. The other shelves were filled with similar canned goods shelf stable products that would typically be placed close to this product category. The planogram was modeled after Walmart Neighborhood Market in Southeastern USA, with slight modifications made to adjust for budget and space allotment. Approximately 60 participants took part in this study.

Figure 3.22. Shelf Stable Tuna Planogram

Snack Bars

Within this category, 11 brands and 47 SKUs were tested. The brands included Kind, Southern Home, Kellogg's, Nature Valley, Jif, Zone, Clif Bar, Annie's, Cascadian Farm, Fiber One, and Atkins (Figure 3.23). These products were placed on six shelves within a 4ft x 6ft planogram. The planogram was modeled after Walmart Neighborhood Market in Southeastern USA, with slight modifications made to adjust for budget and space allotment. Approximately 40 participants took part in the study.

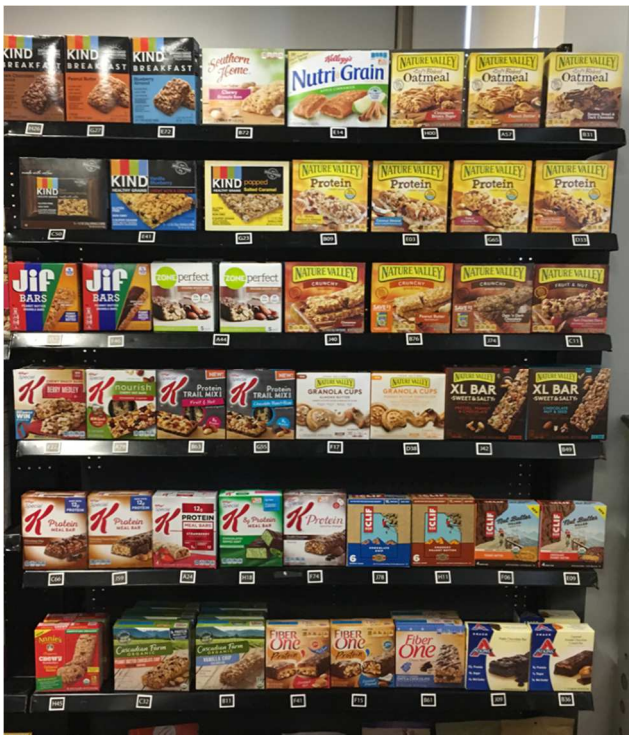

Figure 3.23. Snack Bar Planogram

Snack Cakes

Within this planogram, five brands and 19 SKUs were tested. The brands included Entenmann's, Little Debbie, Hostess, Great Value, and Nabisco (Figure 3.24). The products were placed on five shelves within a 2.5ft x 6ft end cap. The remaining two shelves comprised of items typically found in the snack section. The planogram was modeled after Walmart Neighborhood Market, with slight modifications made to adjust for budget and space allotment. Approximately 60 participants took part in the study.

Figure 3.24. Snack Cake Planogram

Sour Cream

Within this category, four brands and seven SKUs were tested. The brands included Daisy, Breakstone, Great Value, and Monticello (Figure 3.25). An innovative Daisy Sour Cream pouch (not pictured in this planogram) was also tested in another iteration of the study and is counted as a SKU. The products were placed in a 6ft x 6.5ft refrigerated unit with the remaining unit filled with refrigerated items one may see near this section at a grocery store. The planogram was modeled after Walmart Neighborhood Market in Southeastern USA, with slight modifications made to adjust for budget and space allotment. Approximately 60 participants took part in the study.

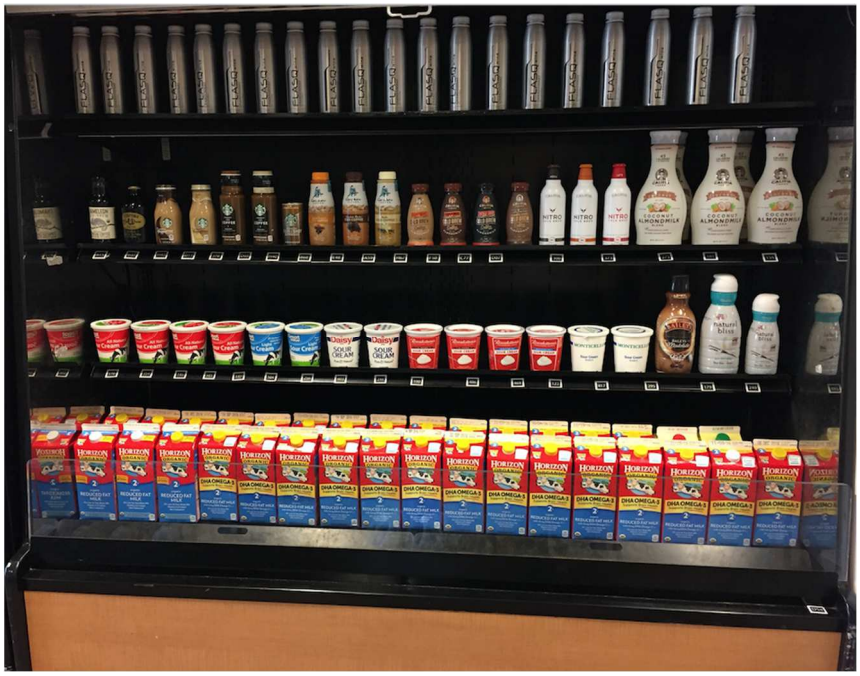

Figure 3.25. Sour Cream Planogram

Spaghetti Sauce

Within this category, seven brands and 25 SKUs were tested. The brands included Prego, Barilla, Kroger, Bertolli, Ragu, Organic Market, and Gia Russa (refer to canned beans planogram in Figure 3.6). These products were placed on two shelves within a 4ft x 6ft planogram with canned beans and diced tomatoes cans filling out the remaining shelves. The same planogram was used for both canned beans and spaghetti sauce; however, studies were implemented at different times. The planogram was modeled after Walmart Neighborhood Market in Southeastern USA, with slight modifications made to adjust for budget and space allotment. Approximately 60 participants took part in the study.

Sunscreen (Kid's)

Within this category, three brands and three SKUs were tested. The brands included Dollar General, Equate, and No-AD (Figure 3.26). These products were placed on one shelf within a 4ft x 6ft planogram with health and beauty products filling out the remaining shelves. The planogram was modeled after Walmart Neighborhood Market in Southeastern USA, with slight modifications made to adjust for budget and space allotment. Approximately 60 participants took part in the study.

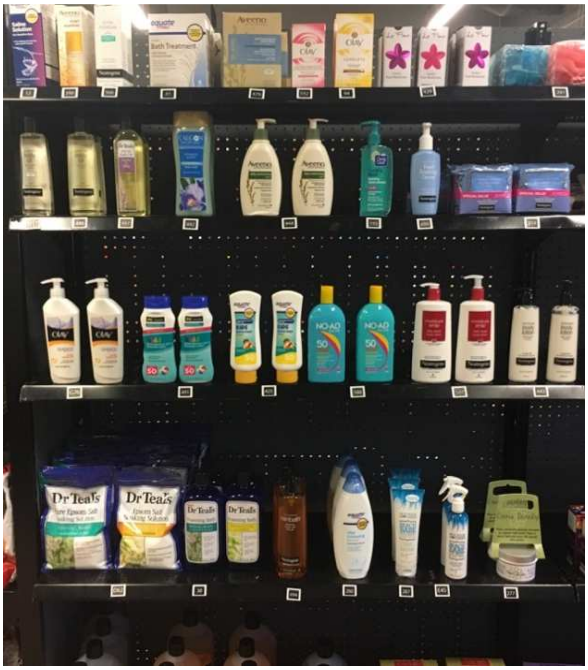

Figure 3.26. Kid's Sunscreen Planogram

Tissues

Within this category, four brands and 17 SKUs were tested. The brands included Publix, Scotties, Kleenex, and Puffs (Figure 3.27). Any slight design change on the primary display panel was considered a separate SKU. These products were placed on a 4ft x 6ft planogram and placed on two shelves within this space with similar household

goods and toiletries filling out the rest of the planogram. The planogram was modeled after Publix in Southeastern USA, with slight modifications made to adjust for budget and space allotment. Approximately 40 participants took part in this study.

Figure 3.27. Tissue Planogram

Vegetables

Within this category, three types of vegetables were tested, onions, peppers, and tomatoes. A study was contracted to test the impact of labeled reusable plastic containers (RPC) vs. non labeled RPCs as well as produce in RPCs vs. hand stacked produce (Figure 3.28). However, for this baseline study, data was aggregated only for the hand stacked produce, as there was no variation to this section. Produce was placed in display bins modeled after Ingles in Southeastern USA. Approximately 60 participants took part in this study.

Figure 3.28. Vegetable planogram

*repeating SKUs were counted as one

Apparatus

The participants eye movements in all studies were tracked using Tobii™ Pro Glasses 2 eye tracking glasses (Figure 3.29). These glasses are equipped with two cameras for each eye that use Tobii's™ 3D eye model [10]. These unique eye tracking glasses are ultra-lightweight with a user-centric design that encourages natural viewing patterns [10]. They operate at a sampling rate of 50 Hz and are combatable with all eye types to provide persistent calibration and minimal data loss during projects that allow a researcher to track a wide cross-section of the population to ensure superior data quality [10]. A Tobii™ head unit captures what the participant sees, as well as the sound, and saves gaze data onto an SD card for data input and analysis. The controller software allows for researchers to take this technology out into the field, and offers a live-view component allowing the researcher to see exactly what the person is looking at in real time [10].

Figure 3.29. Tobii™ Pro Glasses 2 used to capture gaze data [10].

Experimental Design and Procedure

Each study was designed as an easily repeatable shopping task. Participants were provided a shopping list with several categories of items, all-encompassing the 28 categories over a two-year time span. For example, several of the studies had more than one category being shopped for at one time such that cookies, olive oil, dish soap, and seasoned breading mix were shopped for at the same time. Even though these categories were shopped for during one study (others like this as well), the demographics remain constant throughout every study tested herein. All product categories were placed within separate planograms (if placed on the same planogram were tested at different times and filled with competitive products modeled after local grocery stores). A grouping of these studies were commissioned for clients testing prototype products and subsequently those products were removed from the analysis. However, the competitive products on the shelf when the stimulus was being tested were analyzed for every category this applied to. The analysis compared the SKUs within the baseline competitive array using the Total Fixation Duration (TFD), Time to First Fixation (TTFF), and Fixation Count (FC) metrics.

Prior to the study, each participant was given an "ID code" to ensure confidentiality and informed to shop for items indicated on a shopping list. Once a participant provided informed consent, the eye tracking glasses were mounted and the participant was calibrated to the device by looking at a circle printed by the manufacturer in a simple one step process. Following the one-point calibration, participants were handed a shopping list and asked to write down their selection for each item on the list using a product code rather than price to avoid additional confounding variables.

Eye Tracking Metrics

Areas of Interest (AOI's) were designated for each SKU within the various product categories and used to determine three measurements metrics of eye movement: Time to First Fixation (TTFF), Total Fixation Duration (TFD), and Fixation Count (FC). Time to First Fixation (TTFF), is time in seconds from when a product first enters a participant's field of view until they fixate on it is defined as the TTFF. The lower the number, the better the package performed in this instance. TTFF starts when the eye hits the defined Area of Analysis (AOA), so run order was not an issue. TFD, is the time, in seconds, spent on average by participants fixating on this item. The higher the number, the better the package performed. This metric measures the sum of the duration of all fixations within an Area of Interest (AOI). FC is the total number of times a participant's scan of the planogram crossed into a particular area of interest. The Tobii I-VT Attention filter was used to export metrics for analysis due to the fact that it makes more "true fixations." Using this filter is the default setting and preferred for mobile eye tracking

studies because when using raw data each dot is a fixation, and that is not true because most, if not all, fixations are longer than 20 ms.

Data Collection

Tobii Pro Lab was used to collect raw eye tracking data and run descriptive statistical analysis. This software is a powerful, versatile, and comprehensive system that is used to support the entire research workflow for eye trackers from Tobii Pro. The SD card in the Tobii head unit was inserted directly in the computer with the installed Tobii Pro Lab software. After the recordings have been uploaded, the coding process could begin. Coding in this sense, refers to "mapping" gaze data from recordings on a still image to gather insight on how participants reacted in the planogram individually or in aggregate. In order to code efficiently and precisely, a high resolution image of a planogram was uploaded into the software through a snapshots tab. The high resolution image was then placed next to a video recording of a participant (Figure 3.30).

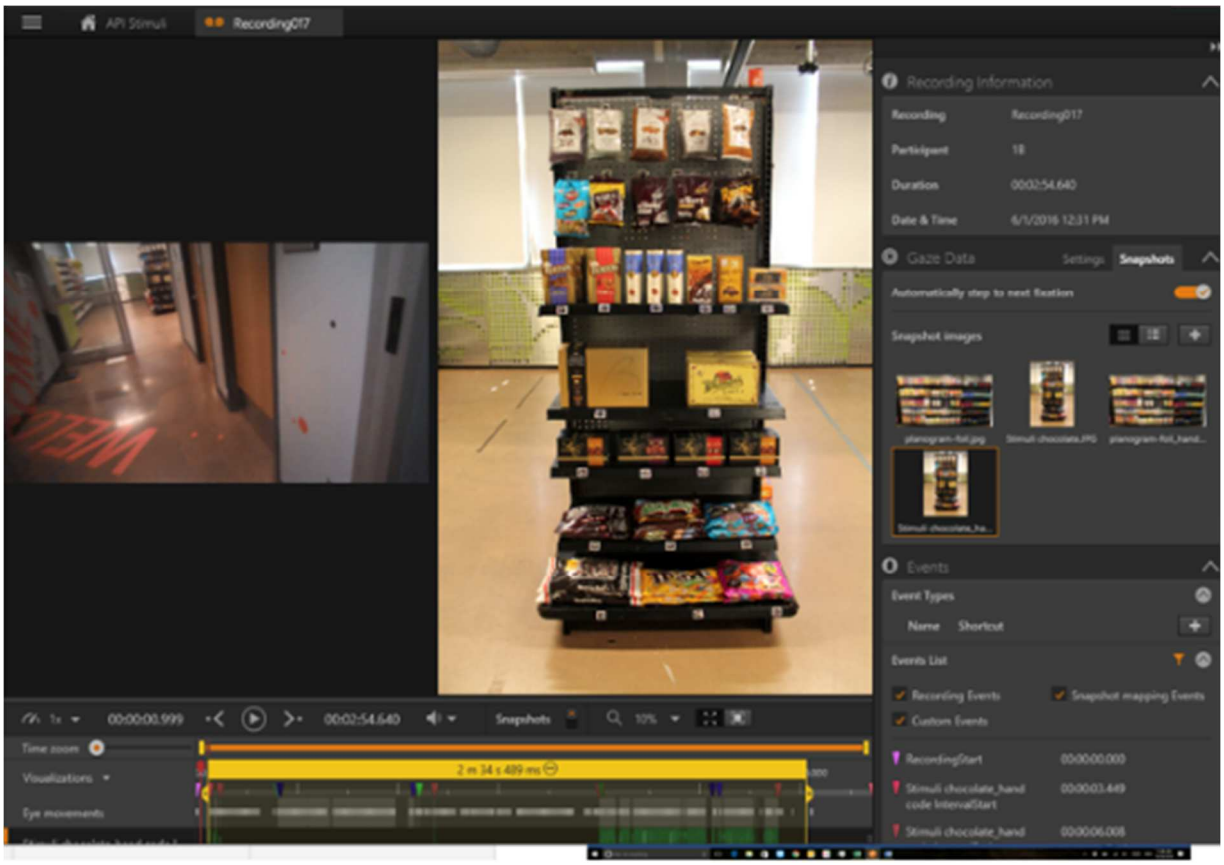

Figure 3.30. Coding process using a high resolution image of the defined planogram.

The coding began by spanning the yellow bar the length of the video that needs to be mapped onto the image (refer to Figure 3.30). For example, if 30 seconds are desired to be coded of the participant looking at the planogram, the video can be watched, scrolled to the time they looked at that section, and then have the yellow bar span that section. For this purpose, “run automatic mapping” was chosen to code the data points of attention onto the image to generate heat maps and actionable metrics for analysis. This process typically takes from one to five minutes depending on the length of the video. Please note that this process has to be done for every participant in the study.

Once the participants were coded for every study, areas of interest (AOIs) or user-defined sub regions of a displayed stimulus were plotted. AOIs can simply be drawn using the drawing tools within the AOI editor tab. For this particular planogram, AOIs were drawn around the SKUs within the planogram. Following building these AOIs, the data was exported via the metrics tab within the software. Three metrics are typically downloaded for eye tracking studies: TTFF, TFD, and FC, with TFD being the most significant. This metric quantifies the amount of time that respondents have spent on an AOI. Since respondents have to blend out other stimuli in the visual periphery that could be equally interesting, time spent often indexes motivation and conscious attention [11]. With that being said, long prevalence at a certain region point to a high level of interest and shorter prevalence times indicating that other areas in the environment might be more eye catching [11].

Statistical Analysis

JMP Pro 12 was used analyze the eye tracking data for each category. Using this program, SKUs from each product category were entered into tables in order to run the fit model function. By analyzing the data using the fit model function, role variables and construct model effects were able to be chosen. The role variable chosen herein was the Y variable which identifies the response or dependent variable for the model, which in this case are the continuous eye tracking metrics (TTFF, TFD, or FC). The construct model effects determine the independent variables to add to the model. The add button adds effects to models and the modeling type of the variable determines how the variable is treated in the model [12]. Variables with continuous modeling type are treated as

regressors and variables with nominal or ordinal modeling types are treated as main effects, with the latter nominal type being used in this work. The nominal variable used in this study were the SKUs within each product category, with separate data models built for each category. To analyze the data in each category, the expanded estimates section was used to determine the aggregate value for the category. The intercept value is the aggregate value for the category as a whole which is graphed in the Results Section. The least squares means table was used to gather information (i.e. least squared mean, standard error, confidence intervals) on each of the SKUs tested within each product category. Using these two functions made it possible to graph not only the product category aggregates but also the individual products or SKUs that make up each category. Within the models, an Analysis of Variable (ANOVA) table was utilized to understand both significant differences between product categories and amongst product categories, with the LSMeans Differences Student's t used to see specific products or categories that are significantly different from each other using an α of 0.05.

RESULTS AND DISCUSSION

Total Fixation Duration (TFD)

Quantifying the attention spent on the product categories and the SKUs within the categories was the foundational goal of this study. This metric measures the sum of the duration for all duration within an Area of Interest (AOI), or within all AOIs belonging to an AOI group. Thus, the N value used to calculate descriptive statistics is based on the number of recordings [12]. This metric is typically defined as the length of time that a stimulus can maintain the attention of a consumer. As soon as a participant's eyes fixate

on a set of AOIs, the length of time for this metrics begins, and accordingly stops when the fixations leave the AOI area [13]. If a participant returns to same specific AOI at a later time, the new fixation lengths are added to the overall measurement. SKUs with higher TFD averages are hence considered better at holding attention [13].

Each of the 28 categories had anywhere from three to 30 SKUs. Within each product category, AOIs were drawn around each SKU and aggregated using the expanded estimates intercept function in JMP. This was done to avoid analyzing negative shelf space that was not observed by participants. The 28 categories were placed on the same graph (Figure 3.31) to show the impact of each grouping compared to each other in terms of overall attention to products.

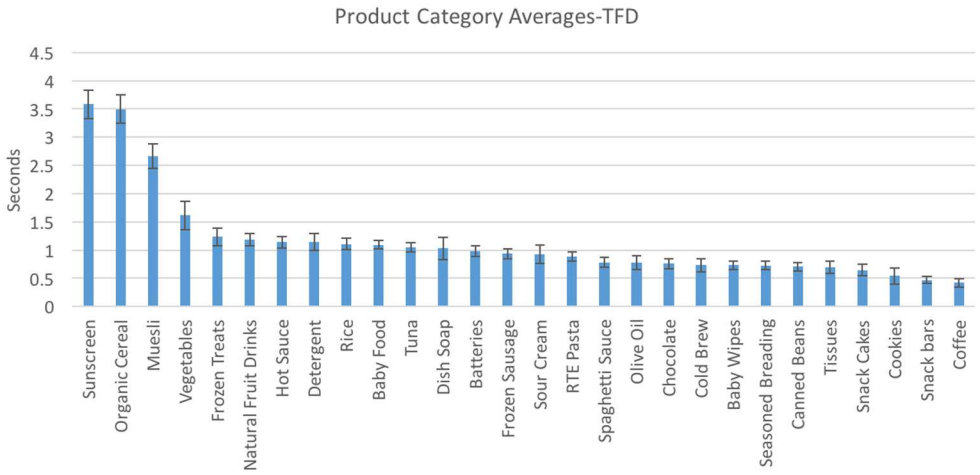

Figure 3.31. Product Category Data for the TFD Metric

Table 3.1 shows information not found in the graph including mean, standard error, and confidence intervals. Even though this data represents different categories within the retail grocery sector, it is likely that these direct category comparisons could be useful to researchers. For example, a new company can reference this data to see which categories

have a strong shelf presence and grab the attention of the consumers. Since it has been found that attention can correlate to sales, companies can use this information to focus on categories that performed well or avoid those that did not. For instance, the researchers herein met with a seasoned breading company on the performance of their product category, and the one thing that marketing directors wanted to see was a category comparison. Since their category has recently hit a decline in sales, they wanted to see how other categories performed in terms of attention.

Table 3.1. Descriptive Statistics for Product Categories (in seconds)

Product Category	Mean	Median	Std error	Lower 95%	Upper 95%
Sunscreen	3.59	3.48	0.25	3.09	4.08
Organic Cereal	3.49	3.13	0.25	3.00	3.99
Muesli	2.66	2.45	0.22	2.23	3.09
Vegetables	1.61	1.59	0.25	1.12	2.10
Frozen Treats	1.23	1.07	0.15	0.93	1.53
Natural Fruit Drinks	1.18	1.06	0.11	0.97	1.39
Hot Sauce	1.14	1.04	0.10	0.94	1.34
Detergent	1.14	1.07	0.15	0.84	1.44
Rice	1.10	0.85	0.10	0.90	1.30
Baby Food	1.09	1.00	0.08	0.94	1.24
Tuna	1.04	1.02	0.08	0.88	1.21
Dish Soap	1.03	1.00	0.19	0.65	1.41
Batteries	0.98	0.61	0.09	0.79	1.16
Frozen Sausage	0.93	0.89	0.09	0.76	1.11
Sour Cream	0.93	0.81	0.16	0.60	1.25
RTE Pasta	0.88	0.71	0.08	0.72	1.04
Spaghetti Sauce	0.78	0.70	0.09	0.61	0.95
Olive Oil	0.78	0.67	0.12	0.54	1.01
Chocolate	0.76	0.52	0.09	0.59	0.93
Cold Brew	0.73	0.42	0.12	0.50	0.96
Baby Wipes	0.73	0.65	0.08	0.57	0.88
Seasoned Breading	0.73	0.74	0.08	0.57	0.88
Canned Beans	0.70	0.69	0.07	0.56	0.84
Tissues	0.70	0.64	0.11	0.49	0.90
Snack Cakes	0.64	0.64	0.10	0.45	0.84
Cookies	0.54	0.47	0.14	0.27	0.81
Snack bars	0.47	0.39	0.06	0.34	0.59
Coffee	0.42	0.41	0.08	0.27	0.57

In Table 3.1, the mean represents the aggregate of the SKUs in each category, with this potentially being calculated two different ways to determine the overall mean. Equation (1) represents calculating the overall mean by taking an average of all of the

measurements taken in your study. For example, if there were 300 measurements in five treatments (or products in this case) this method would be adding each of those 300 measurements and divided by 300 or N. Equation (2) represents calculating the overall mean by adding each of the treatment averages (or products in this case) and dividing by the number of treatments. For example, say there 60 measurements in each product category, this method would be taking the average of each of the five product groups and dividing by five or the number of treatments. Equation (1) is not ideal for this work because in using this equation, certain means are more heavily weighted than others, so it is not be the true mean of the population. However, applying Equation (2) allows the data to be more equally weighted, especially when have unequal data points in each product category.

$$(1)\ \bar{\bar{y}} = \hat{\mu} = \sum_{IJ}^{\overline{\overline{\ }}} \frac{yi}{N}$$

$$(2)\quad \bar{\bar{y}} = \hat{\mu} = \frac{\sum Yn}{t}$$

Standard error is defined as the measure of the variability of the estimate. It is an estimate of the standard deviation of the sampling distribution and equals the standard deviation divided by the square root of the sample size. The smaller the standard error indicated a smaller spread in the sampling distribution and higher likelihood that the sample mean is closer to the population mean. In this instance the standard error represents the brand to brand variation in each product category. A confidence interval is a range of values so defined that there is a specified probability that the value of a

parameter lies within in. In other words, a confidence level is the proportion of possible confidence intervals that contain the true value of their corresponding parameter, and thus are a range of values that act as an estimator for the unknown population parameter. In order to get some estimate as to how close the calculated mean is to the parametric or true mean, upper and lows confidence intervals are often used. For example, looking at the hot sauce category in Table 3.1, the mean is 1.14 with a confidence limit of 0.94 to 1.34, so the confidence interval is 0.94 to 1.34. A 95% confidence limit is common for similar research studies and was utilized in this work, and means that if random samples were taken from a population and the mean and confidence limits were calculated for each sample, the confidence interval for 95% of your samples would be included in the parametric mean [14]. The median was also calculated due to the product category data being slightly skewed to the right. The mean is not as resistant as the median because it is affected by extreme values or outliers, however the mean includes every value in a data set as part of its calculation. The mean was used in the graphical representation of this work because it is exported when using the fit model function in the JMP software used to analyze product category differences. The JMP model used herein (ANOVA followed by pairwise test) can tell as researcher a wide range of information for a data set and is very robust against non-normality.

Along with calculating descriptive statistics for the 28 product categories, an ANOVA test was run to be able to see what significant differences existed between product categories (Table 3.2). This was done to be able to say within the 95% confidence interval that one product was looked at longer than another product or

multiple other products using a pairwise comparison test (LS Means Differences Student's t).

Table 3.2. ANOVA Summary Table for Product Categories

Source	**DF**	**SS**	**MS**	**F**	**P**
Model	27	85.74	3.18	16.86	<0.0001
Error	504	94.95	0.188		
C. Total	531	180.69			

Data were analyzed using an α equal to 0.05. The null hypothesis, which stated that no significant difference was found between the product categories, was rejected due to the fact that p<alpha ($F(27,504) = 16.86$, $p<0.0001$), indicating a significant difference between at least one product category. Using the LS Means Differences Student's t, it was found that 216 differences exist between the 28 product categories for the TFD metric. The full report can be found in Appendix A.

This data set could be used by brand owners, researchers, and marketers as a reference to their current studies or future studies, in terms of how long the participants for the study herein looked at products within a category, and going one step further of how each category compared significantly to each other. However, in this work, not only the product categories were compared, but also the products within each category. Doing such allows researchers to be able to see how a new product does against the aggregate product category or against individual products within that category of interest. For example, the vast food industry could use this tool especially when developing new products or a new version of a product or graphics. The million-dollar question to many

companies is ‘why do consumers decide one option over another.’ Even with many other potential confounding variables existing in reference to this question, the attention certain packages or package elements garner play a large role in the likelihood of purchasing that product. A benchmark of 28 CPG products and the products within each category could easily be utilized to suggest that a specific package with a specific design has an implication on consumer attention, then the modification of a similar type of package would have “x” consumer interest as well. In other words, this work is effectively building a key for new products to work with from the ground up in a contextual manner. This key could be used to identify packages, shapes, or products that have a similar aesthetic to those within the benchmark to use as a starting point to see where consumer attention lies. The data for each of the products within each product category is highlighted in Figures 3.32-3.59.

In the CPG arena, four brands and 33 SKUS for baby food were tested (Figure 3.32). Within the product category aggregates it placed 10th for the attention or TFD metric. Based on this finding, participants on average looked at SKUs within this planogram for 1.09 seconds; 95% confidence interval [Cl]= 0.94, 1.24.

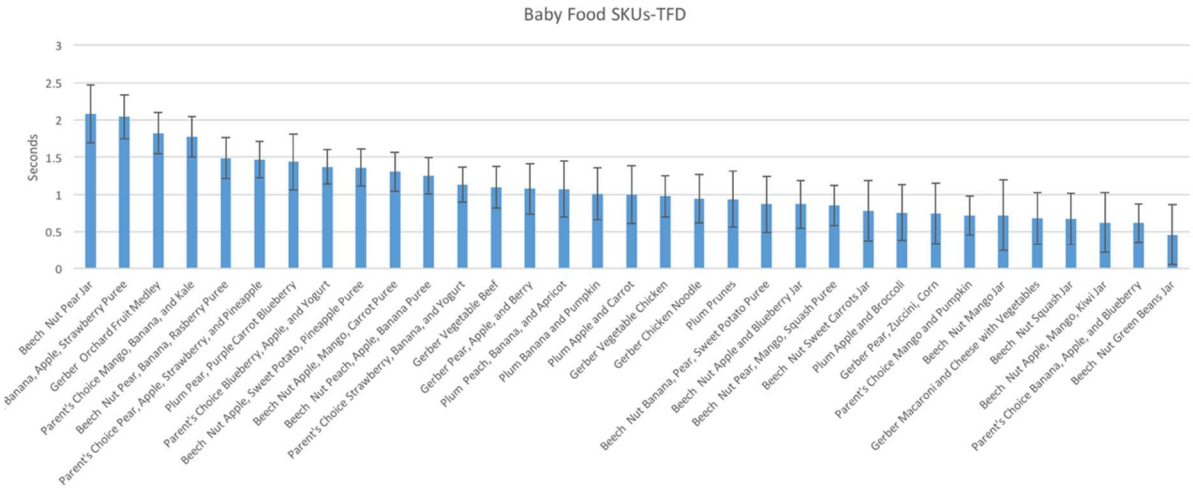

Figure 3.32. Baby Food SKUs for the TFD Metric

Both Figure 3.32 and Table 3.3 illustrate the spread of SKUs tested within the planogram. With a low of 0.46 seconds and a high of 2.08 seconds this product category had a wide range of attention.

Table 3.3. Descriptive Statistics for the Baby Food Category (in seconds)

Baby Food SKUs	Mean	Std Error	Lower 95%	Upper 95%
Beech Nut Pear Jar	2.08	0.39	1.31	2.84
Beech Nut Banana, Apple, Strawberry Puree	2.04	0.29	1.47	2.62
Gerber Orchard Fruit Medley	1.82	0.27	1.28	2.36
Parent's Choice Mango, Banana, and Kale	1.77	0.27	1.24	2.30
Beech Nut Pear, Banana, Rasberry Puree	1.49	0.27	0.95	2.03
Parent's Choice Pear, Apple, Strawberry, and Pineapple	1.47	0.24	0.99	1.94
Plum Pear, Purple Carrot Blueberry	1.44	0.37	0.70	2.17
Parent's Choice Blueberry, Apple, and Yogurt	1.37	0.23	0.92	1.82
Beech Nut Apple, Sweet Potato, Pineapple Puree	1.36	0.25	0.88	1.85
Beech Nut Apple, Mango, Carrot Puree	1.31	0.26	0.79	1.83
Beech Nut Peach, Apple, Banana Puree	1.25	0.24	0.78	1.73
Parent's Choice Strawberry, Banana, and Yogurt	1.13	0.23	0.67	1.59
Gerber Vegetable Beef	1.10	0.28	0.55	1.65
Gerber Pear, Apple, and Berry	1.08	0.34	0.42	1.74
Plum Peach, Banana, and Apricot	1.08	0.37	0.34	1.81
Plum Banana and Pumpkin	1.01	0.35	0.33	1.69
Plum Apple and Carrot	1.00	0.39	0.23	1.76
Gerber Vegetable Chicken	0.98	0.27	0.44	1.52
Gerber Chicken Noodle	0.94	0.33	0.30	1.59
Plum Prunes	0.94	0.37	0.20	1.67
Beech Nut Banana, Pear, Sweet Potato Puree	0.87	0.37	0.14	1.61
Beech Nut Apple and Blueberry Jar	0.87	0.32	0.25	1.49
Beech Nut Pear, Mango, Squash Puree	0.86	0.27	0.33	1.39
Beech Nut Sweet Carrots Jar	0.79	0.41	-0.01	1.58
Plum Apple and Broccoli	0.76	0.37	0.02	1.49
Gerber Pear, Zuccini, Corn	0.75	0.41	-0.05	1.54
Parent's Choice Mango and Pumpkin	0.72	0.26	0.21	1.23
Beech Nut Mango Jar	0.72	0.48	-0.22	1.66
Gerber Macaroni and Cheese with Vegetables	0.68	0.35	0.00	1.36
Beech Nut Squash Jar	0.67	0.35	-0.01	1.36
Beech Nut Apple, Mango, Kiwi Jar	0.62	0.41	-0.17	1.42
Parent's Choice Banana, Apple, and Blueberry	0.62	0.26	0.11	1.13
Beech Nut Green Beans Jar	0.46	0.41	-0.34	1.26

Please note that confidence intervals that reach negative values equal approximately zero. The null hypothesis, which stated that no significant differences were found between the SKUs, was rejected due to the fact that p<alpha (F(32,609) =1.7289, p=0.0083), indicating a significant difference between at least one SKU (Table 3.4). Using the LS Means Differences Student's t, it was found that 71 differences exist between the 33 SKUs tested for baby food. The full report can be found in Appendix A.

Table 3.4. ANOVA Summary Table for Baby Food

Source	**DF**	**SS**	**MS**	**F**	**P**
Model	32	100.37	3.14	1.73	0.0083
Error	609	1104.83	1.82		
C. Total	641	1205.19			

For baby wipes, four brands and 30 SKUs were tested (Figure 3.33). Within the product category aggregates it placed 21th for the attention or TFD metric. Based on this finding, participants on average looked at SKUs within this planogram for 0.73 seconds; 95% confidence interval [Cl]= 0.57, 0.88.

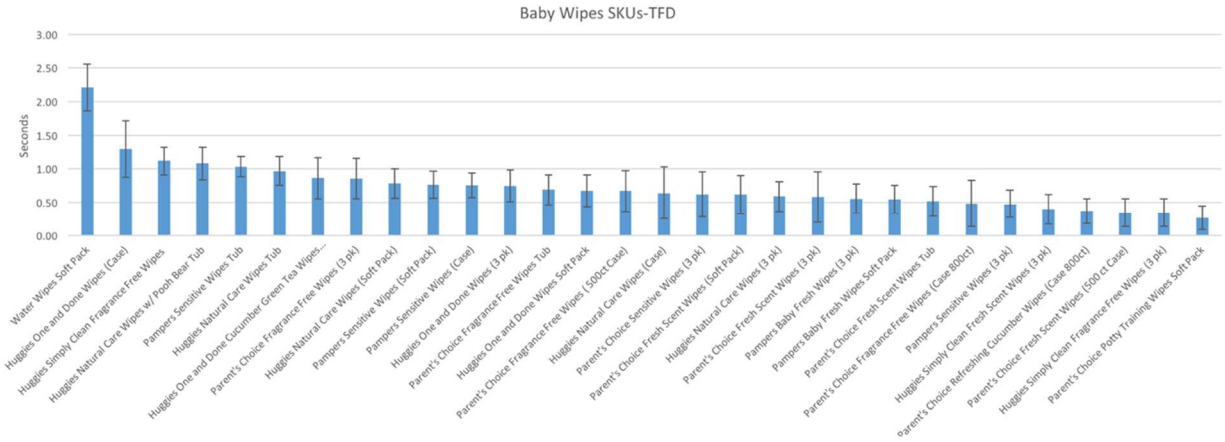

Figure 3.33. Baby Wipe SKUs for the TFD Metric

Both Figure 3.33 and Table 3.5 illustrate the spread of SKUs tested within the planogram. With a low of 0.27 seconds and a high of 2.21 seconds this product category had a wide range of attention

Table 3.5. Descriptive Statistics for the Baby Wipe Category (in seconds)

Baby Wipes SKUs	Mean	Std Error	Lower 95%	Upper 95%
Water Wipes Soft Pack	2.21	0.35	1.53	2.89
Huggies One and Done Wipes (Case)	1.29	0.42	0.46	2.12
Huggies Simply Clean Fragrance Free Wipes	1.12	0.20	0.72	1.52
Huggies Natural Care Wipes w/ Pooh Bear Tub	1.08	0.24	0.61	1.55
Pampers Sensitive Wipes Tub	1.03	0.15	0.74	1.33
Huggies Natural Care Wipes Tub	0.97	0.21	0.55	1.39
Huggies One and Done Cucumber Green Tea Wipes (Case)	0.86	0.31	0.27	1.46
Parent's Choice Fragrance Free Wipes (3 pk)	0.86	0.30	0.27	1.44
Huggies Natural Care Wipes (Soft Pack)	0.79	0.22	0.35	1.22
Pampers Sensitive Wipes (Soft Pack)	0.77	0.20	0.37	1.16
Pampers Sensitive Wipes (Case)	0.76	0.18	0.40	1.12
Huggies One and Done Wipes (3 pk)	0.75	0.24	0.28	1.22
Parent's Choice Fragrance Free Wipes Tub	0.69	0.22	0.25	1.13
Huggies One and Done Wipes Soft Pack	0.67	0.23	0.21	1.13
Parent's Choice Fragrance Free Wipes (500ct Case)	0.67	0.31	0.07	1.27
Huggies Natural Care Wipes (Case)	0.64	0.39	-0.13	1.41
Parent's Choice Sensitive Wipes (3 pk)	0.62	0.34	-0.04	1.28
Parent's Choice Fresh Scent Wipes (Soft Pack)	0.62	0.29	0.05	1.18
Huggies Natural Care Wipes (3 pk)	0.59	0.22	0.15	1.03
Parent's Choice Fresh Scent Wipes (3 pk)	0.58	0.38	-0.16	1.32
Pampers Baby Fresh Wipes (3 pk)	0.56	0.22	0.12	0.99
Pampers Baby Fresh Wipes Soft Pack	0.54	0.21	0.13	0.96
Parent's Choice Fresh Scent Wipes Tub	0.51	0.22	0.08	0.95
Parent's Choice Fragrance Free Wipes (Case 800ct)	0.48	0.35	-0.20	1.16
Pampers Sensitive Wipes (3 pk)	0.48	0.20	0.08	0.88
Huggies Simply Clean Fresh Scent Wipes (3 pk)	0.40	0.22	-0.04	0.83
Parent's Choice Refreshing Cucumber Wipes (Case 800ct)	0.37	0.19	-0.59	1.33
Parent's Choice Fresh Scent Wipes (500 ct Case)	0.35	0.21	-0.26	0.96
Huggies Simply Clean Fragrance Free Wipes (3 pk)	0.34	0.21	-0.07	0.75
Parent's Choice Potty Training Wipes Soft Pack	0.27	0.18	-0.35	0.88

Please note that confidence intervals that reach negative values equal approximately zero. The null hypothesis, which stated that no significant differences were found between the SKUs, was rejected due to the fact that p<alpha (F(29,1047) =1.62, p=0.0204), indicating a significant difference between at least one SKU (Table 3.6). Using the LS Means Differences Student's t, it was found that 22 differences exist between the 30 SKUs tested for baby wipes. The full report can be found in Appendix A.

Table 3.6. ANOVA Summary Table for Baby Wipes

Source	**DF**	**SS**	**MS**	**F**	**P**
Model	29	100.97	3.48	1.62	0.0204
Error	1047	2246.59	2.15		
C. Total	1076	2347.59			

For batteries, four brands and 21 SKUs were tested (Figure 3.34). This product category placed 13th amongst the product category aggregates for the TFD metric. Based on this finding, participants on average looked at SKUs within this planogram for 0.98 seconds; 95% confidence interval [Cl]= 0.79, 1.16.

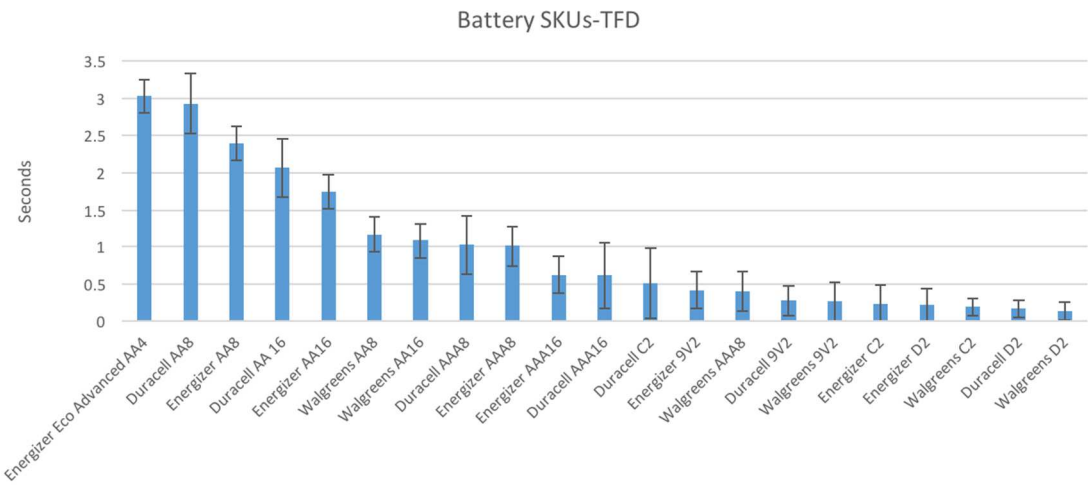

Figure 3.34. Battery SKUs for the TFD Metric

Both Figure 3.34 and Table 3.7 illustrate the spread of SKUs tested within the planogram. With a low of 0.14 seconds and a high of 3.03, the attention for this category spanned a wide range.

Table 3.7. Descriptive Statistics for the Battery Category (in seconds)

Battery SKUs	Mean	Std Error	Lower 95%	Upper 95%
Energizer Eco Advanced AA4	3.03	0.22	2.59	3.47
Duracell AA8	2.93	0.40	2.14	3.72
Energizer AA8	2.40	0.23	1.95	2.84
Duracell AA 16	2.07	0.39	1.30	2.83
Energizer AA16	1.75	0.23	1.30	2.20
Walgreens AA8	1.17	0.24	0.69	1.64
Walgreens AA16	1.08	0.23	0.62	1.54
Duracell AAA8	1.02	0.40	0.25	1.80
Energizer AAA8	1.01	0.27	0.47	1.55
Energizer AAA16	0.62	0.25	0.13	1.11
Duracell AAA16	0.61	0.44	-0.25	1.48
Duracell C2	0.51	0.47	-0.41	1.42
Energizer 9V2	0.42	0.25	-0.06	0.90
Walgreens AAA8	0.40	0.26	-0.12	0.92
Duracell 9V2	0.28	0.20	-0.70	1.25
Walgreens 9V2	0.26	0.26	-0.31	0.83
Energizer C2	0.23	0.25	-0.25	0.72
Energizer D2	0.22	0.22	-0.32	0.77
Walgreens C2	0.19	0.12	-0.43	0.81
Duracell D2	0.17	0.12	-1.02	1.35
Walgreens D2	0.14	0.12	-0.53	0.80

Please note that confidence intervals that reach negative values equal approximately zero. The null hypothesis, which stated that no significant differences were found between the SKUs, was rejected due to the fact that $p<alpha$ ($F(20,1347) =10.78$, $p<0.0001$),

indicating a significant difference between at least one SKU (Table 3.8). Using the LS Means Differences Student's t, it was found that 101 differences exist between the 21 SKUs tested for batteries. The full report can be found in Appendix A.

Table 3.8. ANOVA Summary Table for Batteries

Source	**DF**	**SS**	**MS**	**F**	**P**
Model	20	11178.04	58.90	10.78	<0.0001
Error	1346	7353.88	5.46		
C. Total	1366	8531.92			

The canned beans category represented seven brands and 37 SKUs (Figure 3.35). This product category placed 23th amongst the product category aggregates for the TFD metric. Based on this finding, participants on average looked at SKUs within this planogram for 0.70 seconds; 95% confidence interval [Cl]= 0.56, 0.84.

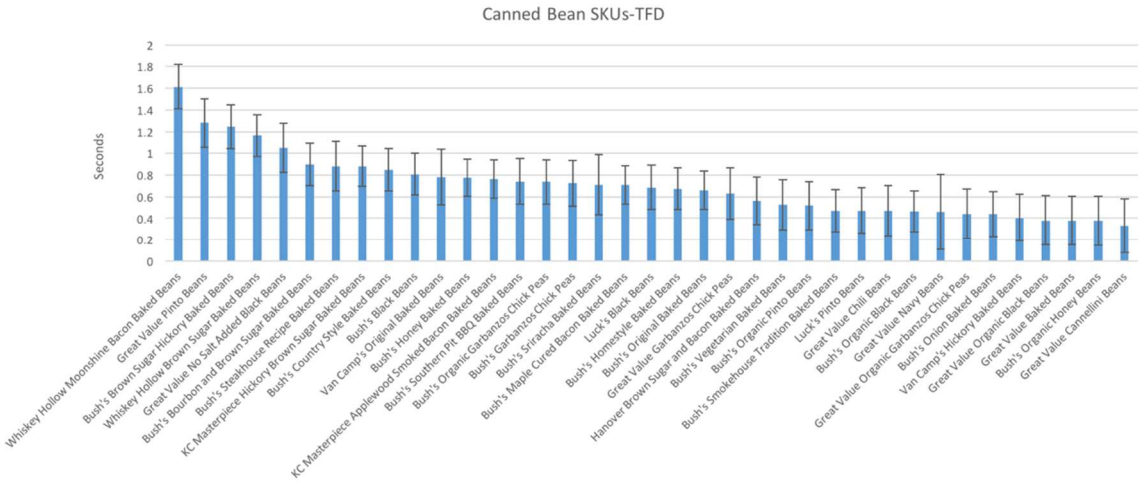

Figure 3.35. Canned Bean SKUs for the TFD Metric

Both Figure 3.35 and Table 3.9 illustrate the wide range of attention values for the SKUs within the planogram, ranging from 0.33 seconds to 1.62 seconds

Table 3.9. Descriptive Statistics for the Canned Beans Category (in seconds)

Canned Beans SKUs	Mean	Std Error	Lower 95%	Upper 95%
Whiskey Hollow Moonshine Bacon Baked Beans	1.62	0.21	1.21	2.02
Great Value Pinto Beans	1.28	0.22	0.84	1.72
Bush's Brown Sugar Hickory Baked Beans	1.25	0.20	0.85	1.64
Whiskey Hollow Brown Sugar Baked Beans	1.17	0.19	0.79	1.54
Great Value No Salt Added Black Beans	1.05	0.22	0.61	1.49
Bush's Bourbon and Brown Sugar Baked Beans	0.90	0.20	0.51	1.29
Bush's Steakhouse Recipe Baked Beans	0.88	0.23	0.43	1.34
KC Masterpiece Hickory Brown Sugar Baked Beans	0.88	0.19	0.51	1.25
Bush's Country Style Baked Beans	0.85	0.20	0.46	1.24
Bush's Black Beans	0.81	0.19	0.43	1.19
Van Camp's Original Baked Beans	0.78	0.26	0.28	1.28
Bush's Honey Baked Beans	0.78	0.17	0.44	1.11
KC Masterpiece Applewood Smoked Bacon Baked Beans	0.76	0.18	0.41	1.11
Bush's Southern Pit BBQ Baked Beans	0.74	0.21	0.32	1.16
Bush's Organic Garbanzos Chick Peas	0.74	0.21	0.33	1.14
Bush's Garbanzos Chick Peas	0.72	0.21	0.31	1.14
Bush's Sriracha Baked Beans	0.71	0.28	0.16	1.26
Bush's Maple Cured Bacon Baked Beans	0.71	0.18	0.36	1.06
Luck's Black Beans	0.69	0.21	0.28	1.09
Bush's Homestyle Baked Beans	0.67	0.19	0.30	1.05
Bush's Original Baked Beans	0.66	0.18	0.31	1.01
Great Value Garbanzos Chick Peas	0.63	0.24	0.16	1.09
Hanover Brown Sugar and Bacon Baked Beans	0.56	0.22	0.14	0.99
Bush's Vegetarian Baked Beans	0.52	0.23	0.07	0.98
Bush's Organic Pinto Beans	0.52	0.22	0.08	0.96
Bush's Smokehouse Tradition Baked Beans	0.47	0.20	0.09	0.86
Luck's Pinto Beans	0.47	0.21	0.06	0.89
Great Value Chili Beans	0.47	0.23	0.02	0.92
Bush's Organic Black Beans	0.47	0.19	0.10	0.84
Great Value Navy Beans	0.46	0.35	-0.23	1.15
Great Value Organic Garbanzos Chick Peas	0.44	0.23	-0.01	0.90
Bush's Onion Baked Beans	0.44	0.21	0.03	0.84
Van Camp's Hickory Baked Beans	0.41	0.22	-0.02	0.83
Great Value Organic Black Beans	0.38	0.23	-0.07	0.83
Great Value Baked Beans	0.38	0.22	-0.06	0.82
Bush's Organic Honey Beans	0.38	0.23	-0.08	0.83
Great Value Cannellini Beans	0.33	0.25	-0.36	1.01

Please note that confidence intervals that reach negative values equal approximately zero. The null hypothesis, which stated that no significant differences were found between the SKUs, was rejected due to the fact that p<alpha ($F(36,667) = 1.80$, $p = 0.0033$), indicating a significant difference between at least one SKU (Table 3.10). Using the LS Means Differences Student's t, it was found that 94 differences exist between the 37 SKUs tested for canned beans. The full report can be found in Appendix A.

Table 3.10. ANOVA Summary Table for Canned Beans

Source	DF	SS	MS	F	P
Model	36	55.12	1.53	1.80	0.0033
Error	667	568.30	0.85		
C. Total	703	623.43			

The chocolate category represented ten brands and 25 SKUs (Figure 3.36). This product category placed 19th amongst the product category aggregates for the TFD metric. Based on this finding, participants on average looked at SKUs within this planogram for 0.76 seconds; 95% confidence interval [Cl]= 0.59, 0.93.

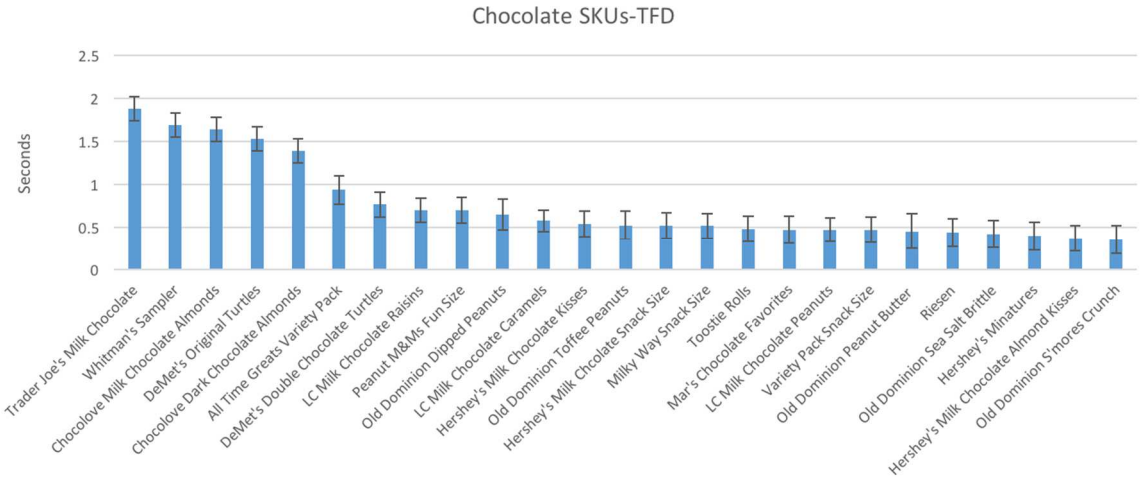

Figure 3.36. Chocolate SKUs for the TFD Metric

Both Figure 3.36 and Table 3.11 illustrate the wide range of attention values for the SKUs within the planogram, ranging from 0.36 seconds to 1.88 seconds.

Table 3.11. Descriptive Statistics for the Chocolate Category (in seconds)

Chocolate SKUs	Mean	Std Error	Lower 95%	Upper 95%
Trader Joe's Milk Chocolate	1.88	0.14	1.61	2.15
Whitman's Sampler	1.69	0.14	1.42	1.96
Chocolove Milk Chocolate Almonds	1.64	0.14	1.36	1.92
DeMet's Original Turtles	1.53	0.14	1.25	1.81
Chocolove Dark Chocolate Almonds	1.39	0.14	1.11	1.67
All Time Greats Variety Pack	0.94	0.17	0.62	1.26
DeMet's Double Chocolate Turtles	0.77	0.15	0.48	1.06
LC Milk Chocolate Raisins	0.70	0.14	0.43	0.98
Peanut M&Ms Fun Size	0.70	0.15	0.40	1.00
Old Dominion Dipped Peanuts	0.65	0.18	0.29	1.01
LC Milk Chocolate Caramels	0.58	0.12	0.33	0.82
Hershey's Milk Chocolate Kisses	0.54	0.15	0.24	0.84
Old Dominion Toffee Peanuts	0.52	0.16	0.20	0.84
Hershey's Milk Chcolate Snack Size	0.52	0.15	0.22	0.82
Milky Way Snack Size	0.52	0.14	0.24	0.79
Toostie Rolls	0.48	0.15	0.19	0.77
Mar's Chocolate Favorites	0.47	0.16	0.16	0.79
LC Milk Chocolate Peanuts	0.47	0.14	0.19	0.75
Variety Pack Snack Size	0.47	0.15	0.18	0.76
Old Dominion Peanut Butter	0.46	0.21	0.05	0.86
Riesen	0.44	0.17	0.11	0.76
Old Dominion Sea Salt Brittle	0.42	0.16	0.11	0.74
Hershey's Minatures	0.40	0.16	0.08	0.72
Hershey's Milk Chocolate Almond Kisses	0.37	0.15	0.08	0.67
Old Dominion S'mores Crunch	0.36	0.16	0.03	0.68

The null hypothesis, which stated that no significant differences were found between the SKUs, was rejected due to the fact that p<alpha ($F(24,1290) = 10.52$, $p<0.0001$), indicating a significant difference between at least one SKU (Table 3.12). Using the LS Means Differences Student's t, it was found that 111 differences exist between the 25 SKUs tested for chocolate. The full report can be found in Appendix A.

Table 3.12. ANOVA Summary Table for Chocolate

Source	**DF**	**SS**	**MS**	**F**	**P**
Model	24	303.42	12.64	10.52	<0.0001
Error	1290	1550.53	1.20		
C. Total	1314	1853.95			

The coffee category represented 21 brands and 34 SKUs (Figure 3.37). This product category placed 28th amongst the product category aggregates for the TFD

metric. Based on this finding, participants on average looked at SKUs within this planogram for 0.42 seconds; 95% confidence interval [Cl]= 0.27, 0.57.

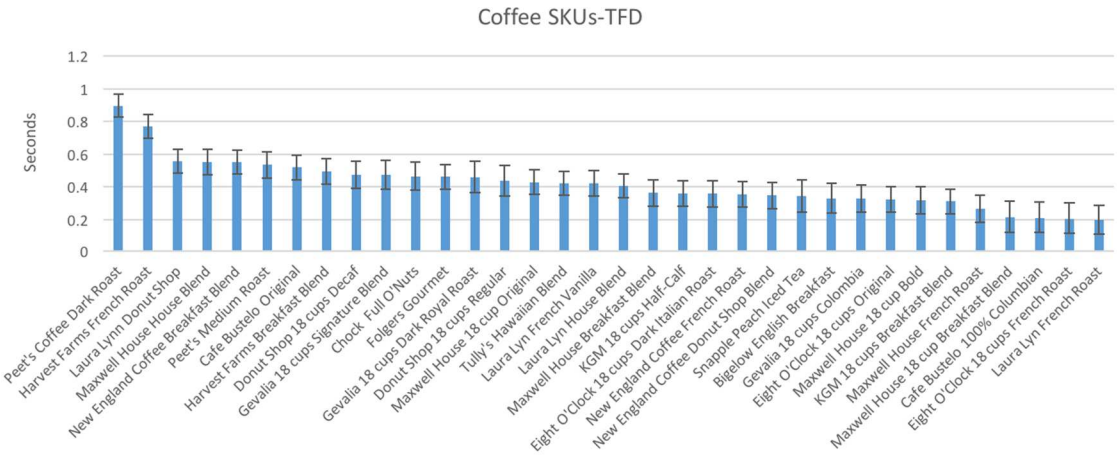

Figure 3.37. Coffee SKUs for the TFD Metric

Both Figure 3.37 and Table 3.13 illustrate the wide range of attention values for the SKUs within the planogram, ranging from 0.20 seconds to 0.89 seconds

Table 3.13. Descriptive Statistics for the Coffee Category (in seconds)

Coffee SKUs	Mean	Std Error	Lower 95%	Upper 95%
Peet's Coffee Dark Roast	0.89	0.07	0.76	1.03
Harvest Farms French Roast	0.77	0.07	0.63	0.91
Laura Lynn Donut Shop	0.55	0.07	0.41	0.70
Maxwell House House Blend	0.55	0.08	0.40	0.70
New England Coffee Breakfast Blend	0.55	0.07	0.41	0.69
Peet's Medium Roast	0.53	0.08	0.38	0.69
Cafe Bustelo Original	0.52	0.07	0.37	0.66
Harvest Farms Breakfast Blend	0.49	0.08	0.34	0.65
Donut Shop 18 cups Decaf	0.48	0.08	0.31	0.64
Gevalia 18 cups Signature Blend	0.47	0.09	0.30	0.65
Chock Full O'Nuts	0.46	0.08	0.30	0.63
Folgers Gourmet	0.46	0.08	0.31	0.61
Gevalia 18 cups Dark Royal Roast	0.46	0.10	0.27	0.65
Donut Shop 18 cups Regular	0.44	0.09	0.25	0.62
Maxwell House 18 cup Original	0.43	0.08	0.28	0.58
Tully's Hawaiian Blend	0.42	0.07	-0.97	1.81
Laura Lyn French Vanilla	0.42	0.08	0.27	0.57
Laura Lyn House Blend	0.40	0.07	0.26	0.55
Maxwell House Breakfast Blend	0.36	0.08	0.20	0.52
KGM 18 cups Half-Calf	0.36	0.08	0.20	0.51
Eight O'Clock 18 cups Dark Italian Roast	0.36	0.08	0.20	0.52
New England Coffee French Roast	0.35	0.08	0.20	0.51
New England Coffee Donut Shop Blend	0.35	0.08	0.19	0.51
Snapple Peach Iced Tea	0.34	0.10	0.15	0.53
Bigelow English Breakfast	0.33	0.09	0.15	0.50
Gevalia 18 cups Colombia	0.33	0.08	0.17	0.49
Eight O'Clock 18 cups Original	0.32	0.08	0.17	0.48
Maxwell House 18 cup Bold	0.32	0.08	0.16	0.48
KGM 18 cups Breakfast Blend	0.31	0.08	0.16	0.46
Maxwell House French Roast	0.27	0.08	0.10	0.43
Maxwell House 18 cup Breakfast Blend	0.21	0.10	0.02	0.41
Cafe Bustelo 100% Columbian	0.21	0.10	0.02	0.40
Eight O'Clock 18 cups French Roast	0.20	0.10	0.01	0.39
Laura Lyn French Roast	0.20	0.09	0.02	0.37

Please note that confidence intervals that reach negative values equal approximately zero. The null hypothesis, which stated that no significant differences were found between the SKUs, was rejected due to the fact that p<alpha ($F(33,2483) = 3.58$, $p<0.0001$), indicating a significant difference between at least one SKU (Table 3.14). Using the LS Means Differences Student's t, it was found that 125 significant differences exist between the 34 SKUs tested for coffee. The full report can be found in Appendix A.

Table 3.14. ANOVA Summary Table for Coffee

Source	DF	SS	MS	F	P
Model	33	59.66	1.81	13.58	<0.0001
Error	2483	1252.76	0.50		
C. Total	2516	1312.42			

The cold brew category represented five brands and 14 SKUs (Figure 3.38). This product category placed 20th amongst the product category aggregates for the TFD metric. Based on this finding, participants on average looked at SKUs within this planogram for 0.73 seconds; 95% confidence interval [Cl]= 0.50, 0.96.

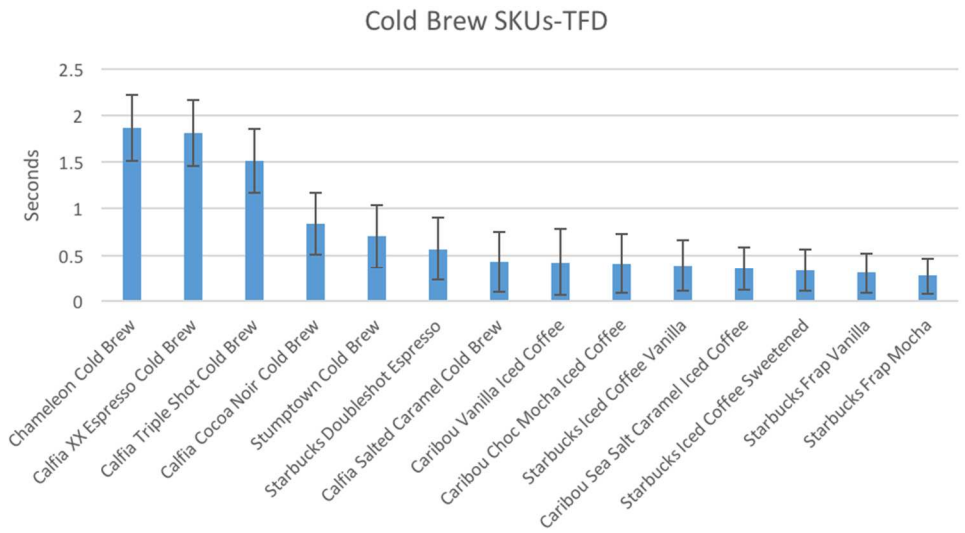

Figure 3.38. Cold Brew SKUs for the TFD Metric

Both Figure 3.38 and Table 3.15 illustrate the wide range of attention values for the SKUs within the planogram, ranging from 0.27 seconds to 1.86 seconds.

Table 3.15. Descriptive Statistics for the Cold Brew Category (in seconds)

Cold Brew SKUs	Mean	Std Error	Lower 95%	Upper 95%
Chameleon Cold Brew	1.86	0.35	1.16	2.56
Calfia XX Espresso Cold Brew	1.81	0.35	1.12	2.51
Calfia Triple Shot Cold Brew	1.51	0.34	0.84	2.18
Calfia Cocoa Noir Cold Brew	0.84	0.33	0.19	1.49
Stumptown Cold Brew	0.70	0.34	0.03	1.37
Starbucks Doubleshot Espresso	0.57	0.34	-0.10	1.24
Calfia Salted Caramel Cold Brew	0.43	0.33	-0.22	1.08
Caribou Vanilla Iced Coffee	0.42	0.36	-0.25	1.10
Caribou Choc Mocha Iced Coffee	0.41	0.32	-0.26	1.08
Starbucks Iced Coffee Vanilla	0.39	0.28	-0.26	1.04
Caribou Sea Salt Caramel Iced Coffee	0.36	0.23	-0.32	1.03
Starbucks Iced Coffee Sweetened	0.34	0.22	-0.31	0.99
Starbucks Frap Vanilla	0.31	0.21	-0.34	0.96
Starbucks Frap Mocha	0.27	0.19	-0.38	0.92

Please note that confidence intervals that reach negative values equal approximately zero. The null hypothesis, which stated that no significant differences were found between the SKUs, was rejected due to the fact that p<alpha ($F(13,186) = 2.69$, $p=0.0017$), indicating a significant difference between at least one SKU (Table 3.16). Using the LS Means Differences Student's t, it was found that 31 significant differences exist between the 14 SKUs tested for cold brew. The full report can be found in Appendix A.

Table 3.16. ANOVA Summary Table for Cold Brew

Source	**DF**	**SS**	**MS**	**F**	**P**
Model	13	56.95	4.38	2.69	0.0017
Error	186	302.95	1.62		
C. Total	199	359.90			

The cookie category represented six brands and ten SKUs (Figure 3.39). This product category placed 26th amongst the product category aggregates for the TFD metric. Based on this finding, participants on average looked at SKUs within this planogram for 0.54 seconds; 95% confidence interval [Cl]= 0.27, 0.81.

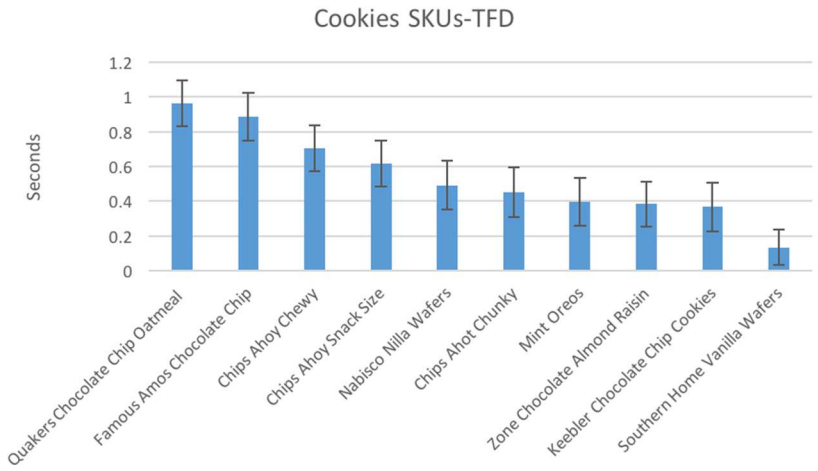

Figure 3.39. Cookie SKUs for the TFD Metric

Both Figure 3.39 and Table 3.17 illustrate the wide range of attention values for the SKUs within the planogram, ranging from 0.13 seconds to 0.96 seconds.

Table 3.17. Descriptive Statistics for the Cookie Category (in seconds)

Cookie SKUs	Mean	Std Error	Lower 95%	Upper 95%
Quakers Chocolate Chip Oatmeal	0.96	0.13	0.70	1.22
Famous Amos Chocolate Chip	0.89	0.14	0.61	1.16
Chips Ahoy Chewy	0.70	0.13	0.44	0.97
Chips Ahoy Snack Size	0.62	0.13	0.36	0.88
Nabisco Nilla Wafers	0.49	0.14	0.22	0.77
Chips Ahot Chunky	0.45	0.15	0.17	0.74
Mint Oreos	0.39	0.14	0.12	0.66
Zone Chocolate Almond Raisin	0.38	0.13	0.12	0.64
Keebler Chocolate Chip Cookies	0.37	0.14	0.09	0.64
Southern Home Vanilla Wafers	0.13	0.10	-0.18	0.44

Please note that confidence intervals that reach negative values equal approximately zero. The null hypothesis, which stated that no significant differences were found between the SKUs, was rejected due to the fact that p<alpha ($F(9,277) = 3.28$, $p = 0.0017$), indicating a significant difference between at least one SKU (Table 3.18). Using the LS Means Differences Student's t, it was found that 14 significant differences exist between the ten SKUs tested for cookies. The full report can be found in Appendix A.

Table 3.18. ANOVA Summary Table for Cookies

Source	DF	SS	MS	F	P
Model	9	16.17	1.80	3.28	0.0008
Error	277	151.67	0.55		
C. Total	286	167.83			

The detergent category represented three brands and eight SKUs (Figure 3.40). This product category placed 8th amongst the product category aggregates for the TFD metric. Based on this finding, participants on average looked at SKUs within this planogram for 1.14 seconds; 95% confidence interval [Cl]= 0.84, 1.44.

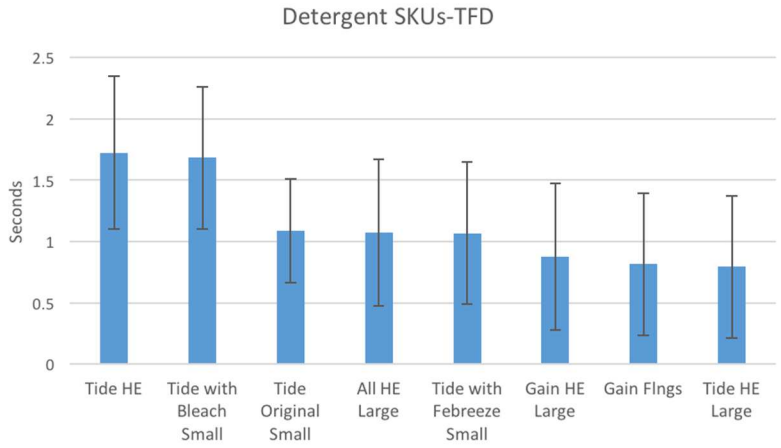

Figure 3.40. Detergent SKUs for the TFD Metric

Both Figure 3.40 and Table 3.19 illustrate the wide range of attention values for the SKUs within the planogram, ranging from 0.79 seconds to 1.73 seconds.

Table 3.19. Descriptive Statistics for the Detergent Category (in seconds)

Detergent SKUs	Mean	Std Error	Lower 95%	Upper 95%
Tide HE	1.73	0.63	0.49	2.96
Tide with Bleach Small	1.68	0.58	0.54	2.83
Tide Original Small	1.09	0.43	0.24	1.93
All HE Large	1.07	0.60	-0.12	2.26
Tide with Febreeze Small	1.07	0.58	-0.08	2.22
Gain HE Large	0.88	0.60	-0.32	2.07
Gain Flngs	0.82	0.58	-0.33	1.96
Tide HE Large	0.79	0.58	-0.36	1.94

Please note that confidence intervals that reach negative values equal approximately zero. The null hypothesis, which stated that no significant differences were found between the SKUs, failed to be rejected due to the fact that p>alpha ($F(7,112) = 0.38$, $p=0.91$), indicating no significant difference between the various SKUs (Table 3.20).

Table 3.20. ANOVA Summary Table for Detergent

Source	**DF**	**SS**	**MS**	**F**	**P**
Model	7	12.51	1.79	0.38	0.91
Error	112	526.36	4.70		
C. Total	119	538.89			

The detergent category represented three brands and five SKUs (Figure 3.41). This product category placed 12th amongst the product category aggregates for the TFD metric. Based on this finding, participants on average looked at SKUs within this planogram for 1.03 seconds; 95% confidence interval [Cl]= 0.65, 1.41.

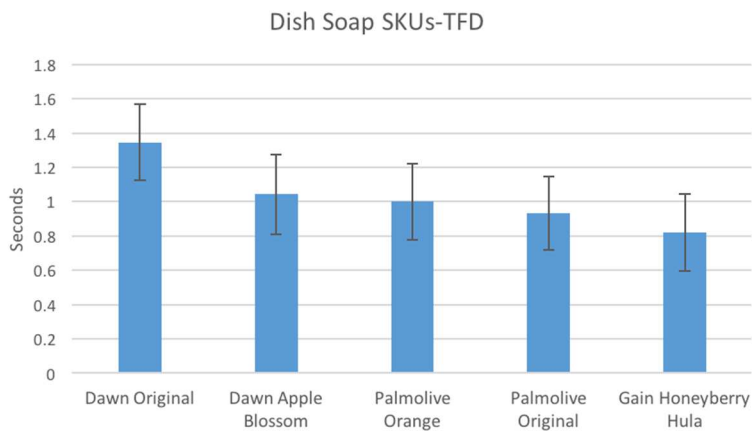

Figure 3.41. Dish Soap SKUs for the TFD Metric

Both Figure 3.41 and Table 3.21 illustrate the wide range of attention values for the SKUs within the planogram, ranging from 0.82 seconds to 1.35 seconds

Table 3.21. Descriptive Statistics for the Dish Soap Category (in seconds)

Dish Soap SKUs	Mean	Std Error	Lower 95%	Upper 95%
Dawn Original	1.35	0.22	0.91	1.78
Dawn Apple Blossom	1.04	0.23	0.59	1.50
Palmolive Orange	1.00	0.22	0.56	1.44
Palmolive Original	0.93	0.21	0.51	1.36
Gain Honeyberry Hula	0.82	0.22	0.38	1.26

The null hypothesis, which stated that no significant differences were found between the SKUs, failed to be rejected due to the fact that p>alpha ($F(4,157) = 0.79$, $p=0.53$), indicating no significant difference between the various SKUs (Table 3.22).

Table 3.22. ANOVA Summary Table for Dish Soap

Source	**DF**	**SS**	**MS**	**F**	**P**
Model	4	5.05	1.26	0.79	0.53
Error	157	251.64	1.60		
C. Total	161	256.69			

The frozen sausage category represented four brands and 24 SKUs (Figure 3.42). This product category placed 14th amongst the product category aggregates for the TFD metric. Based on this finding, participants on average looked at SKUs within this planogram for 0.93 seconds; 95% confidence interval [Cl]= 0.76, 1.11.

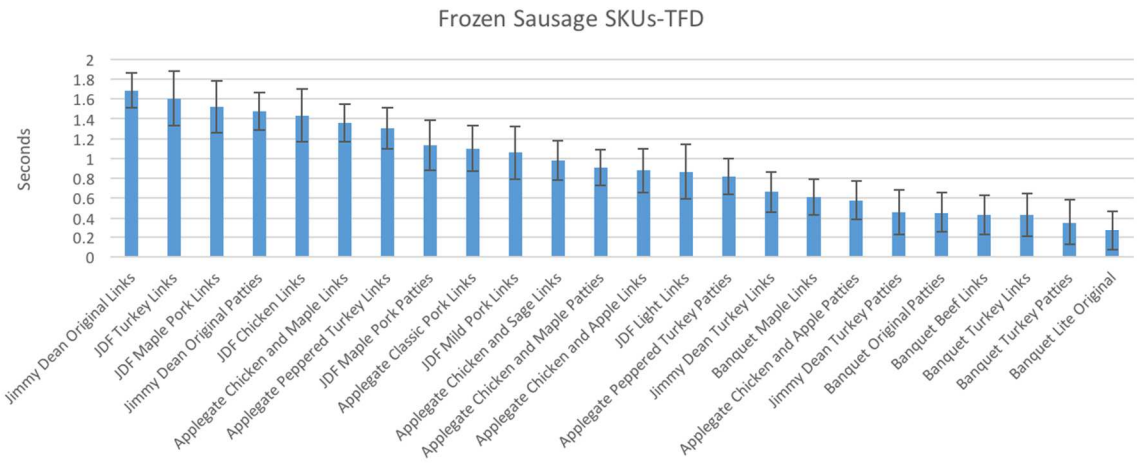

Figure 3.42. Frozen Sausage SKUs for the TFD Metric

Both Figure 42 and Table 3.23 illustrate the wide range of attention values for the SKUs within the planogram, ranging from 0.27 seconds to 1.69 second

Table 3.23. Descriptive Statistics for the Frozen Sausage Category (in seconds)

Frozen Sausage SKUs	Mean	Std Error	Lower 95%	Upper 95%
Jimmy Dean Original Links	1.69	0.18	1.34	2.03
JDF Turkey Links	1.61	0.27	1.07	2.14
JDF Maple Pork Links	1.52	0.26	1.01	2.03
Jimmy Dean Original Patties	1.47	0.19	1.10	1.85
JDF Chicken Links	1.44	0.27	0.91	1.96
Applegate Chicken and Maple Links	1.36	0.19	0.99	1.74
Applegate Peppered Turkey Links	1.31	0.21	0.90	1.72
JDF Maple Pork Patties	1.14	0.25	0.64	1.63
Applegate Classic Pork Links	1.10	0.23	0.65	1.55
JDF Mild Pork Links	1.06	0.27	0.54	1.58
Applegate Chicken and Sage Links	0.98	0.20	0.59	1.38
Applegate Chicken and Maple Patties	0.91	0.18	0.55	1.27
Applegate Chicken and Apple Links	0.88	0.22	0.45	1.30
JDF Light Links	0.87	0.27	0.33	1.40
Applegate Peppered Turkey Patties	0.82	0.18	0.47	1.17
Jimmy Dean Turkey Links	0.66	0.20	0.27	1.06
Banquet Maple Links	0.61	0.18	0.26	0.96
Applegate Chicken and Apple Patties	0.58	0.19	0.20	0.96
Jimmy Dean Turkey Patties	0.46	0.23	0.00	0.91
Banquet Original Patties	0.45	0.20	0.06	0.85
Banquet Beef Links	0.43	0.20	0.03	0.83
Banquet Turkey Links	0.43	0.22	0.00	0.86
Banquet Turkey Patties	0.35	0.23	-0.09	0.80
Banquet Lite Original	0.27	0.20	-0.16	0.70

Please note that confidence intervals that reach negative values equal approximately zero. The null hypothesis, which stated that no significant differences were found between the SKUs, was rejected due to the fact that p<alpha ($F(23,922) = 4.19$, $p<0.0001$), indicating a significant difference between at least one SKU (Table 3.24). Using the LS Means Differences Student's t, it was found that 99 significant differences exist between the 24 SKUs tested for frozen sausage. The full report can be found in Appendix A.

Table 3.24. ANOVA Summary Table for Frozen Sausage

Source	**DF**	**SS**	**MS**	**F**	**P**
Model	23	171.36	7.45	4.19	<0.0001
Error	922	1640.99	1.78		
C. Total	945	1812.35			

The frozen treats category represented seven brands and eight SKUs (Figure 3.43). This product category placed 5th amongst the product category aggregates for the TFD metric. Based on this finding, participants on average looked at SKUs within this planogram for 1.23 seconds; 95% confidence interval [Cl]= 0.93, 1.53.

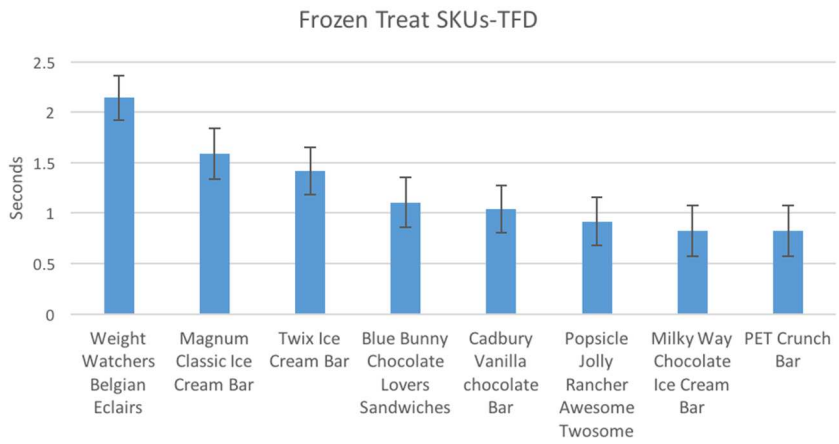

Figure 3.43. Frozen Treats SKUs for the TFD Metric

Both Figure 3.43 and Table 3.25 illustrate the wide range of attention values for the SKUs within the planogram, ranging from 0.87 seconds to 2.14 seconds

Table 3.25. Descriptive Statistics for the Frozen Treat Category (in seconds)

Frozen Treat SKUs	Mean	Std Error	Lower 95%	Upper 95%
Weight Watchers Belgian Eclairs	2.14	0.22	1.71	2.57
Magnum Classic Ice Cream Bar	1.59	0.25	1.10	2.08
Twix Ice Cream Bar	1.42	0.23	0.96	1.88
Blue Bunny Chocolate Lovers Sandwiches	1.11	0.24	0.63	1.59
Cadbury Vanilla chocolate Bar	1.04	0.23	0.58	1.50
Popsicle Jolly Rancher Awesome Twosome	0.92	0.24	0.45	1.38
Milky Way Chocolate Ice Cream Bar	0.82	0.25	0.32	1.33
PET Crunch Bar	0.82	0.25	0.32	1.32

The null hypothesis, which stated that no significant differences were found between the SKUs, was rejected due to the fact that p<alpha ($F(7,298) = 4.00$, $p=0.0003$), indicating a significant difference between at least one SKU (Table 3.26). Using the LS Means

Differences Student's t, it was found that 9 significant differences exist between the eight SKUs tested for frozen treats. The full report can be found in Appendix A.

Table 3.26. ANOVA Summary Table for Frozen Treats

Source	**DF**	**SS**	**MS**	**F**	**P**
Model	7	61.61	8.80	4.00	0.0003
Error	298	656.36	2.20		
C. Total	305	717.97			

The hot sauce category represented nine brands and 19 SKUs (Figure 3.44). This product category placed 7th amongst the product category aggregates for the TFD metric. Based on this finding, participants on average looked at SKUs within this planogram for 1.14 seconds; 95% confidence interval [Cl]= 0.94, 1.34.

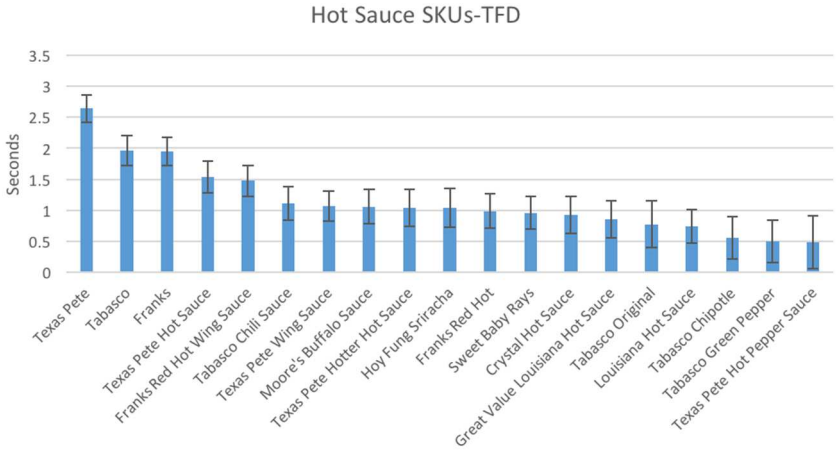

Figure 3.44. Hot Sauce SKUs for the TFD Metric

Both Figure 3.44 and Table 3.27 illustrate the wide range of attention values for the SKUs within the planogram, ranging from 0.48 seconds to 2.65 seconds.

Table 3.27. Descriptive Statistics for the Hot Sauce Category (in seconds)

Hot Sauce SKUs	Mean	Std Error	Lower 95%	Upper 95%
Texas Pete	2.65	0.22	2.21	3.08
Tabasco	1.96	0.24	1.49	2.43
Franks	1.95	0.23	1.51	2.40
Texas Pete Hot Sauce	1.53	0.25	1.03	2.03
Franks Red Hot Wing Sauce	1.48	0.25	0.99	1.96
Tabasco Chili Sauce	1.11	0.27	0.58	1.64
Texas Pete Wing Sauce	1.07	0.25	0.59	1.55
Moore's Buffalo Sauce	1.06	0.27	0.52	1.60
Texas Pete Hotter Hot Sauce	1.04	0.30	0.46	1.62
Hoy Fung Sriracha	1.04	0.31	0.43	1.65
Franks Red Hot	0.99	0.27	0.45	1.53
Sweet Baby Rays	0.96	0.27	0.44	1.48
Crystal Hot Sauce	0.93	0.30	0.35	1.51
Great Value Louisiana Hot Sauce	0.86	0.30	0.27	1.45
Tabasco Original	0.77	0.38	0.02	1.52
Louisiana Hot Sauce	0.74	0.27	0.21	1.27
Tabasco Chipotle	0.56	0.34	-0.11	1.23
Tabasco Green Pepper	0.50	0.34	-0.17	1.16
Texas Pete Hot Pepper Sauce	0.48	0.43	-0.36	1.32

Please note that confidence intervals that reach negative values equal approximately zero. The null hypothesis, which stated that no significant differences were found between the SKUs, was rejected due to the fact that p<alpha ($F(18, 524) = 4.73$, $p<0.0001$), indicating a significant difference between at least one SKU (Table 3.28). Using the LS Means Differences Student's t, it was found that 54 significant differences exist between the 19 SKUs tested for hot sauce. The full report can be found in Appendix A.

Table 3.28. ANOVA Summary Table for Hot Sauce

Source	**DF**	**SS**	**MS**	**F**	**P**
Model	18	186.05	10.34	4.73	<0.0001
Error	524	1145.99	2.19		
C. Total	542	1332.04			

The muesli category represented three brands and four SKUs (Figure 3.45). This product category placed 3rd amongst the product category aggregates for the TFD metric. Based on this finding, participants on average looked at SKUs within this planogram for 2.66 seconds; 95% confidence interval [Cl]= 2.23, 3.09.

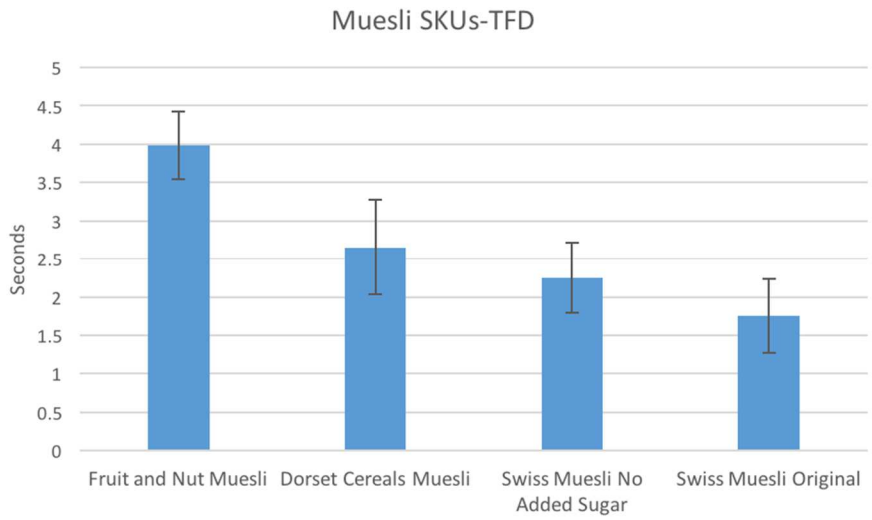

Figure 3.45. Muesli SKUs for the TFD Metric

Both Figure 3.45 and Table 3.29 illustrate the wide range of attention values for the SKUs within the planogram, ranging from 1.75 seconds to 3.99 seconds

Table 3.29. Descriptive Statistics for the Muesli Category (in seconds)

Muesli SKUs	Mean	Std Error	Lower 95%	Upper 95%
Fruit and Nut Muesli	3.99	0.44	3.12	4.85
Dorset Cereals Muesli	2.65	0.62	1.42	3.88
Swiss Muesli No Added Sugar	2.25	0.46	1.35	3.16
Swiss Muesli Original	1.75	0.48	0.80	2.71

The null hypothesis, which stated that no significant differences were found between the SKUs, was rejected due to the fact that p<alpha ($F(3, 197) = 4.45$, $p=0.004$), indicating a significant difference between at least one SKU (Table 3.30). Using the LS Means

Differences Student's t, it was found that two significant differences exist between the four SKUs tested for muesli. The full report can be found in Appendix A.

Table 3.30. ANOVA Summary Table for Muesli

Source	**DF**	**SS**	**MS**	**F**	**P**
Model	3	159.88	53.29	4.45	0.00047
Error	197	2358.96	11.97		
C. Total	200	2518.83			

The natural fruit drink category represented eight brands and 16 SKUs (Figure 3.46). This product category placed 6th amongst the product category aggregates for the TFD metric. Based on this finding, participants on average looked at SKUs within this planogram for 1.18 seconds; 95% confidence interval [Cl]= 0.97, 1.39.

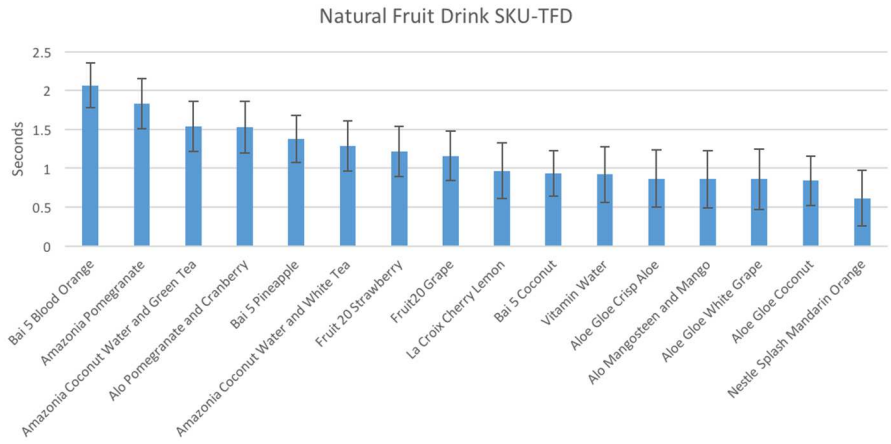

Figure 3.46. Natural Fruit Drinks SKUs for the TFD Metric

Both Figure 3.46 and Table 3.31 illustrate the wide range of attention values for the SKUs within the planogram, ranging from 0.61 seconds to 2.07 seconds.

Table 3.31. Descriptive Statistics for the Natural Fruit Drink Category (in seconds)

Natural Fruit Drink SKUs	Mean	Std Error	Lower 95%	Upper 95%
Bai 5 Blood Orange	2.07	0.29	1.50	2.63
Amazonia Pomegranate	1.83	0.32	1.20	2.46
Amazonia Coconut Water and Green Tea	1.54	0.32	0.91	2.17
Alo Pomegranate and Cranberry	1.53	0.33	0.87	2.18
Bai 5 Pineapple	1.38	0.30	0.79	1.97
Amazonia Coconut Water and White Tea	1.29	0.32	0.66	1.92
Fruit 20 Strawberry	1.22	0.33	0.58	1.86
Fruit20 Grape	1.16	0.32	0.53	1.79
La Croix Cherry Lemon	0.97	0.36	0.27	1.67
Bai 5 Coconut	0.93	0.29	0.36	1.50
Vitamin Water	0.92	0.36	0.22	1.62
Aloe Gloe Crisp Aloe	0.87	0.37	0.14	1.59
Alo Mangosteen and Mango	0.86	0.37	0.14	1.58
Aloe Gloe White Grape	0.86	0.39	0.10	1.62
Aloe Gloe Coconut	0.84	0.32	0.21	1.47
Nestle Splash Mandarin Orange	0.61	0.36	-0.09	1.32

The null hypothesis, which stated that no significant differences were found between the SKUs, failed to be rejected due to the fact that p>alpha ($F(15, 360) = 1.58$, $p=0.076$), indicating no significant difference between the various SKUs (Table 3.32).

Table 3.32. ANOVA Summary Table for Natural Fruit Drinks

Source	**DF**	**SS**	**MS**	**F**	**P**
Model	15	60.77	4.05	1.58	0.076
Error	360	920.99	2.56		
C. Total	375	981.75			

The olive oil category represented eight brands and 13 SKUs (Figure 3.47). This product category placed 18th amongst the product category aggregates for the TFD metric. Based on this finding, participants on average looked at SKUs within this planogram for 0.78 seconds; 95% confidence interval [Cl]= 0.54, 1.01.

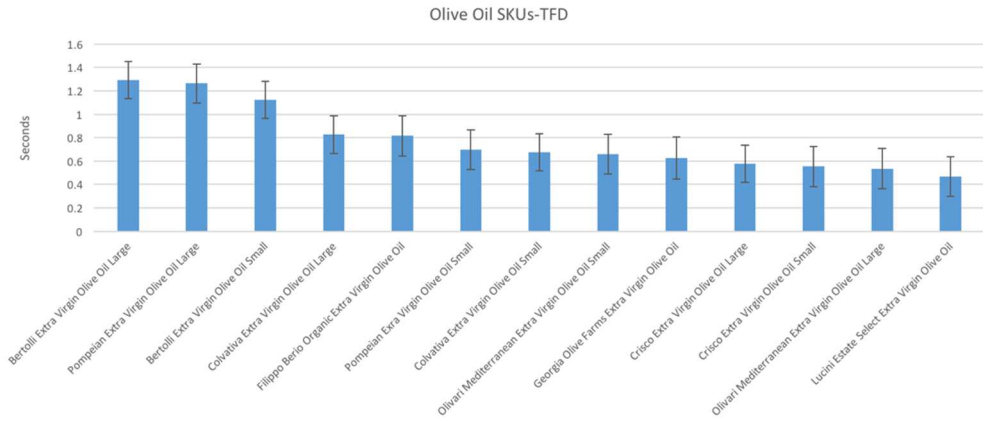

Figure 3.47. Olive Oil SKUs for the TFD Metric

Both Figure 3.47 and Table 3.33 illustrate the wide range of attention values for the SKUs within the planogram, ranging from 0.47 seconds to 1.29 seconds.

Table 3.33. Descriptive Statistics for the Olive Oil Category (in seconds)

Olive Oil SKUs	Mean	Std Error	Lower 95%	Upper 95%
Bertolli Extra Virgin Olive Oil Large	1.29	0.16	0.98	1.60
Pompeian Extra Virgin Olive Oil Large	1.26	0.16	0.94	1.59
Bertolli Extra Virgin Olive Oil Small	1.12	0.16	0.81	1.43
Colvativa Extra Virgin Olive Oil Large	0.83	0.16	0.51	1.15
Filippo Berio Organic Extra Virgin Olive Oil	0.82	0.17	0.48	1.16
Pompeian Exra Virgin Olive Oil Small	0.70	0.17	0.36	1.03
Colvativa Extra Virgin Olive Oil Small	0.67	0.16	0.36	0.99
Olivari Mediterranean Extra Virgin Olive Oil Small	0.66	0.17	0.33	0.99
Georgia Olive Farms Extra Virgin Olive Oil	0.63	0.18	0.27	0.98
Crisco Extra Virgin Olive Oil Large	0.58	0.16	0.26	0.89
Crisco Extra Virgin Olive Oil Small	0.55	0.17	0.22	0.89
Olivari Mediterranean Extra Virgin Olive Oil Large	0.54	0.17	0.20	0.88
Lucini Estate Select Extra Virgin Olive Oil	0.47	0.17	0.14	0.80

Please note that confidence intervals that reach negative values equal approximately zero. The null hypothesis, which stated that no significant differences were found between the SKUs, was rejected due to the fact that p<alpha ($F(12, 397) = 2.90$, $p = 0.0007$), indicating a significant difference between at least one SKU (Table 3.34). Using the LS Means Differences Student's t, it was found that 25 significant differences exist between the 19 SKUs tested for olive oil. The full report can be found in Appendix A.

Table 3.34. ANOVA Summary Table for Olive Oil

Source	DF	SS	MS	F	P
Model	12	30.21	2.52	2.90	0.0007
Error	397	344.95	0.87		
C. Total	409	375.16			

Within the organic cereal category three brands and three SKUs were tested (Figure 3.48). This product category placed 2nd amongst the product category aggregates for the TFD metric. Based on this finding, participants on average looked at SKUs within this planogram for 3.49 seconds; 95% confidence interval [Cl]= 3.00, 3.99.

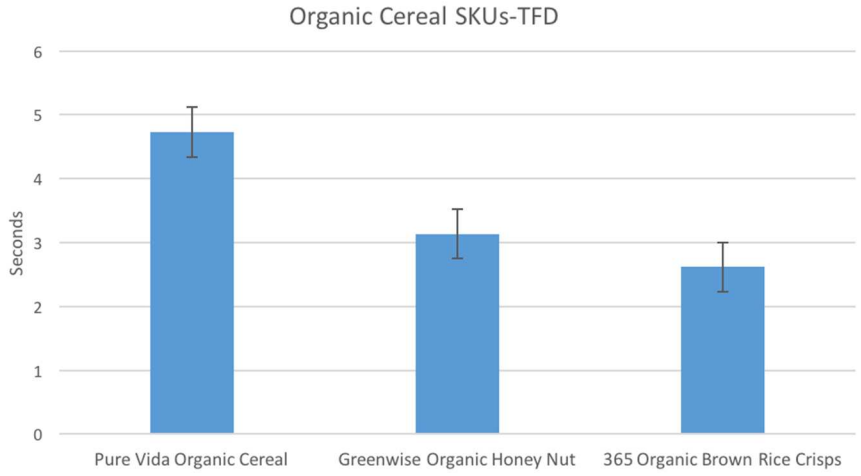

Figure 3.48. Organic Cereal SKUs for the TFD Metric

Both Figure 3.48 and Table 3.35 illustrate the wide range of attention values for the SKUs within the planogram, ranging from 2.62 seconds to 4.73 seconds.

Table 3.35. Descriptive Statistics for the Organic Cereal Category (in seconds)

Organic Cereal SKUs	Mean	Std Error	Lower 95%	Upper 95%
Pure Vida Organic Cereal	4.73	0.39	3.97	5.49
Greenwise Organic Honey Nut	3.14	0.39	2.37	3.90
365 Organic Brown Rice Crisps	2.62	0.39	1.85	3.39

The null hypothesis, which stated that no significant differences were found between the SKUs, was rejected due to the fact that p<alpha (F(2, 170) =8.07, p=0.0004), indicating a significant difference between at least one SKU (Table 3.36). Using the LS Means Differences Student's t, it was found that two significant differences exist between the three SKUs tested for organic cereal. The full report can be found in Appendix A.

Table 3.36. ANOVA Summary Table for Organic Cereal

Source	**DF**	**SS**	**MS**	**F**	**P**
Model	2	139.79	69.90	8.07	0.0004
Error	170	1471.54	8.66		
C. Total	172	1611.33			

Within the rice category nine brands and 18 SKUs were tested (Figure 3.49). This product category placed 9th amongst the product category aggregates for the TFD metric. Based on this finding, participants on average looked at SKUs within this planogram for 1.10 seconds; 95% confidence interval [Cl]= 0.90, 1.30.

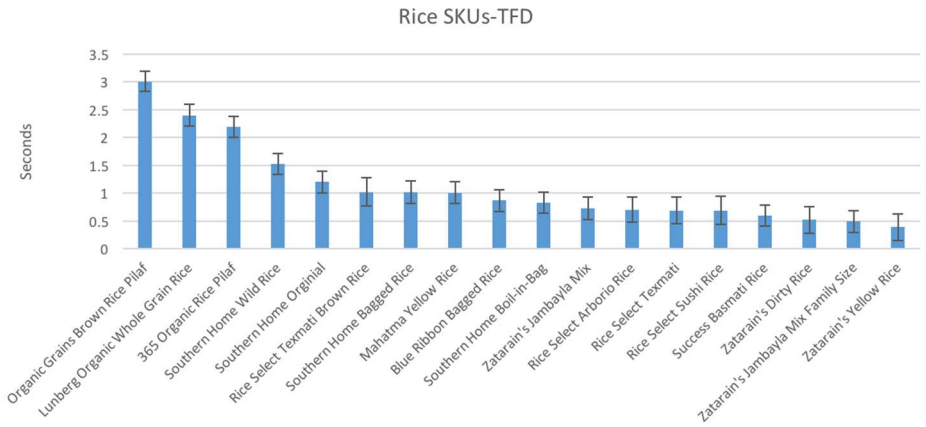

Figure 3.49. Rice SKUs for the TFD Metric

Both Figure 3.49 and Table 3.37 illustrate the wide range of attention values for the SKUs within the planogram, ranging from 0.39 seconds to 3.01 seconds.

Table 3.37. Descriptive Statistics for the Rice Category (in seconds)

Rice SKUs	Mean	Std Error	Lower 95%	Upper 95%
Organic Grains Brown Rice Pilaf	3.01	0.19	2.64	3.38
Lunberg Organic Whole Grain Rice	2.40	0.19	2.01	2.78
365 Organic Rice Pilaf	2.19	0.19	1.81	2.56
Southern Home Wild Rice	1.52	0.19	1.15	1.89
Southern Home Orginial	1.20	0.20	0.82	1.59
Rice Select Texmati Brown Rice	1.02	0.25	0.52	1.52
Southern Home Bagged Rice	1.01	0.20	0.61	1.41
Mahatma Yellow Rice	1.01	0.19	0.63	1.38
Blue Ribbon Bagged Rice	0.87	0.19	0.49	1.25
Southern Home Boil-in-Bag	0.83	0.19	0.45	1.20
Zatarain's Jambayla Mix	0.73	0.20	0.34	1.13
Rice Select Arborio Rice	0.70	0.23	0.26	1.14
Rice Select Texmati	0.69	0.24	0.21	1.16
Rice Select Sushi Rice	0.69	0.25	0.19	1.18
Success Basmati Rice	0.59	0.19	0.23	0.96
Zatarain's Dirty Rice	0.52	0.24	0.04	0.99
Zatarain's Jambayla Mix Family Size	0.49	0.19	0.11	0.88
Zatarain's Yellow Rice	0.39	0.24	-0.08	0.85

The null hypothesis, which stated that no significant differences were found between the SKUs, was rejected due to the fact that p<alpha ($F(17, 802) = 13.61$, $p<0.0001$), indicating a significant difference between at least one SKU (Table 3.38). Using the LS Means Differences Student's t, it was found that 63 significant differences exist between the 18 SKUs tested for rice. The full report can be found in Appendix A.

Table 3.38. ANOVA Summary Table for Rice

Source	DF	SS	MS	F	P
Model	17	447.94	26.35	13.61	<0.0001
Error	802	1553.01	1.94		
C. Total	819	2000.95			

Within the ready-to-eat pasta (RTE) category six brands and 30 SKUs were tested (Figure 50). This product category placed 16th amongst the product category aggregates for the TFD metric. Based on this finding, participants on average looked at SKUs within this planogram for 0.88 seconds; 95% confidence interval [Cl]= 0.72, 1.04.

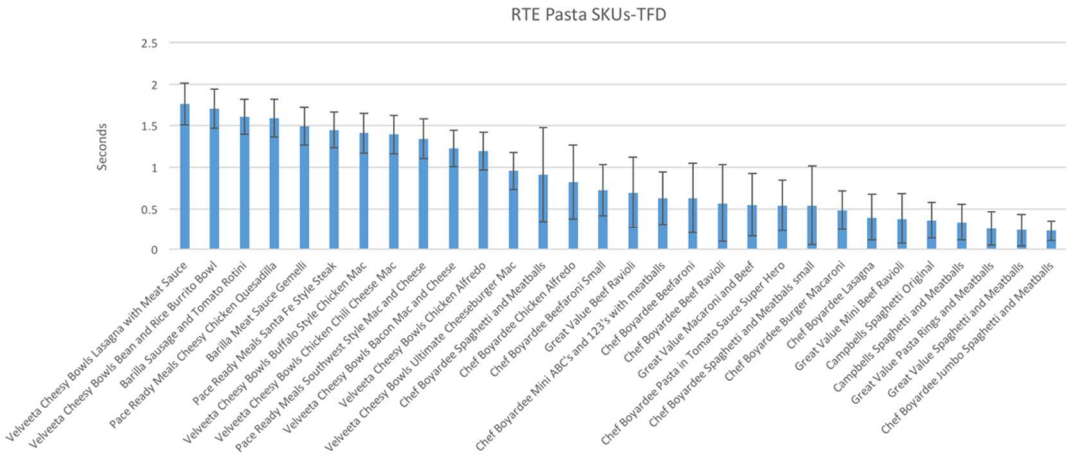

Figure 3.50. Ready-to-eat Pasta SKUs for the TFD Metric

Both Figure 3.50 and Table 3.39 illustrate the wide range of attention values for the SKUs within the planogram, ranging from 0.23 seconds to 1.76 seconds.

Table 3.39. Descriptive Statistics for the Ready-to-eat Pasta Category (in seconds)

RTE Pasta SKUs	Mean	Std Error	Lower 95%	Upper 95%
Velveeta Cheesy Bowls Lasagna with Meat Sauce	1.76	0.25	1.27	2.25
Velveeta Cheesy Bowls Bean and Rice Burrito Bowl	1.70	0.24	1.24	2.17
Barilla Sausage and Tomato Rotini	1.61	0.21	1.19	2.03
Pace Ready Meals Cheesy Chicken Quesadilla	1.59	0.23	1.15	2.04
Barilla Meat Sauce Gemelli	1.50	0.22	1.06	1.94
Pace Ready Meals Santa Fe Style Steak	1.45	0.22	1.02	1.88
Velveeta Cheesy Bowls Buffalo Style Chicken Mac	1.41	0.24	0.94	1.88
Velveeta Cheesy Bowls Chicken Chili Cheese Mac	1.39	0.23	0.94	1.85
Pace Ready Meals Southwest Style Mac and Cheese	1.34	0.24	0.87	1.82
Velveeta Cheesy Bowls Bacon Mac and Cheese	1.23	0.22	0.80	1.65
Velveeta Cheesy Bowls Chicken Alfredo	1.20	0.23	0.75	1.64
Velveeta Cheesy Bowls Ultimate Cheeseburger Mac	0.96	0.22	0.52	1.40
Chef Boyardee Spaghetti and Meatballs	0.91	0.57	-0.85	2.67
Chef Boyardee Chicken Alfredo	0.82	0.45	-0.06	1.70
Chef Boyardee Beefaroni Small	0.72	0.31	0.12	1.33
Great Value Beef Ravioli	0.70	0.42	-0.13	1.53
Chef Boyardee Mini ABC's and 123's with meatballs	0.63	0.32	0.00	1.25
Chef Boyardee Beefaroni	0.63	0.42	-0.20	1.46
Chef Boyardee Beef Ravioli	0.56	0.47	-0.55	1.68
Great Value Macaroni and Beef	0.55	0.38	-0.20	1.30
Chef Boyardee Pasta in Tomato Sauce Super Hero	0.54	0.31	-0.07	1.14
Chef Boyardee Spaghetti and Meatballs Small	0.54	0.48	-0.40	1.48
Chef Boyardee Burger Macaroni	0.48	0.23	-0.77	1.73
Chef Boyardee Lasagna	0.39	0.28	-0.55	1.34
Great Value Mini Beef Ravioli	0.38	0.30	-0.31	1.07
Campbells Spaghetti Original	0.36	0.22	-0.66	1.38
Campbells Spaghetti and Meatballs	0.33	0.22	-0.68	1.35
Great Value Pasta Rings and Meatballs	0.26	0.21	-0.46	0.98
Great Value Spaghetti and Meatballs	0.24	0.19	-0.70	1.18
Chef Boyardee Jumbo Spaghetti and Meatballs	0.23	0.12	-0.79	1.25

Please note that confidence intervals that reach negative values equal approximately zero. The null hypothesis, which stated that no significant differences were found between the SKUs, was rejected due to the fact that p<alpha ($F(29, 502) = 2.45$, $p<0.0001$), indicating a significant difference between at least one SKU (Table 3.40). Using the LS Means Differences Student's t, it was found that 83 significant differences exist between the 30 SKUs tested for ready-to-eat pasta. The full report can be found in Appendix A.

Table 3.40. ANOVA Summary Table for Ready-to-eat Pasta

Source	DF	SS	MS	F	P
Model	29	114.38	3.94	2.45	<0.0001
Error	502	807.21	1.61		
C. Total	531	921.59			

Within the seasoned breading category ten brands and 32 SKUs (Figure 3.51). This product category placed 22nd amongst the product category aggregates for the TFD metric. Based on this finding, participants on average looked at SKUs within this planogram for 0.73 seconds; 95% confidence interval [Cl]= 0.57, 0.88.

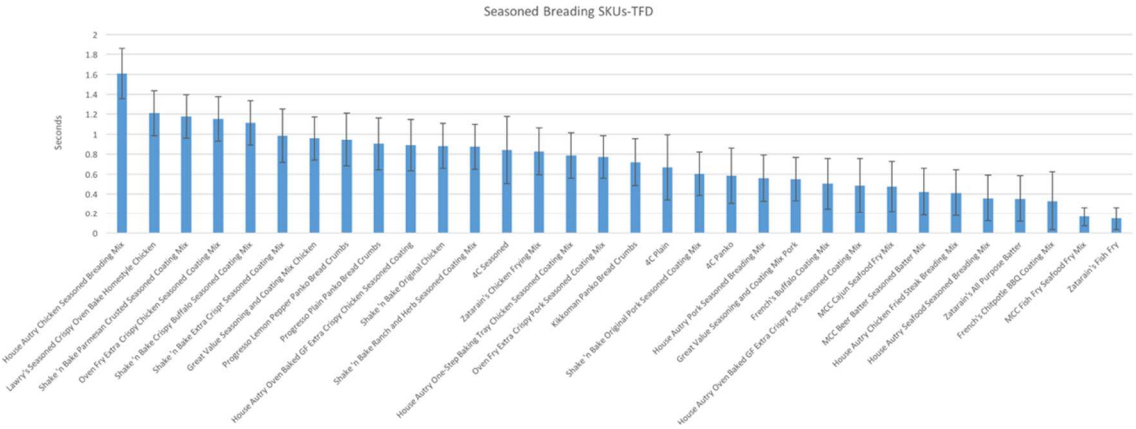

Figure 3.51. Seasoned Breading SKUs for the TFD Metric

Both Figure 3.51 and Table 3.41 illustrate the wide range of attention values for the SKUs within the planogram, ranging from 0.15 seconds to 1.61 seconds.

Table 3.41. Descriptive Statistics for the Seasoned Breading (in seconds)

Seasoned Breading SKUs	Mean	Std Error	Lower 95%	Upper 95%
House Autry Chicken Seasoned Breading Mix	1.61	0.25	1.11	2.10
Lawry's Seasoned Crispy Oven Bake Homestyle Chicken	1.21	0.23	0.77	1.65
Shake 'n Bake Parmesan Crusted Seasoned Coating Mix	1.18	0.22	0.75	1.60
Oven Fry Extra Crispy Chicken Seasoned Coating Mix	1.15	0.22	0.72	1.59
Shake 'n Bake Crispy Buffalo Seasoned Coating Mix	1.11	0.22	0.68	1.55
Shake 'n Bake Extra Crispt Seasoned Coating Mix	0.98	0.26	0.46	1.50
Great Value Seasoning and Coating Mix Chicken	0.96	0.21	0.54	1.38
Progresso Lemon Pepper Panko Bread Crumbs	0.95	0.26	0.43	1.47
Progresso Plain Panko Bread Crumbs	0.90	0.26	0.39	1.41
House Autry Oven Baked GF Extra Crispy Chicken Seasoned Coating	0.89	0.26	0.38	1.40
Shake 'n Bake Original Chicken	0.88	0.23	0.44	1.32
Shake 'n Bake Ranch and Herb Seasoned Coating Mix	0.87	0.23	0.43	1.32
4C Seasoned	0.84	0.34	0.18	1.50
Zatarain's Chicken Frying Mix	0.83	0.23	0.37	1.29
House Autry One-Step Baking Tray Chicken Seasoned Coating Mix	0.79	0.23	0.34	1.24
Oven Fry Extra Crispy Pork Seasoned Coating Mix	0.77	0.21	0.35	1.19
Kikkoman Panko Bread Crumbs	0.72	0.23	0.26	1.18
4C Plain	0.67	0.32	0.03	1.30
Shake 'n Bake Original Pork Seasoned Coating Mix	0.60	0.22	0.18	1.03
4C Panko	0.58	0.28	0.04	1.13
House Autry Pork Seasoned Breading Mix	0.56	0.23	0.10	1.02
Great Value Seasoning and Coating Mix Pork	0.55	0.22	0.12	0.97
French's Buffalo Coating Mix	0.50	0.25	0.00	1.00
House Autry Oven Baked GF Extra Crispy Pork Seasoned Coating Mix	0.48	0.27	-0.05	1.02
MCC Cajun Seafood Fry Mix	0.47	0.25	-0.02	0.97
MCC Beer Batter Seasoned Batter Mix	0.42	0.24	-0.05	0.89
House Autry Chicken Fried Steak Breading Mix	0.41	0.23	-0.05	0.87
House Autry Seafood Seasoned Breading Mix	0.36	0.23	-0.10	0.81
Zatarain's All Purpose Batter	0.35	0.23	-0.11	0.81
French's Chitpotle BBQ Coating Mix	0.33	0.29	-0.25	0.90
MCC Fish Fry Seafood Fry Mix	0.17	0.09	-0.41	0.74
Zatarain's Fish Fry	0.15	0.11	-0.35	0.64

Please note that confidence intervals that reach negative values equal approximately zero. The null hypothesis, which stated that no significant differences were found between the SKUs, was rejected due to the fact that p<alpha ($F(31, 766) = 1.81$, $p = 0.046$), indicating a significant difference between at least one SKU (Table 3.42). Using the LS Means Differences Student's t, it was found that 71 significant differences exist between the 32 SKUs tested for seasoned breading. The full report can be found in Appendix A.

Table 3.42. ANOVA Summary Table for Seasoned Breading

Source	**DF**	**SS**	**MS**	**F**	**P**
Model	31	82.89	2.67	1.81	0.0046
Error	766	1128.87	1.47		
C. Total	797	1211.76			

Within the shelf stable tuna category four brands and 28 SKUs were tested (Figure 3.52). This product category placed 11th amongst the product category aggregates for the TFD metric. Based on this finding, participants on average looked at SKUs within this planogram for 1.04 seconds; 95% confidence interval [Cl]= 0.88, 1.21.

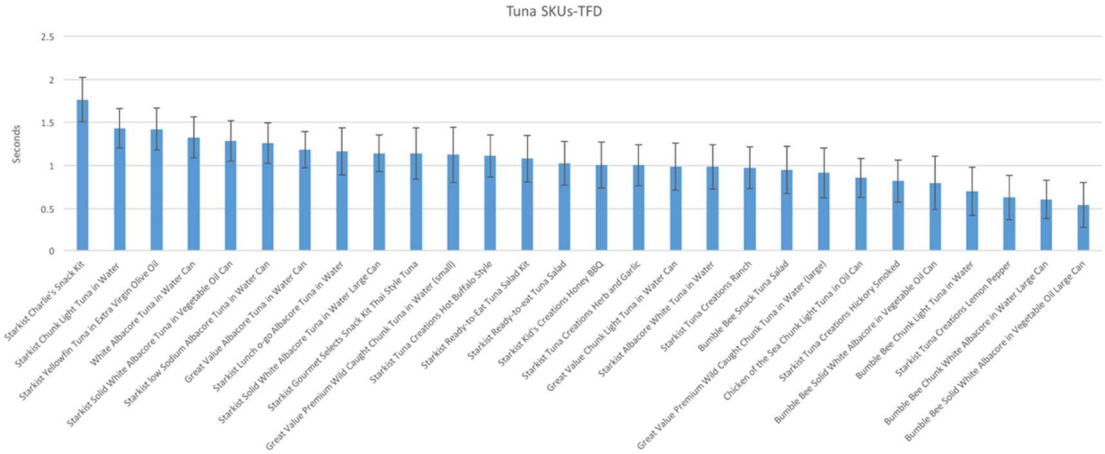

Figure 3.52. Shelf Stable Tuna SKUs for the TFD Metric

Both Figure 3.52 and Table 3.43 illustrate the wide range of attention values for the SKUs within the planogram, ranging from 0.54 seconds to 1.77 seconds

Table 3.43. Descriptive Statistics for the Shelf Stable Tuna Category (in seconds)

Tuna SKUs	Mean	Std Error	Lower 95%	Upper 95%
Starkist Charlie's Snack Kit	1.77	0.26	1.26	2.27
Starkist Chunk Light Tuna in Water	1.43	0.23	0.98	1.89
Starkist Yellowfin Tuna in Extra Virgin Olive Oil	1.42	0.25	0.94	1.91
White Albacore Tuna in Water Can	1.33	0.24	0.86	1.79
Starkist Solid White Albacore Tuna in Vegetable Oil Can	1.29	0.24	0.82	1.75
Starkist low Sodium Albacore Tuna in Water Can	1.26	0.24	0.80	1.72
Great Value Albacore Tuna in Water Can	1.19	0.21	0.78	1.59
Starkist Lunch o-go Albacore Tuna in Water	1.17	0.27	0.63	1.70
Starkist Solid White Albacore Tuna in Water Large Can	1.14	0.21	0.73	1.56
Starkist Gourmet Selects Snack Kit Thai Style Tuna	1.14	0.30	0.55	1.73
Great Value Premium Wild Caught Chunk Tuna in Water (small)	1.12	0.32	0.49	1.75
Starkist Tuna Creations Hot Buffalo Style	1.11	0.25	0.63	1.60
Starkist Ready-to-Eat Tuna Salad Kit	1.08	0.27	0.54	1.62
Starkist Ready-to-eat Tuna Salad	1.03	0.25	0.53	1.52
Starkist Kid's Creations Honey BBQ	1.01	0.27	0.49	1.53
Starkist Tuna Creations Herb and Garlic	1.00	0.24	0.54	1.47
Great Value Chunk Light Tuna in Water Can	0.99	0.27	0.45	1.52
Starkist Albacore White Tuna in Water	0.99	0.26	0.48	1.49
Starkist Tuna Creations Ranch	0.97	0.24	0.50	1.45
Bumble Bee Snack Tuna Salad	0.95	0.27	0.42	1.49
Great Value Premium Wild Caught Chunk Tuna in Water (large)	0.92	0.29	0.35	1.48
Chicken of the Sea Chunk Light Tuna in Oil Can	0.86	0.23	0.41	1.30
Starkist Tuna Creations Hickory Smoked	0.82	0.25	0.34	1.30
Bumble Bee Solid White Albacore in Vegetable Oil Can	0.80	0.31	0.19	1.41
Bumble Bee Chunk Light Tuna in Water	0.70	0.28	0.15	1.25
Starkist Tuna Creations Lemon Pepper	0.63	0.26	0.12	1.14
Bumble Bee Chunk White Albacore in Water Large Can	0.61	0.22	0.17	1.05
Bumble Bee Solid White Albacore in Vegetable Oil Large Can	0.54	0.26	0.04	1.05

The null hypothesis, which stated that no significant differences were found between the SKUs, failed to be rejected due to the fact that p>alpha ($F(27, 563) = 1.17$, $p=0.25$), indicating no significant difference between the various SKUs (Table 3.44).

Table 3.44. ANOVA Summary Table for Shelf Stable Tuna

Source	**DF**	**SS**	**MS**	**F**	**P**
Model	27	42.38	1.57	1.17	0.25
Error	563	753.14	1.34		
C. Total	590	795.51			

Within the snack bar category 11 brands and 47 SKUs were tested (Figure 3.53). This product category placed 27th amongst the product category aggregates for the TFD metric. Based on this finding, participants on average looked at SKUs within this planogram for 0.46 seconds; 95% confidence interval [Cl]= 0.27, 0.57.

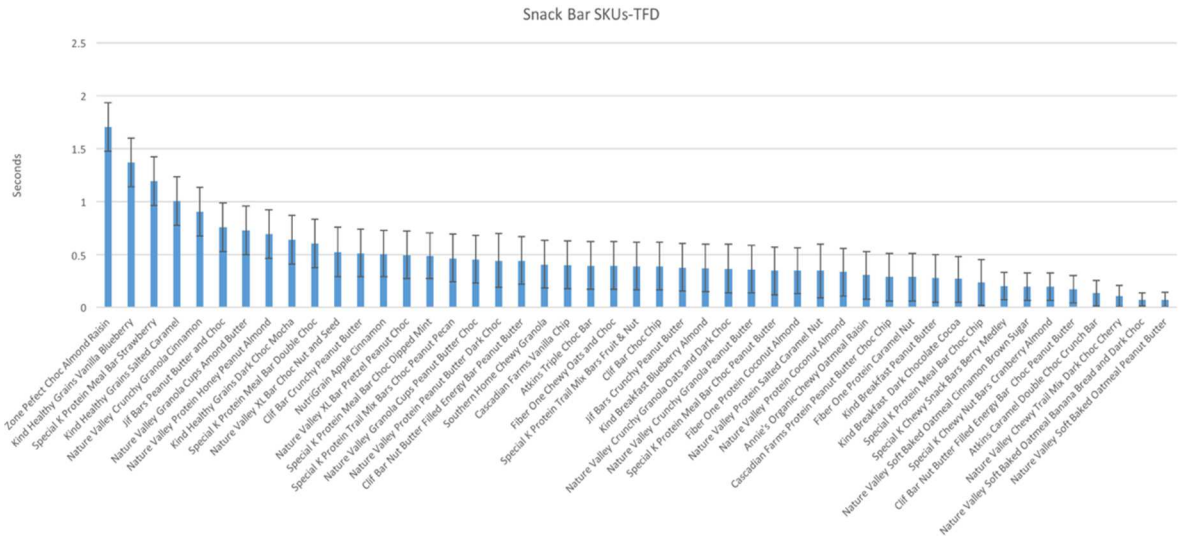

Figure 3.53. Snack Bar SKUs for the TFD Metric

Both Figure 3.53 and Table 3.45 illustrate the wide range of attention values for the SKUs within the planogram, ranging from 0.07 seconds to 1.71 seconds

Table 3.45. Descriptive Statistics for the Snack Bar Category (in seconds)

Snack Bar SKUs	Mean	Std Error	Lower 95%	Upper 95%
Zone Pefect Choc Almond Raisin	1.71	0.23	1.26	2.16
Kind Healthy Grains Vanilla Blueberry	1.37	0.23	0.92	1.82
Special K Protein Meal Bar Strawberry	1.20	0.23	0.75	1.65
Kind Healthy Grains Salted Caramel	1.01	0.23	0.56	1.46
Nature Valley Crunchy Granola Cinnamon	0.91	0.23	0.46	1.36
Jif Bars Peanut Butter and Choc	0.76	0.23	0.31	1.21
Nature Valley Granola Cups Amond Butter	0.73	0.23	0.28	1.18
Nature Valley Protein Honey Peanut Almond	0.70	0.23	0.25	1.15
Kind Healthy Grains Dark Choc Mocha	0.64	0.23	0.19	1.09
Special K Protein Meal Bar Double Choc	0.61	0.23	0.16	1.06
Nature Valley XL Bar Choc Nut and Seed	0.53	0.24	0.06	0.99
Clif Bar Crunchy Peanut Butter	0.52	0.23	0.07	0.97
NutriGrain Apple Cinnamon	0.51	0.22	0.07	0.94
Nature Valley XL Bar Pretzel Peanut Choc	0.50	0.23	0.05	0.95
Special K Protein Meal Bar Choc Dipped Mint	0.49	0.22	0.05	0.92
Special K Protein Trail Mix Bars Choc Peanut Pecan	0.47	0.23	0.02	0.92
Nature Valley Granola Cups Peanut Butter Choc	0.45	0.23	0.00	0.90
Nature Valley Protein Peanut Butter Dark Choc	0.44	0.26	-0.07	0.95
Clif Bar Nut Butter Filled Energy Bar Peanut Butter	0.44	0.23	-0.01	0.89
Southern Home Chewy Granola	0.41	0.23	-0.04	0.86
Cascadian Farms Vanilla Chip	0.41	0.23	-0.04	0.86
Atkins Triple Choc Bar	0.40	0.23	-0.05	0.85
Fiber One Chewy Oats and Choc	0.40	0.23	-0.05	0.85
Special K Protein Trail Mix Bars Fruit & Nut	0.39	0.23	-0.06	0.84
Clif Bar Choc Chip	0.39	0.23	-0.06	0.84
Jif Bars Crunchy Peanut Butter	0.38	0.23	-0.07	0.83
Kind Breakfast Blueberry Almond	0.37	0.23	-0.08	0.82
Nature Valley Crunchy Granola Oats and Dark Choc	0.37	0.24	-0.10	0.83
Nature Valley Crunchy Granola Peanut Butter	0.36	0.23	-0.09	0.81
Special K Protein Meal Bar Choc Peanut Butter	0.35	0.23	-0.10	0.80
Fiber One Protein Coconut Almond	0.35	0.22	-0.09	0.78
Nature Valley Protein Salted Caramel Nut	0.34	0.26	-0.17	0.85
Nature Valley Protein Coconut Almond	0.33	0.23	-0.12	0.78
Annie's Organic Chewy Oatmeal Raisin	0.30	0.23	-0.15	0.75
Cascadian Farms Protein Peanut Butter Choc Chip	0.28	0.23	-0.17	0.73
Fiber One Protein Caramel Nut	0.28	0.23	-0.17	0.73
Kind Breakfast Peanut Butter	0.27	0.23	-0.18	0.72
Kind Breakfast Dark Chocolate Cocoa	0.27	0.22	-0.17	0.70
Special K Protein Meal Bar Choc Chip	0.23	0.22	-0.20	0.67
Special K Chewy Snack Bars Berry Medley	0.20	0.13	-0.25	0.65
Nature Valley Soft Baked Oatmeal Cinnamon Brown	0.19	0.13	-0.26	0.64
Special K Chewy Nut Bars Cranberry Almond	0.19	0.13	-0.26	0.64
Clif Bar Nut Butter Filled Energy Bar Choc Peanut Bu	0.17	0.13	-0.28	0.62
Atkins Caramel Double Choc Crunch Bar	0.13	0.12	-0.32	0.58
Nature Valley Chewy Trail Mix Dark Choc Cherry	0.10	0.10	-0.35	0.55
Nature Valley Soft Baked Oatmeal Banana Bread and	0.07	0.06	-0.46	0.60
Nature Valley Soft Baked Oatmeal Peanut Butter	0.07	0.07	-0.38	0.52

Please note that confidence intervals that reach negative values equal approximately zero. The null hypothesis, which stated that no significant differences were found between the SKUs, was rejected due to the fact that p<alpha ($F(46, 604) = 2.00$, $p = 0.0002$), indicating a significant difference between at least one SKU (Table 3.46). Using the LS Means Differences Student's t, it was found that 153 significant differences exist between the 47 SKUs tested for snack bars. The full report can be found in Appendix A.

Table 3.46. ANOVA Summary Table for Snack Bars

Source	DF	SS	MS	F	P
Model	46	67.75	1.47	2.00	0.0002
Error	604	443.71	0.73		
C. Total	650	511.46			

Within the snack cakes category five brands and 19 SKUs were tested (Figure 3.54). This product category placed 25th amongst the product category aggregates for the TFD metric. Based on this finding, participants on average looked at SKUs within this planogram for 0.64 seconds; 95% confidence interval [Cl]= 0.45, 0.84.

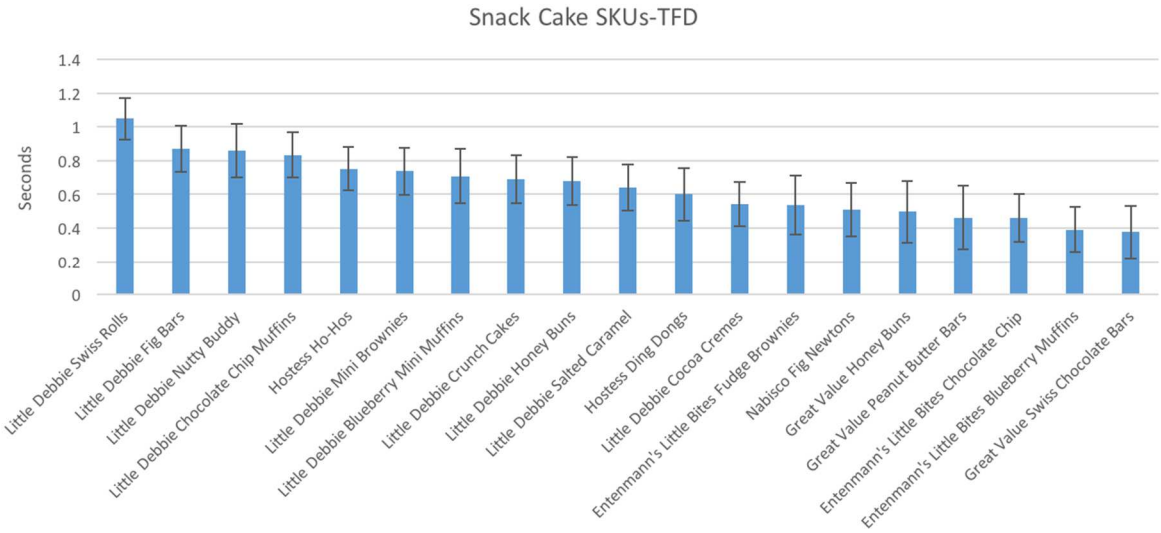

Figure 3.54. Snack Cake SKUs for the TFD Metric

Both Figure 3.54 and Table 3.47 illustrate the wide range of attention values for the SKUs within the planogram, ranging from 0.38 seconds to 1.05 seconds.

Table 3.47. Descriptive Statistics for the Snack Cake Category (in seconds)

Snack Cake SKUs	Mean	Std Error	Lower 95%	Upper 95%
Little Debbie Swiss Rolls	1.05	0.12	0.81	1.29
Little Debbie Fig Bars	0.87	0.14	0.60	1.14
Little Debbie Nutty Buddy	0.86	0.16	0.55	1.17
Little Debbie Chocolate Chip Muffins	0.84	0.14	0.57	1.10
Hostess Ho-Hos	0.75	0.13	0.50	1.01
Little Debbie Mini Brownies	0.74	0.14	0.46	1.01
Little Debbie Blueberry Mini Muffins	0.71	0.16	0.39	1.03
Little Debbie Crunch Cakes	0.69	0.14	0.41	0.97
Little Debbie Honey Buns	0.68	0.14	0.40	0.96
Little Debbie Salted Caramel	0.64	0.14	0.37	0.91
Hostess Ding Dongs	0.60	0.15	0.30	0.90
Little Debbie Cocoa Cremes	0.54	0.13	0.29	0.80
Entenmann's Little Bites Fudge Brownies	0.54	0.18	0.19	0.88
Nabisco Fig Newtons	0.51	0.16	0.20	0.82
Great Value Honey Buns	0.50	0.18	0.14	0.85
Great Value Peanut Butter Bars	0.46	0.19	0.10	0.83
Entenmann's Little Bites Chocolate Chip	0.46	0.14	0.18	0.74
Entenmann's Little Bites Blueberry Muffins	0.39	0.13	0.13	0.65
Great Value Swiss Chocolate Bars	0.38	0.16	0.07	0.69

The null hypothesis, which stated that no significant differences were found between the SKUs, was rejected due to the fact that p<alpha ($F(18, 446) = 1.67$, $p = 0.042$), indicating a significant difference between at least one SKU (Table 3.48). Using the LS Means Differences Student's t, it was found that 17 significant differences exist between the 47 SKUs tested for snack cakes. The full report can be found in Appendix A.

Table 3.48. ANOVA Summary Table for Snack Cakes

Source	**DF**	**SS**	**MS**	**F**	**P**
Model	18	15.70	0.87	1.67	0.042
Error	447	233.59	0.52		
C. Total	465	249.29			

Within the sour cream category four brands and seven SKUs were tested (Figure 3.55). This product category placed 15th amongst the product category aggregates for the

TFD metric. Based on this finding, participants on average looked at SKUs within this planogram for 0.93 seconds; 95% confidence interval [Cl]= 0.60, 1.25.

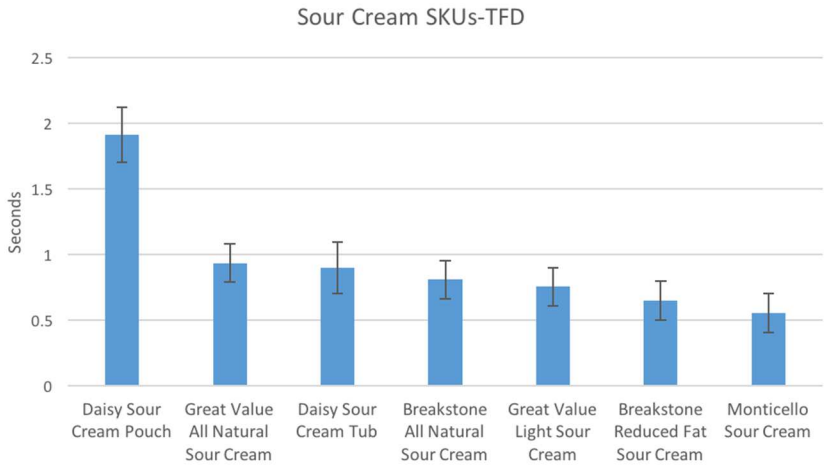

Figure 3.55. Sour Cream SKUs for the TFD Metric

Both Figure 3.55 and Table 3.49 illustrate the wide range of attention values for the SKUs within the planogram, ranging from 0.55 seconds to 1.91 seconds.

Table 3.49. Descriptive Statistics for the Sour Cream Category (in seconds)

Sour Cream SKUs	Mean	Std Error	Lower 95%	Upper 95%
Daisy Sour Cream Pouch	1.91	0.21	1.50	2.32
Great Value All Natural Sour Cream	0.93	0.15	0.64	1.22
Daisy Sour Cream Tub	0.90	0.20	0.51	1.29
Breakstone All Natural Sour Cream	0.81	0.15	0.52	1.09
Great Value Light Sour Cream	0.75	0.14	0.47	1.03
Breakstone Reduced Fat Sour Cream	0.64	0.15	0.35	0.94
Monticello Sour Cream	0.55	0.15	0.26	0.84

The null hypothesis, which stated that no significant differences were found between the SKUs, was rejected due to the fact that p<alpha ($F(6, 322) = 5.42$, $p<0.0001$), indicating a significant difference between at least one SKU (Table 3.50). Using the LS Means Differences Student's t, it was found that six significant differences exist between the 47 SKUs tested for sour cream. The full report can be found in Appendix A.

Table 3.50. ANOVA Summary Table for Sour Cream

Source	DF	SS	MS	F	P
Model	6	38.38	6.40	5.42	<0.0001
Error	322	379.66	1.18		
C. Total	328	418.03			

Within the spaghetti sauce category, seven brands and 25 SKUs (Figure 3.56). This product category placed 17th amongst the product category aggregates for the TFD metric. Based on this finding, participants on average looked at SKUs within this planogram for 0.78 seconds; 95% confidence interval [Cl]= 0.61, 0.95.

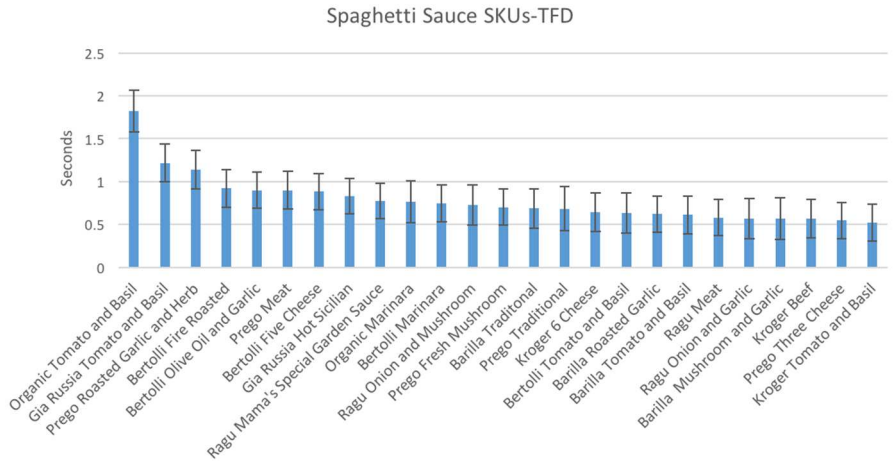

Figure 3.56. Spaghetti Sauce SKUs for the TFD Metric

Both Figure 3.56 and Table 3.51 illustrate the wide range of attention values for the SKUs within the planogram, ranging from 0.52 seconds to 1.82 seconds.

Table 3.51. Descriptive Statistics for the Spaghetti Sauce Category (in seconds)

Spaghetti Sauce SKUs	Mean	Std Error	Lower 95%	Upper 95%
Organic Tomato and Basil	1.82	0.25	1.34	2.31
Gia Russia Tomato and Basil	1.22	0.22	0.79	1.64
Prego Roasted Garlic and Herb	1.14	0.22	0.70	1.58
Bertolli Fire Roasted	0.92	0.22	0.48	1.36
Bertolli Olive Oil and Garlic	0.90	0.21	0.48	1.32
Prego Meat	0.90	0.22	0.47	1.33
Bertolli Five Cheese	0.89	0.21	0.47	1.30
Gia Russia Hot Sicilian	0.83	0.21	0.42	1.24
Ragu Mama's Special Garden Sauce	0.77	0.21	0.37	1.18
Organic Marinara	0.77	0.25	0.28	1.25
Bertolli Marinara	0.74	0.21	0.32	1.17
Ragu Onion and Mushroom	0.73	0.24	0.26	1.19
Prego Fresh Mushroom	0.70	0.21	0.28	1.13
Barilla Traditonal	0.69	0.23	0.23	1.14
Prego Traditional	0.68	0.26	0.18	1.19
Kroger 6 Cheese	0.64	0.22	0.20	1.08
Bertolli Tomato and Basil	0.63	0.23	0.18	1.09
Barilla Roasted Garlic	0.62	0.21	0.21	1.04
Barilla Tomato and Basil	0.61	0.22	0.17	1.05
Ragu Meat	0.58	0.21	0.17	1.00
Ragu Onion and Garlic	0.57	0.23	0.12	1.02
Barilla Mushroom and Garlic	0.57	0.25	0.08	1.05
Kroger Beef	0.57	0.22	0.13	1.01
Prego Three Cheese	0.55	0.21	0.13	0.96
Kroger Tomato and Basil	0.52	0.21	0.10	0.95

The null hypothesis, which stated that no significant differences were found between the SKUs, failed to be rejected due to the fact that p>alpha (F (24,649) =1.42, p=0.088), indicating no significant difference between the various SKUs (Table 3.52).

Table 3.52. ANOVA Summary Table for Spaghetti Sauce

Source	**DF**	**SS**	**MS**	**F**	**P**
Model	24	45.67	1.90	1.42	0.088
Error	649	868.46	1.34		
C. Total	673	914.13			

Within the kid's sunscreen category, three brands and three SKUs (Figure 3.57). This product category placed 1st amongst the product category aggregates for the TFD metric. Based on this finding, participants on average looked at SKUs within this planogram for 3.58 seconds; 95% confidence interval [Cl]= 3.09, 4.07.

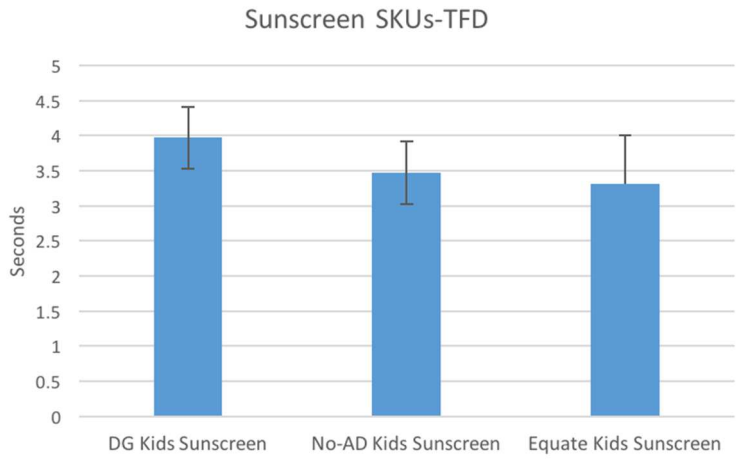

Figure 3.57. Kid's Sunscreen SKUs for the TFD Metric

Both Figure 3.57 and Table 3.53 illustrate the wide range of attention values for the SKUs within the planogram, ranging from 3.31 seconds to 3.97 seconds.

Table 3.53. Descriptive Statistics for the Kid's Sunscreen Category (in seconds)

Sunscreen SKUs	Mean	Std Error	Lower 95%	Upper 95%
DG Kids Sunscreen	3.97	0.44	3.09	4.85
No-AD Kids Sunscreen	3.48	0.45	2.59	4.36
Equate Kids Sunscreen	3.31	0.69	1.95	4.67

The null hypothesis, which stated that no significant differences were found between the SKUs, failed to be rejected due to the fact that p>alpha ($F(2,112) = 0.45$, $p=0.64$), indicating no significant difference between the various SKUs (Table 3.54).

Table 3.54. ANOVA Summary Table for Kid's Sunscreen

Source	DF	SS	MS	F	P
Model	2	8.56	4.28	0.45	0.64
Error	112	1054.13	9.41		
C. Total	114	1062.68			

Within the tissues category, four brands and 17 SKUs were tested (Figure 3.58). This product category placed 24th amongst the product category aggregates for the TFD metric. Based on this finding, participants on average looked at SKUs within this planogram for 0.69 seconds; 95% confidence interval [Cl]= 0.49, 0.91.

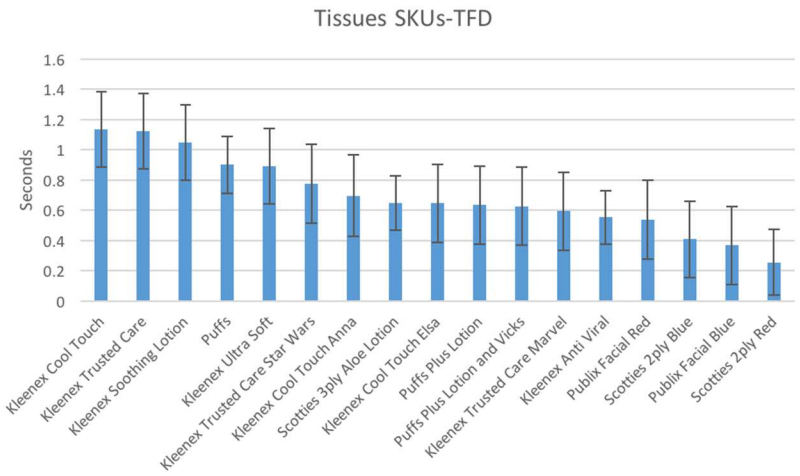

Figure 3.58. Tissue SKUs for the TFD Metric

Both Figure 3.58 and Table 3.55 illustrate the wide range of attention values for the SKUs within the planogram, ranging from 0.25 seconds to 1.13 seconds.

Table 3.55. Descriptive Statistics for the Tissue Category (in seconds)

Tissue SKUs	Mean	Std Error	Lower 95%	Upper 95%
Kleenex Cool Touch	1.13	0.25	0.64	1.63
Kleenex Trusted Care	1.12	0.25	0.63	1.61
Kleenex Soothing Lotion	1.05	0.25	0.56	1.54
Puffs	0.90	0.19	0.53	1.27
Kleenex Ultra Soft	0.89	0.25	0.40	1.38
Kleenex Trusted Care Star Wars	0.77	0.26	0.26	1.28
Kleenex Cool Touch Anna	0.70	0.27	0.17	1.22
Scotties 3ply Aloe Lotion	0.65	0.18	0.29	1.00
Kleenex Cool Touch Elsa	0.64	0.26	0.13	1.15
Puffs Plus Lotion	0.63	0.26	0.12	1.14
Puffs Plus Lotion and Vicks	0.62	0.26	0.11	1.13
Kleenex Trusted Care Marvel	0.59	0.26	0.08	1.10
Kleenex Anti Viral	0.55	0.18	0.20	0.90
Publix Facial Red	0.54	0.26	0.03	1.05
Scotties 2ply Blue	0.41	0.25	-0.09	0.90
Publix Facial Blue	0.37	0.26	-0.14	0.88
Scotties 2ply Red	0.25	0.22	-0.26	0.76

Please note that confidence intervals that reach negative values equal approximately zero. The null hypothesis, which stated that no significant differences were found between the SKUs, failed to be rejected due to the fact that p>alpha (F(16, 268) =1.07, p=0.38), indicating no significant difference between the various SKUs (Table 3.56).

Table 3.56. ANOVA Summary Table for Tissues

Source	**DF**	**SS**	**MS**	**F**	**P**
Model	16	16.07	1.00	1.07	0.38
Error	268	251.50	0.94		
C. Total	284	267.57			

Within the vegetables category, three SKUs were tested (Figure 3.59). This product category placed 4th amongst the product category aggregates for the TFD metric. Based on this finding, participants on average looked at SKUs within this planogram for 1.61 seconds; 95% confidence interval [Cl]= 1.12, 2.10.

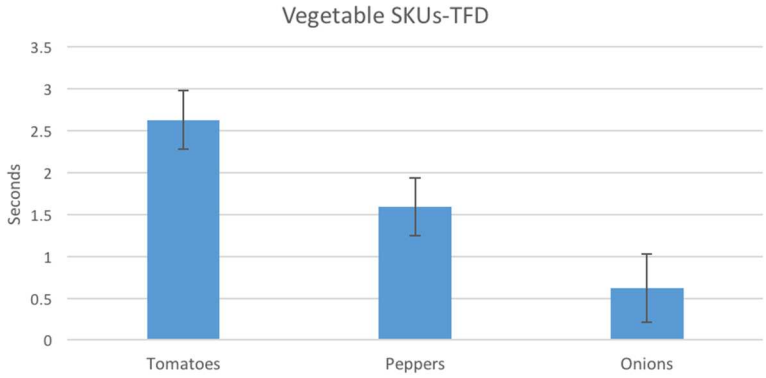

Figure 3.59. Vegetable SKUs for the TFD Metric

Both Figure 3.59 and Table 3.57 illustrate the wide range of attention values for the SKUs within the planogram, ranging from 0.62 seconds to 2.63 seconds.

Table 3.57. Descriptive Statistics for the Vegetable Category (in seconds)

Vegetable SKUs	Mean	Std Error	Lower 95%	Upper 95%
Tomatoes	2.63	0.35	1.93	3.32
Peppers	1.59	0.34	0.91	2.27
Onions	0.62	0.41	-0.19	1.42

Please note that confidence intervals that reach negative values equal approximately zero. The null hypothesis, which stated that no significant differences were found between the SKUs, was rejected due to the fact that p<alpha ($F(2, 117) = 7.12$, $p = 0.0012$), indicating a significant difference between at least one SKU (Table 3.58). Using the LS Means Differences Student's t, it was found that two significant differences exist between the 47 SKUs tested for vegetables. The full report can be found in Appendix A.

Table 3.58. ANOVA Summary Table for Vegetables

Source	**DF**	**SS**	**MS**	**F**	**P**
Model	2	75.02	37.51	7.12	0.0012
Error	117	616.48	5.27		
C. Total	119	691.50			

Time to First Fixation (TTFF)

Quantifying the noticeability of the product categories and the SKUs within the categories was an additional goal of this study. This metric measures the how long it takes before a participant fixates on an active AOI or AOI group for the first time [12]. As for the AOI groups, the time measurement starts when any of the media containing an AOI member of the group is first displayed and stops when the participant fixates on any of the AOIs belonging to the group [12]. In the case that same media is displayed several times with other media in between during the recording, the TTFF value will be calculated by adding each recorded media time of the media containing the AOI until the participant fixates on the active AOI with the recoding time of the media not containing the AOI being excluded from the calculations [12]. In the case that the participant has not fixated on an AOI, the value for this metric will not be computed and the recording will not be included in the descriptive statistic calculations. Simply put, the time in seconds from when a product first enters a participant's field of view until they fixate on it is defined as the TTFF. The lower the number, the better the package performed in this

instance. TTFF starts when the eye hits the defined Area of Analysis (AOA) and a fixation is formed, so run order is not an issue.

As in the TFD metric, each of the 28 categories had anywhere from three to 30 SKUs. Within each product category, AOIs were drawn around each SKU and aggregated using the expanded estimates intercept function in JMP. This was done to avoid analyzing negative shelf space that was not observed by participants. The 28 categories were placed on the same graph (Figure 3.60) to show the impact of each grouping compared to each other in terms of overall noticeability of products.

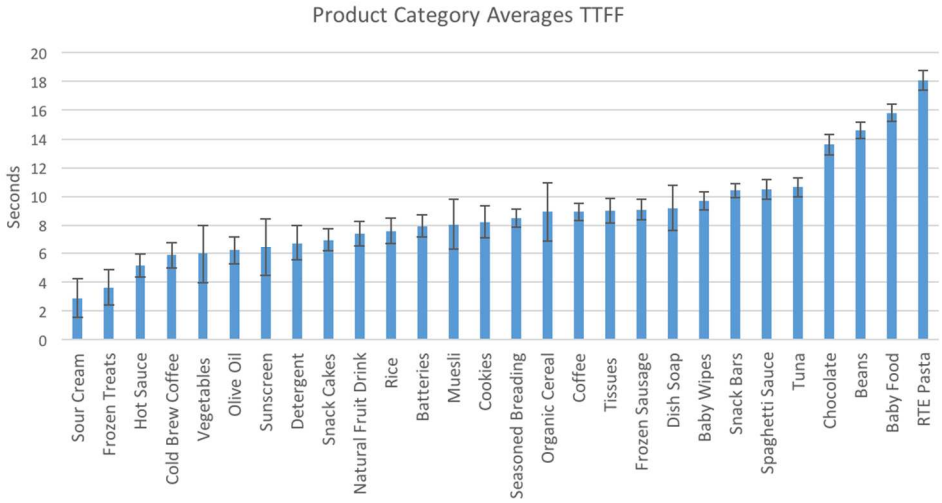

Figure 3.60. Product Category Data for the TTFF Metric

Table 3.59 shows information not found in the graph including mean, standard error, and confidence intervals (explained in detail in previous section). Even though this data represents different categories within the retail grocery sector, it is not to say that these direct category comparisons would not be useful to researchers. For example, a new company can reference this data to see how quickly on average consumers notice products within these categories, and use the data to cross compare amongst categories of

interest. Categories with more disruptive packaging or intricate primary display panels performed better for this metric, such as sour cream, frozen treats, hot sauce, and cold brew coffee. However, the ultimate goal is for researchers to access these categories how they see fit, as a group or individually.

Table 3.59. Descriptive Statistics for Product Categories (in seconds)

Product Category	Mean	Median	Std error	Lower 95%	Upper 95%
Sour Cream	2.90	3.00	1.31	0.31	5.48
Frozen Treats	3.64	3.62	1.23	1.22	6.05
Hot Sauce	5.15	5.14	0.80	3.59	6.72
Cold Brew Coffee	5.88	5.88	0.93	4.06	7.71
Vegetables	5.98	6.58	2.01	2.04	9.92
Olive Oil	6.23	6.67	0.96	4.34	8.13
Sunscreen	6.46	6.11	2.01	2.52	10.40
Detergent	6.76	6.50	1.23	4.34	9.17
Snack Cakes	6.98	6.90	0.80	5.41	8.54
Natural Fruit Drink	7.41	7.22	0.87	5.71	9.12
Rice	7.62	6.08	0.87	5.92	9.33
Batteries	7.96	8.03	0.76	6.47	9.45
Muesli	8.05	7.92	1.74	4.64	11.46
Cookies	8.24	8.44	1.10	6.08	10.40
Seasoned Breading	8.49	8.33	0.61	7.29	9.70
Organic Cereal	8.94	8.61	2.01	5.00	12.88
Coffee	8.95	8.97	0.60	7.78	10.13
Tissues	9.01	8.78	0.84	7.35	10.67
Frozen Sausage	9.10	9.01	0.71	7.70	10.49
Dish Soap	9.20	9.00	1.55	6.15	12.26
Baby Wipes	9.70	9.10	0.65	8.43	10.97
Snack Bars	10.42	9.53	0.51	9.42	11.41
Spaghetti Sauce	10.49	10.43	0.70	9.12	11.85
Tuna	10.67	10.81	0.66	9.38	11.96
Chocolate	13.61	13.60	0.70	12.25	14.98
Beans	14.57	14.05	0.57	13.45	15.69
Baby Food	15.81	15.82	0.61	14.62	17.00
RTE Pasta	18.08	15.60	0.70	16.72	19.45

Along with calculating descriptive statistics for the 28 product categories, an ANOVA test was run to be able to see what significant differences existed between product categories (Table 60). This was done to be able to say within the 95% confidence interval that one product was looked at significantly quicker than another product or

multiple other products using a pairwise comparison test (LS Means Differences Student's t).

Table 3.60. ANOVA Summary Table for Product Categories

Source	**DF**	**SS**	**MS**	**F**	**P**
Model	27	6250.05	231.48	19.16	<0.0001
Error	497	6004.44	12.08		
C. Total	524	12254.48			

Data were analyzed using an α equal to 0.05. The null hypothesis, which stated that no significant difference was found between the product categories, was rejected due to the fact that p<alpha ($F(27,497) = 19.16$, $p<0.0001$), indicating a significant difference between at least one product category. Using the LS Means Differences Student's t, it was found that 188 differences exist between the 28 product categories of the TTFF metric. The full report can be found in Appendix B. The data for each of the products within each product category is highlighted in Figures 3.61-3.88.

In the CPG arena, four brands and 33 SKUS for baby food were tested (Figure 3.61). Within the product category aggregates it placed 27th for the TTFF metric. Based on this finding, participants on average took 15.81 seconds to fixate on SKUs within this planogram; 95% confidence interval [Cl]= 14.62, 17.00.

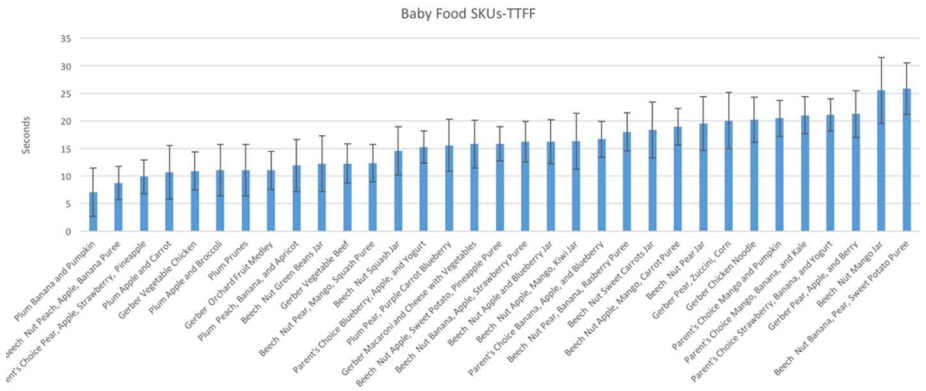

Figure 3.61. Baby Food SKUs for the TTFF Metric

Both Figure 3.61 and Table 3.61 illustrate the wide range of fixation values for the SKUs within the planogram, ranging from 7.06 seconds to 25.83 seconds.

Table 3.61. Descriptive Statistics for the Baby Food Category (in seconds)

Baby Food SKUs	Mean	Std Error	Lower 95%	Upper 95%
Plum Banana and Pumpkin	7.062	4.3614655	-1.50334	15.62734
Beech Nut Peach, Apple, Banana Puree	8.71871	3.0338718	2.76059	14.67683
Parent's Choice Pear, Apple, Strawberry, and Pineapple	9.853548	3.0338718	3.89543	15.81167
Plum Apple and Carrot	10.62583	4.8762667	1.04949	20.20217
Gerber Vegetable Chicken	10.87625	3.4480412	4.10476	17.64774
Plum Apple and Broccoli	11.02769	4.6849655	1.82704	20.22834
Plum Prunes	11.04231	4.6849655	1.84166	20.24296
Gerber Orchard Fruit Medley	11.0425	3.4480412	4.27101	17.81399
Plum Peach, Banana, and Apricot	11.88769	4.6849655	2.68704	21.08834
Beech Nut Green Beans Jar	12.24091	5.0930944	2.23875	22.24307
Gerber Vegetable Beef	12.2687	3.5222011	5.35156	19.18583
Beech Nut Pear, Mango, Squash Puree	12.3152	3.3783767	5.68052	18.94988
Beech Nut Squash Jar	14.564	4.3614655	5.99866	23.12934
Parent's Choice Blueberry, Apple, and Yogurt	15.26765	2.8969341	9.57845	20.95684
Plum Pear, Purple Carrot Blueberry	15.57769	4.6849655	6.37704	24.77834
Gerber Macaroni and Cheese with Vegetables	15.784	4.3614655	7.21866	24.34934
Beech Nut Apple, Sweet Potato, Pineapple Puree	15.82567	3.0840218	9.76906	21.88228
Beech Nut Banana, Apple, Strawberry Puree	16.21524	3.6861111	8.97621	23.45427
Beech Nut Apple and Blueberry Jar	16.25056	3.9814551	8.43151	24.0696
Beech Nut Apple, Mango, Kiwi Jar	16.32636	5.0930944	6.3242	26.32852
Parent's Choice Banana, Apple, and Blueberry	16.67296	3.2508445	10.28874	23.05719
Beech Nut Pear, Banana, Rasberry Puree	17.995	3.4480412	11.22351	24.76649
Beech Nut Sweet Carrots Jar	18.37909	5.0930944	8.37693	28.38125
Beech Nut Apple, Mango, Carrot Puree	18.97885	3.3127709	12.473	25.48469
Beech Nut Pear Jar	19.51083	4.8762667	9.93449	29.08717
Gerber Pear, Zuccini, Corn	20.06	5.0930944	10.05784	30.06216
Gerber Chicken Noodle	20.20588	4.0968835	12.16015	28.25162
Parent's Choice Mango and Pumpkin	20.48	3.2508445	14.09577	26.86423
Parent's Choice Mango, Banana, and Kale	21.0208	3.3783767	14.38612	27.65548
Parent's Choice Strawberry, Banana, and Yogurt	21.11273	2.9404994	15.33798	26.88748
Gerber Pear, Apple, and Berry	21.26375	4.2229708	12.9704	29.5571
Beech Nut Mango Jar	25.5475	5.9721826	13.81893	37.27607
Beech Nut Banana, Pear, Sweet Potato Puree	25.82539	4.6849655	16.62474	35.02603

Please note that confidence intervals that reach negative values equal approximately zero. The null hypothesis, which stated that no significant differences were found between the

SKUs, failed to be rejected due to the fact that p>alpha (F(32, 609) =1.39, p=0.078), indicating no significant difference between the various SKUs (Table 3.62).

Table 3.62. ANOVA Summary Table for Baby Food

Source	**DF**	**SS**	**MS**	**F**	**P**
Model	32	12686.98	396.47	1.39	0.078
Error	609	173769.45	285.37		
C. Total	641	186456.43			

Within the baby wipes category, four brands and 30 SKUs were tested (Figure 3.62). This product category placed 21st amongst the product category aggregates for the TFD metric. Based on this finding, participants on average took 9.70 seconds to fixate on SKUs within this planogram; 95% confidence interval [Cl]= 8.43, 10.97.

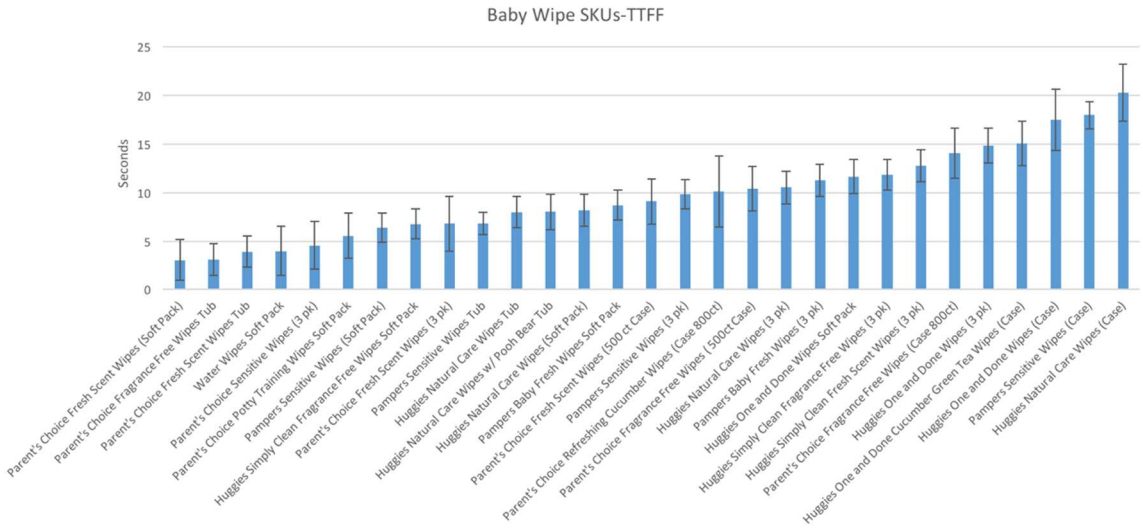

Figure 3.62. Baby Wipe SKUs for the TTFF Metric

Both Figure 3.62 and Table 3.63 illustrate the wide range of fixation values for the SKUs within the planogram, ranging from 3.04 seconds to 20.29 seconds.

Table 3.63. Descriptive Statistics for the Baby Wipes Category (in seconds)

Baby Wipe SKUs	Mean	Std Error	Lower 95%	Upper 95%
Parent's Choice Fresh Scent Wipes (Soft Pack)	3.04	2.14	-1.15	7.23
Parent's Choice Fragrance Free Wipes Tub	3.11	1.68	-0.19	6.40
Parent's Choice Fresh Scent Wipes Tub	3.94	1.64	0.72	7.16
Water Wipes Soft Pack	3.97	2.57	-1.07	9.00
Parent's Choice Sensitive Wipes (3 pk)	4.56	2.50	-0.34	9.46
Parent's Choice Potty Training Wipes Soft Pack	5.56	2.32	1.00	10.11
Pampers Sensitive Wipes (Soft Pack)	6.40	1.51	3.44	9.36
Huggies Simply Clean Fragrance Free Wipes Soft Pack	6.80	1.51	3.84	9.76
Parent's Choice Fresh Scent Wipes (3 pk)	6.82	2.81	1.30	12.34
Pampers Sensitive Wipes Tub	6.83	1.13	4.62	9.05
Huggies Natural Care Wipes Tub	8.02	1.59	4.90	11.13
Huggies Natural Care Wipes w/ Pooh Bear Tub	8.02	1.79	4.51	11.54
Huggies Natural Care Wipes (Soft Pack)	8.22	1.64	5.00	11.44
Pampers Baby Fresh Wipes Soft Pack	8.72	1.56	5.67	11.78
Parent's Choice Fresh Scent Wipes (500 ct Case)	9.10	2.32	4.55	13.66
Pampers Sensitive Wipes (3 pk)	9.83	1.51	6.87	12.79
Parent's Choice Refreshing Cucumber Wipes (Case 800ct)	10.13	3.63	3.01	17.25
Parent's Choice Fragrance Free Wipes (500ct Case)	10.40	2.27	5.95	14.86
Huggies Natural Care Wipes (3 pk)	10.52	1.66	7.27	13.78
Pampers Baby Fresh Wipes (3 pk)	11.24	1.64	8.02	14.46
Huggies One and Done Wipes Soft Pack	11.66	1.74	8.24	15.09
Huggies Simply Clean Fragrance Free Wipes (3 pk)	11.86	1.56	8.81	14.92
Huggies Simply Clean Fresh Scent Wipes (3 pk)	12.74	1.64	9.52	15.96
Parent's Choice Fragrance Free Wipes (Case 800ct)	14.09	2.57	9.05	19.12
Huggies One and Done Wipes (3 pk)	14.84	1.77	11.37	18.30
Huggies One and Done Cucumber Green Tea Wipes (Case)	15.07	2.27	10.61	19.52
Huggies One and Done Wipes (Case)	17.50	3.14	11.33	23.66
Pampers Sensitive Wipes (Case)	17.98	1.39	15.24	20.71
Huggies Natural Care Wipes (Case)	20.29	2.91	14.58	26.00

Please note that confidence intervals that reach negative values equal approximately zero. The null hypothesis, which stated that no significant differences were found between the SKUs, was rejected due to the fact that p<alpha ($F(29,1022) = 5.29$, $p<0.0001$), indicating a significant difference between at least one SKU (Table 3.64). Using the LS Means Differences Student's t, it was found that 158 significant differences exist between the 30 SKUs tested for baby wipes. The full report can be found in Appendix B.

Table 3.64. ANOVA Summary Table for Baby Wipes

Source	**DF**	**SS**	**MS**	**F**	**P**
Model	29	17529.29	626.07	5.29	<0.0001
Error	1022	121135.23	118.53		
C. Total	1051	138665.15			

Within the batteries category, four brands and 21 SKUs were tested (Figure 3.63). This product category placed 12th amongst the product category aggregates for the TTFF metric. Based on this finding, participants on average took 7.96 seconds to fixate on SKUs within this planogram; 95% confidence interval [Cl]= 6.47, 9.45.

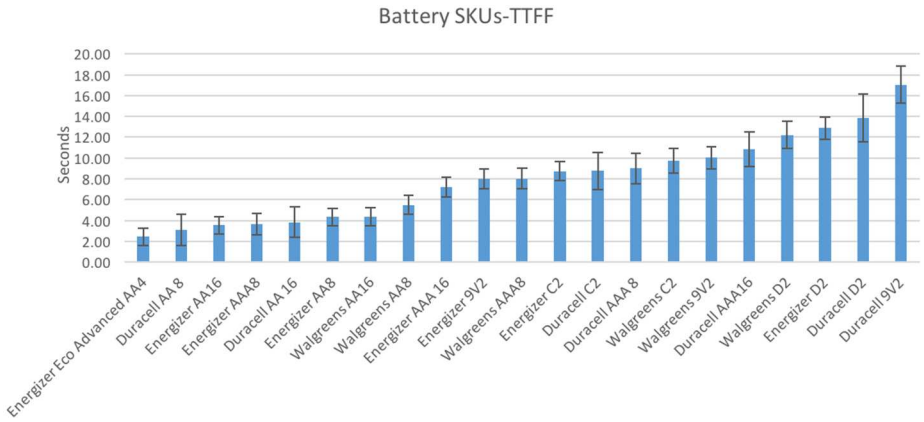

Figure 3.63. Battery SKUs for the TTFF Metric

Both Figure 3.63 and Table 3.65 illustrate the wide range of fixation values for the SKUs within the planogram, ranging from 2.43 seconds to 17.04 seconds.

Table 3.65. Descriptive Statistics for the Battery Category (in seconds)

Battery SKUs	Mean	Std Error	Lower 95%	Upper 95%
Energizer Eco Advanced AA4	2.43	0.85	0.76	4.09
Duracell AA 8	3.11	1.51	0.14	6.08
Energizer AA16	3.54	0.86	1.85	5.23
Energizer AAA8	3.66	1.03	1.64	5.68
Duracell AA 16	3.83	1.47	0.95	6.72
Energizer AA8	4.34	0.85	2.67	6.01
Walgreens AA16	4.38	0.88	2.66	6.10
Walgreens AA8	5.49	0.92	3.69	7.29
Energizer AAA 16	7.19	0.95	5.33	9.06
Energizer 9V2	8.00	0.91	6.21	9.79
Walgreens AAA8	8.03	0.99	6.08	9.97
Energizer C2	8.75	0.93	6.93	10.57
Duracell C2	8.77	1.76	5.32	12.23
Duracell AAA 8	9.00	1.49	6.07	11.92
Walgreens C2	9.76	1.19	7.43	12.09
Walgreens 9V2	10.02	1.09	7.87	12.16
Duracell AAA16	10.88	1.67	7.61	14.15
Walgreens D2	12.22	1.29	9.70	14.75
Energizer D2	12.88	1.05	10.83	14.93
Duracell D2	13.84	2.28	9.37	18.30
Duracell 9V2	17.04	1.76	13.58	20.50

The null hypothesis, which stated that no significant differences were found between the SKUs, was rejected due to the fact that p<alpha (F(20,1349) = 10.24, p<0.0001), indicating a significant difference between at least one SKU (Table 3.66). Using the LS Means Differences Student's t, it was found that 124 significant differences exist between the 21 SKUs tested for batteries. The full report can be found in Appendix B.

Table 3.66. ANOVA Summary Table for Batteries

Source	**DF**	**SS**	**MS**	**F**	**P**
Model	20	15920.56	796.03	10.24	<0.0001
Error	1349	104821.66	72.80		
C. Total	1369	120742.22			

Within the canned beans category, seven brands and 37 SKUs were tested (Figure 3.64). This product category placed 26th amongst the product category aggregates for the TTFF metric. Based on this finding, participants on average took 14.57 seconds to fixate on SKUs within this planogram; 95% confidence interval [Cl]= 13.45, 15.69.

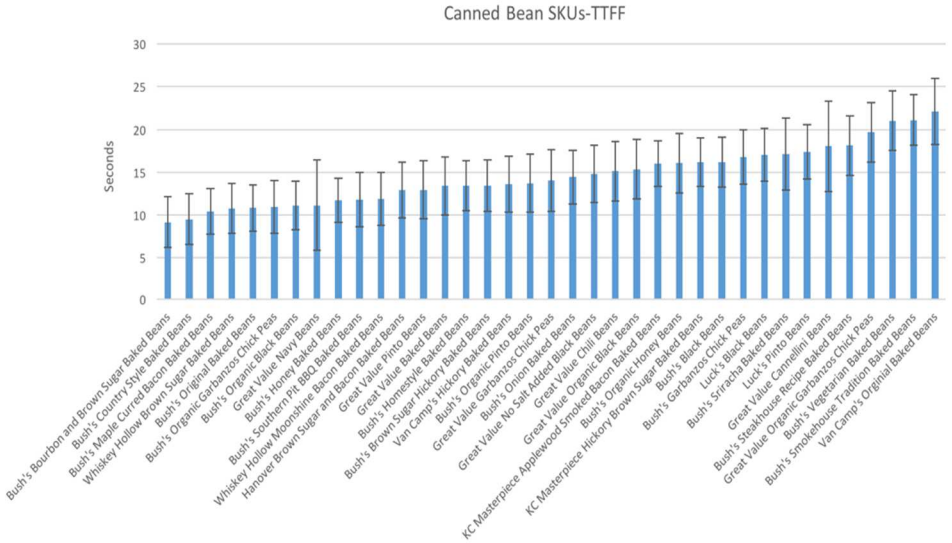

Figure 3.64. Canned Bean SKUs for the TTFF Metric

Both Figure 3.64 and Table 3.67 illustrate the wide range of fixation values for the SKUs within the planogram, ranging from 9.14 seconds to 22.10 seconds.

Table 3.67. Descriptive Statistics for the Canned Beans Category (in seconds)

Canned Beans SKUs	Mean	Std Error	Lower 95%	Upper 95%
Bush's Bourbon and Brown Sugar Baked Beans	9.14	2.96	3.32	14.96
Bush's Country Style Baked Beans	9.49	2.96	3.67	15.31
Bush's Maple Curred Bacon Baked Beans	10.42	2.68	5.17	15.68
Whiskey Hollow Brown Sugar Baked Beans	10.76	2.90	5.07	16.45
Bush's Original Baked Beans	10.81	2.68	5.56	16.07
Bush's Organic Garbanzos Chick Peas	10.96	3.11	4.86	17.07
Bush's Organic Black Beans	11.11	2.84	5.54	16.68
Great Value Navy Beans	11.14	5.26	0.82	21.46
Bush's Honey Baked Beans	11.74	2.58	6.67	16.81
Bush's Southern Pit BBQ Baked Beans	11.79	3.19	5.52	18.05
Whiskey Hollow Moonshine Bacon Baked Beans	11.86	3.11	5.75	17.96
Hanover Brown Sugar and Bacon Baked Beans	12.93	3.28	6.50	19.37
Great Value Pinto Beans	12.94	3.37	6.32	19.57
Great Value Baked Beans	13.39	3.37	6.76	20.01
Bush's Homestyle Baked Beans	13.41	2.90	7.72	19.11
Bush's Brown Sugar Hickory Baked Beans	13.42	3.03	7.46	19.38
Van Camp's Hickory Baked Beans	13.61	3.28	7.18	20.05
Bush's Organic Pinto Beans	13.73	3.37	7.10	20.35
Great Value Garbanzos Chick Peas	14.05	3.59	7.00	21.10
Bush's Onion Baked Beans	14.42	3.11	8.31	20.53
Great Value No Salt Added Black Beans	14.80	3.37	8.18	21.42
Great Value Chili Beans	15.12	3.48	8.29	21.95
Great Value Organic Black Beans	15.34	3.48	8.52	22.17
KC Masterpiece Applewood Smoked Bacon Baked Beans	16.02	2.68	10.76	21.27
Bush's Organic Honey Beans	16.06	3.48	9.23	22.88
KC Masterpiece Hickory Brown Sugar Baked Beans	16.14	2.84	10.57	21.71
Bush's Black Beans	16.18	2.90	10.49	21.88
Bush's Garbanzos Chick Peas	16.76	3.19	10.49	23.02
Luck's Black Beans	17.06	3.11	10.95	23.16
Bush's Sriracha Baked Beans	17.13	4.19	8.90	25.36
Luck's Pinto Beans	17.35	3.19	11.09	23.62
Great Value Cannellini Beans	18.03	5.26	7.71	28.35
Bush's Steakhouse Recipe Baked Beans	18.14	3.48	11.31	24.96
Great Value Organic Garbanzos Chick Peas	19.69	3.48	12.87	26.52
Bush's Vegetarian Baked Beans	21.02	3.48	14.19	27.84
Bush's Smokehouse Tradition Baked Beans	21.11	2.96	15.29	26.93
Van Camp's Orginial Baked Beans	22.10	3.86	14.53	29.67

The null hypothesis, which stated that no significant differences were found between the SKUs, failed to be rejected due to the fact that p>alpha (F(36, 667) =1.06, p=0.37), indicating no significant difference between the various SKUs (Table 3.68).

Table 3.68. ANOVA Summary Table for Canned Beans

Source	**DF**	**SS**	**MS**	**F**	**P**
Model	36	7398.49	205.51	1.06	0.37
Error	667	128984.16	193.38		
C. Total	703	136382.65			

Within the chocolate category, ten brands and 25 SKUs were tested (Figure 3.65). This product category placed 25th amongst the product category aggregates for the TTFF metric. Based on this finding, participants on average took 13.61 seconds to fixate on SKUs within this planogram; 95% confidence interval [CI]= 12.25, 14.98.

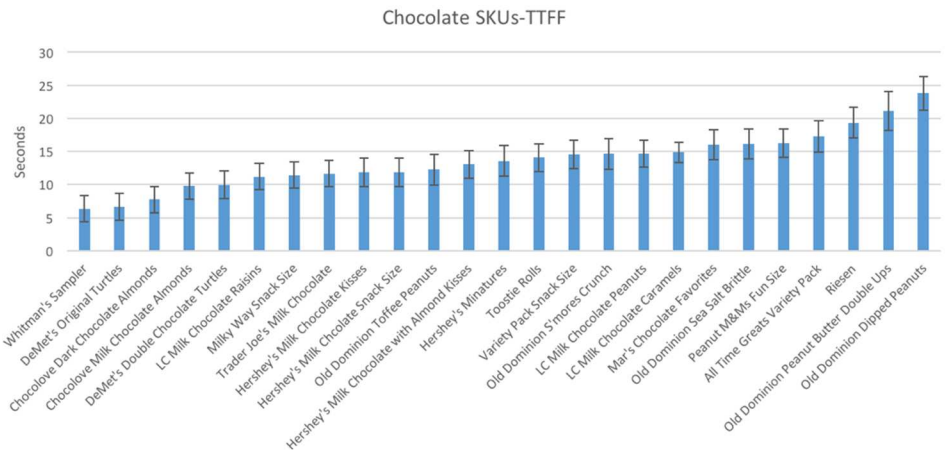

Figure 3.65. Chocolate SKUs for the TTFF Metric

Both Figure 3.65 and Table 3.69 illustrate the wide range of fixation values for the SKUs within the planogram, ranging from 6.37 seconds to 23.78 seconds.

Table 3.69. Descriptive Statistics for the Chocolate Category (in seconds)

Chocolate SKUs	Mean	Std Error	Lower 95%	Upper 95%
Whitman's Sampler	6.37	1.96	2.51	10.22
DeMet's Original Turtles	6.67	2.01	2.73	10.62
Chocolove Dark Chocolate Almonds	7.76	2.00	3.84	11.68
Chocolove Milk Chocolate Almonds	9.78	2.00	5.86	13.69
DeMet's Double Chocolate Turtles	9.94	2.08	5.85	14.03
LC Milk Chocolate Raisins	11.23	1.98	7.34	15.11
Milky Way Snack Size	11.44	2.00	7.53	15.36
Trader Joe's Milk Chocolate	11.68	1.96	7.83	15.53
Hershey's Milk Chocolate Kisses	11.83	2.14	7.62	16.03
Hershey's Milk Chcolate Snack Size	11.87	2.14	7.67	16.08
Old Dominion Toffee Peanuts	12.28	2.30	7.76	16.80
Hershey's Milk Chocolate with Almond Kisses	13.05	2.12	8.88	17.21
Hershey's Minatures	13.60	2.30	9.08	18.13
Toostie Rolls	14.10	2.08	10.01	18.19
Variety Pack Snack Size	14.57	2.10	10.44	18.70
Old Dominion S'mores Crunch	14.65	2.30	10.13	19.18
LC Milk Chocolate Peanuts	14.69	2.00	10.78	18.61
LC Milk Chocolate Caramels	14.86	1.50	11.92	17.81
Mar's Chocolate Favorites	15.99	2.26	11.56	20.41
Old Dominion Sea Salt Brittle	16.12	2.26	11.70	20.54
Peanut M&Ms Fun Size	16.25	2.14	12.04	20.45
All Time Greats Variety Pack	17.29	2.33	12.71	21.86
Riesen	19.34	2.33	14.77	23.91
Old Dominion Peanut Butter Double Ups	21.15	2.92	15.42	26.89
Old Dominion Dipped Peanuts	23.78	2.58	18.73	28.84

The null hypothesis, which stated that no significant differences were found between the SKUs, was rejected due to the fact that p<alpha ($F(24,1319) = 3.38$, $p<0.0001$), indicating a significant difference between at least one SKU (Table 3.70). Using the LS Means Differences Student's t, it was found that 87 significant differences exist between the 25 SKUs tested for chocolate. The full report can be found in Appendix B.

Table 3.70. ANOVA Summary Table for Chocolate

Source	**DF**	**SS**	**MS**	**F**	**P**
Model	24	19381.75	807.57	3.38	P<0.0001
Error	1319	315305.87	239.05		
C. Total	1343	334687.62			

Within the coffee category, 21 brands and 34 SKUs were tested (Figure 3.66). This product category placed 17th amongst the product category aggregates for the TTFF

metric. Based on this finding, participants on average took 8.95 seconds to fixate on SKUs within this planogram; 95% confidence interval [CI]= 7.78, 10.13.

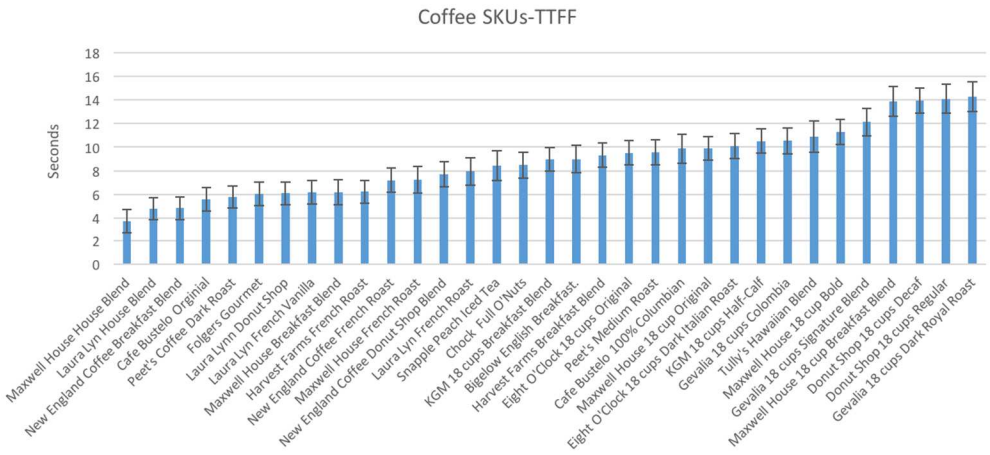

Figure 3.66. Coffee SKUs for the TTFF Metric

Both Figure 3.66 and Table 3.71 illustrate the wide range of fixation values for the SKUs within the planogram, ranging from 3.70 seconds to 14.34 seconds.

Table 3.71. Descriptive Statistics for the Coffee Category (in seconds)

Coffee SKUs	Mean	Std Error	Lower 95%	Upper 95%
Maxwell House House Blend	3.70	1.02	1.69	5.70
Laura Lyn House Blend	4.78	0.94	2.94	6.62
New England Coffee Breakfast Blend	4.81	0.95	2.95	6.68
Cafe Bustelo Orginial	5.58	0.98	3.67	7.50
Peet's Coffee Dark Roast	5.76	0.93	3.94	7.57
Folgers Gourmet	6.05	1.00	4.08	8.02
Laura Lynn Donut Shop	6.09	0.96	4.21	7.98
Laura Lyn French Vanilla	6.17	1.02	4.17	8.16
Maxwell House Breakfast Blend	6.19	1.05	4.12	8.26
Harvest Farms French Roast	6.21	0.95	4.36	8.06
New England Coffee French Roast	7.19	1.03	5.16	9.22
Maxwell House French Roast	7.23	1.11	5.06	9.40
New England Coffee Donut Shop Blend	7.68	1.06	5.60	9.76
Laura Lyn French Roast	7.94	1.18	5.63	10.26
Snapple Peach Iced Tea	8.43	1.28	5.92	10.94
Chock Full O'Nuts	8.48	1.11	6.30	10.66
KGM 18 cups Breakfast Blend	8.96	0.99	7.01	10.90
Bigelow English Breakfast.	8.98	1.17	6.68	11.28
Harvest Farms Breakfast Blend	9.30	1.03	7.29	11.32
Eight O'Clock 18 cups Original	9.53	1.03	7.50	11.56
Peet's Medium Roast	9.57	1.05	7.50	11.63
Cafe Bustelo 100% Columbian	9.86	1.26	7.40	12.33
Maxwell House 18 cup Original	9.90	1.00	7.95	11.86
Eight O'Clock 18 cups Dark Italian Roast	10.08	1.07	7.99	12.18
KGM 18 cups Half-Calf	10.52	1.03	8.50	12.55
Gevalia 18 cups Colombia	10.53	1.08	8.41	12.65
Tully's Hawaiian Blend	10.86	1.33	8.26	13.47
Maxwell House 18 cup Bold	11.32	1.07	9.23	13.41
Gevalia 18 cups Signature Blend	12.13	1.16	9.85	14.41
Maxwell House 18 cup Breakfast Blend	13.88	1.29	11.35	16.42
Donut Shop 18 cups Decaf	13.96	1.09	11.83	16.10
Donut Shop 18 cups Regular	14.11	1.24	11.67	16.55
Gevalia 18 cups Dark Royal Roast	14.31	1.27	11.82	16.79
Eight O'Clock 18 cups French Roast	14.34	1.27	11.86	16.83

The null hypothesis, which stated that no significant differences were found between the SKUs, was rejected due to the fact that p<alpha ($F(33,2531) = 7.36$, $p<0.0001$), indicating a significant difference between at least one SKU (Table 72). Using the LS Means Differences Student's t, it was found that 284 significant differences exist between the 34 SKUs tested for coffee. The full report can be found in Appendix B.

Table 3.72. ANOVA Summary Table for Coffee

Source	**DF**	**SS**	**MS**	**F**	**P**
Model	33	21071.15	683.52	7.36	<0.0001
Error	2531	219440.73	87.70		
C. Total	2564	240511.87			

Within the cold brew category, five brands and 14 SKUs were tested (Figure 3.67). This product category placed 4th amongst the product category aggregates for the TTFF metric. Based on this finding, participants on average took 5.88 seconds to fixate on SKUs within this planogram; 95% confidence interval [Cl]= 4.06, 7.71.

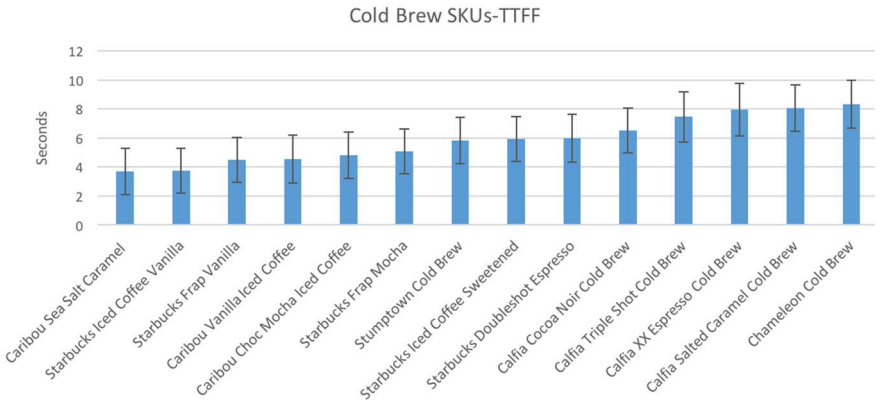

Figure 3.67. Cold Brew SKUs for the TTFF Metric

Both Figure 3.67 and Table 3.73 illustrate the wide range of fixation values for the SKUs within the planogram, ranging from 3.70 seconds to 8.31 seconds.

Table 3.73. Descriptive Statistics for the Cold Brew Category (in seconds)

Cold Brew SKUs	Mean	Std Error	Lower 95%	Upper 95%
Caribou Sea Salt Caramel	3.70	1.60	0.54	6.86
Starbucks Iced Coffee Vanilla	3.77	1.55	0.72	6.82
Starbucks Frap Vanilla	4.47	1.55	1.42	7.52
Caribou Vanilla Iced Coffee	4.55	1.66	1.28	7.83
Caribou Choc Mocha Iced Coffee	4.79	1.60	1.64	7.95
Starbucks Frap Mocha	5.06	1.55	2.01	8.11
Stumptown Cold Brew	5.85	1.60	2.69	9.00
Starbucks Iced Coffee Sweetened	5.92	1.55	2.87	8.97
Starbucks Doubleshot Espresso	5.98	1.66	2.70	9.25
Calfia Cocoa Noir Cold Brew	6.51	1.55	3.46	9.56
Calfia Triple Shot Cold Brew	7.46	1.73	4.05	10.87
Calfia XX Espresso Cold Brew	7.94	1.80	4.38	11.50
Calfia Salted Caramel Cold Brew	8.05	1.60	4.89	11.21
Chameleon Cold Brew	8.31	1.66	5.04	11.59

The null hypothesis, which stated that no significant differences were found between the SKUs, failed to be rejected due to the fact that p>alpha ($F(13,179) = 0.93$, $p=0.51$), indicating no significant difference between the various SKUs (Table 3.74).

Table 3.74. ANOVA Summary Table for Cold Brew

Source	**DF**	**SS**	**MS**	**F**	**P**
Model	13	436.96	33.61	0.93	0.51
Error	179	6413.94	35.83		
C. Total	192	6850.90			

Within the cookie category, six brands and ten SKUs were tested (Figure 3.68). This product category placed 14th amongst the product category aggregates for the TTFF metric. Based on this finding, participants on average took 8.24 seconds to fixate on SKUs within this planogram; 95% confidence interval [CI]= 6.08, 10.40.

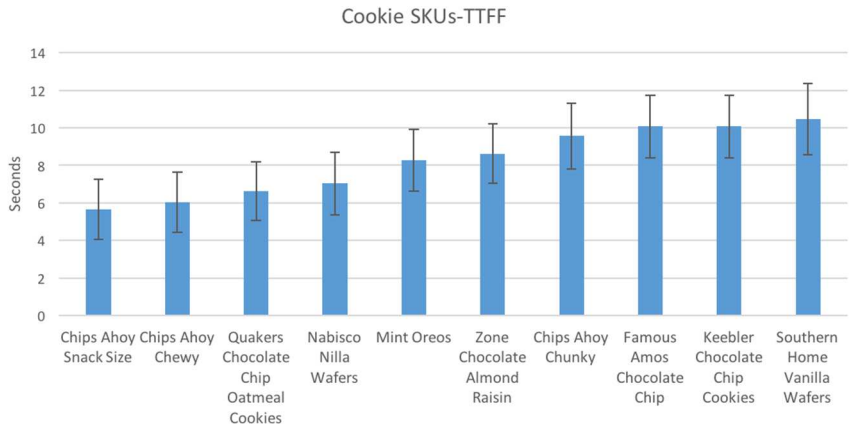

Figure 3.68. Cookie SKUs for the TTFF Metric

Both Figure 3.68 and Table 3.75 illustrate the wide range of fixation values for the SKUs within the planogram, ranging from 5.66 seconds to 10.48 seconds.

Table 3.75. Descriptive Statistics for the Cookie Category (in seconds)

Cookies SKUs	Mean	Std Error	Lower 95%	Upper 95%
Chips Ahoy Snack Size	5.66	1.59	2.53	8.79
Chips Ahoy Chewy	6.03	1.59	2.90	9.16
Quakers Chocolate Chip Oatmeal Cookies	6.62	1.57	3.54	9.70
Nabisco Nilla Wafers	7.04	1.67	3.75	10.33
Mint Oreos	8.26	1.64	5.02	11.49
Zone Chocolate Almond Raisin	8.63	1.57	5.55	11.71
Chips Ahoy Chunky	9.56	1.74	6.14	12.98
Famous Amos Chocolate Chip	10.07	1.67	6.77	13.36
Keebler Chocolate Chip Cookies	10.08	1.67	6.78	13.37
Southern Home Vanilla Wafers	10.48	1.89	6.76	14.19

The null hypothesis, which stated that no significant differences were found between the SKUs, failed to be rejected due to the fact that p>alpha ($F(9,277) = 1.17$, $p=0.31$), indicating no significant difference between the various SKUs (Table 3.76).

Table 3.76. ANOVA Summary Table for Cookies

Source	**DF**	**SS**	**MS**	**F**	**P**
Model	9	825.97	91.77	1.17	0.31
Error	277	21721.36	78.42		
C. Total	286	22547.33			

Within the detergent category, three brands and eight SKUs were tested (Figure 3.69). This product category placed 8th amongst the product category aggregates for the TTFF metric. Based on this finding, participants on average took 6.76 seconds to fixate on SKUs within this planogram; 95% confidence interval [Cl]= 4.34, 9.17.

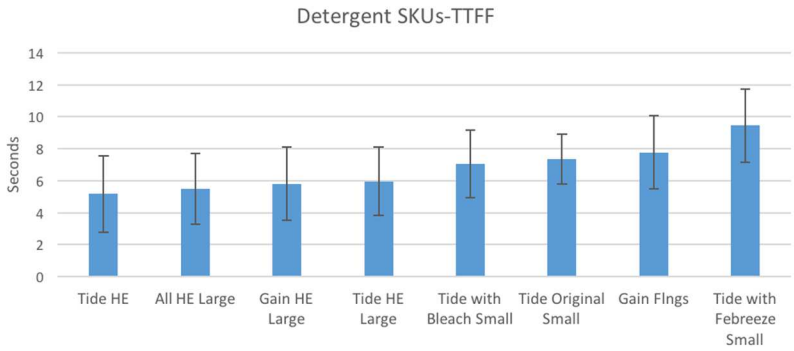

Figure 3.69. Detergent SKUs for the TTFF Metric

Both Figure 3.69 and Table 3.77 illustrate the wide range of fixation values for the SKUs within the planogram, ranging from 5.18 seconds to 9.44 seconds.

Table 3.77. Descriptive Statistics for the Detergent Category (in seconds)

Detergent SKUs	Mean	Std Error	Lower 95%	Upper 95%
Tide HE	5.18	2.40	0.42	9.93
All HE Large	5.50	2.21	1.13	9.88
Gain HE Large	5.81	2.30	1.26	10.36
Tide HE Large	5.96	2.13	1.74	10.17
Tide with Bleach Small	7.05	2.13	2.83	11.26
Tide Original Small	7.34	1.56	4.25	10.44
Gain Flngs	7.78	2.30	3.22	12.33
Tide with Febreeze Small	9.44	2.30	4.89	14.00

The null hypothesis, which stated that no significant differences were found between the SKUs, failed to be rejected due to the fact that p>alpha ($F(7,106) = 0.40$, $p=0.90$), indicating no significant difference between the various SKUs (Table 3.78).

Table 3.78. ANOVA Summary Table for Detergent

Source	DF	SS	MS	F	P
Model	7	176.32	25.19	0.40	0.90
Error	106	6707.39	63.28		
C. Total	113	6883.70			

Within the dish soap category, three brands and five SKUs were tested (Figure 3.70). This product category placed 20th amongst the product category aggregates for the TTFF metric. Based on this finding, participants on average took 9.20 seconds to fixate on SKUs within this planogram; 95% confidence interval [Cl]= 6.15, 12.26.

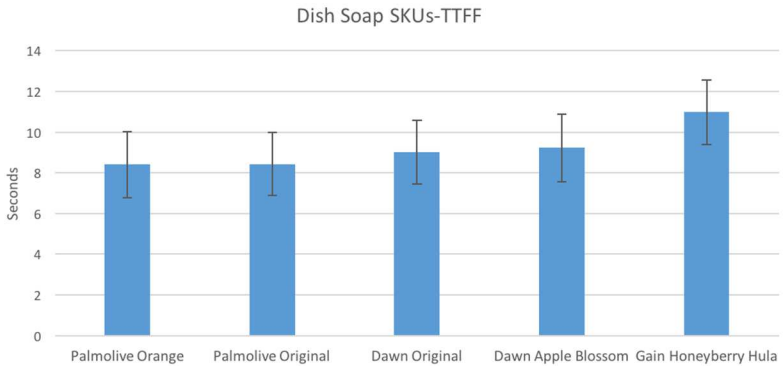

Figure 3.70. Dish Soap SKUs for the TTFF Metric

Both Figure 3.70 and Table 3.79 illustrate the wide range of fixation values for the SKUs within the planogram, ranging from 8.40 seconds to 10.97 seconds.

Table 3.79. Descriptive Statistics for the Dish Soap Category (in seconds)

Dish Soap SKUs	Mean	Std Error	Lower 95%	Upper 95%
Palmolive Orange	8.40	1.62	5.19	11.61
Palmolive Original	8.43	1.55	5.37	11.50
Dawn Original	9.00	1.58	5.89	12.12
Dawn Apple Blossom	9.22	1.68	5.90	12.53
Gain Honeyberry Hula	10.97	1.60	7.81	14.13

The null hypothesis, which stated that no significant differences were found between the SKUs, failed to be rejected due to the fact that p>alpha (F(4,159) = 0.43, p=0.79), indicating no significant difference between the various SKUs (Table 3.80).

Table 3.80. ANOVA Summary Table for Dish Soap

Source	**DF**	**SS**	**MS**	**F**	**P**
Model	4	145.99	36.50	0.43	0.79
Error	159	13423.36	84.42		
C. Total	163	13569.36			

Within the frozen sausage category, four brands and 24 SKUs were tested (Figure 3.71). This product category placed 19th amongst the product category aggregates for the TTFF metric. Based on this finding, participants on average took 9.10 seconds to fixate on SKUs within this planogram; 95% confidence interval [Cl]= 7.70, 10.49.

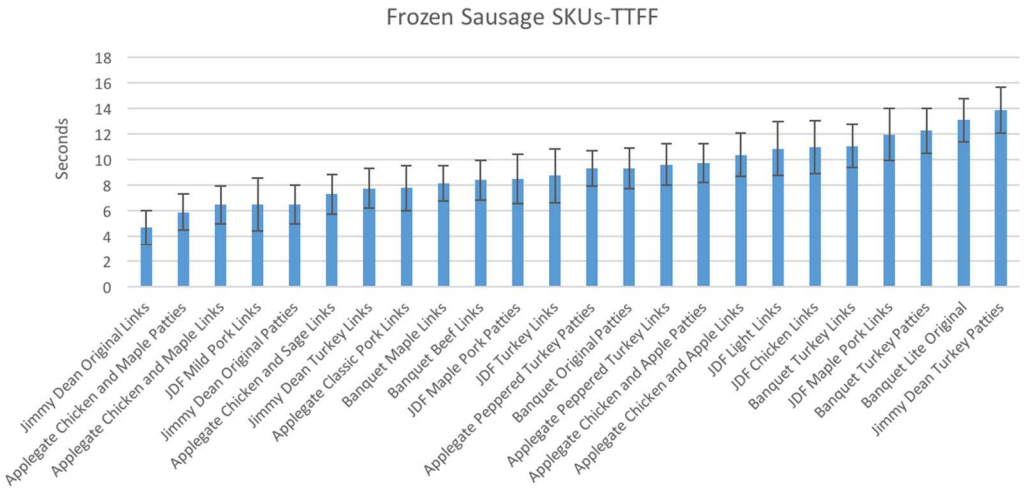

Figure 3.71. Frozen Sausage SKUs for the TTFF Metric

Both Figure 3.71 and Table 3.81 illustrate the wide range of fixation values for the SKUs within the planogram, ranging from 4.64 seconds to 13.83 seconds.

Table 3.81. Descriptive Statistics for the Frozen Sausage Category (in seconds)

Frozen Sausage SKUs	Mean	Std Error	Lower 95%	Upper 95%
Jimmy Dean Original Links	4.64	1.37	1.96	7.32
Applegate Chicken and Maple Patties	5.85	1.42	3.07	8.63
Applegate Chicken and Maple Links	6.43	1.46	3.57	9.29
JDF Mild Pork Links	6.47	2.06	2.42	10.51
Jimmy Dean Original Patties	6.47	1.52	3.49	9.45
Applegate Chicken and Sage Links	7.27	1.55	4.22	10.32
Jimmy Dean Turkey Links	7.73	1.55	4.68	10.78
Applegate Classic Pork Links	7.75	1.77	4.28	11.22
Banquet Maple Links	8.13	1.39	5.40	10.85
Banquet Beef Links	8.36	1.57	5.27	11.44
JDF Maple Pork Patties	8.47	1.95	4.64	12.29
JDF Turkey Links	8.72	2.10	4.59	12.85
Applegate Peppered Turkey Patties	9.30	1.39	6.57	12.02
Banquet Original Patties	9.30	1.59	6.18	12.42
Applegate Peppered Turkey Links	9.59	1.61	6.43	12.75
Applegate Chicken and Apple Patties	9.69	1.50	6.74	12.65
Applegate Chicken and Apple Links	10.34	1.69	7.01	13.66
JDF Light Links	10.83	2.10	6.70	14.96
JDF Chicken Links	10.93	2.06	6.88	14.97
Banquet Turkey Links	11.03	1.69	7.70	14.36
JDF Maple Pork Links	11.93	2.02	7.96	15.90
Banquet Turkey Patties	12.25	1.77	8.78	15.72
Banquet Lite Original	13.08	1.69	9.76	16.41
Jimmy Dean Turkey Patties	13.83	1.79	10.31	17.35

The null hypothesis, which stated that no significant differences were found between the SKUs, was rejected due to the fact that p<alpha ($F(23, 917) = 2.08$, $p=0.0021$), indicating a significant difference between at least one SKU (Table 3.82). Using the LS Means Differences Student's t, it was found that 46 significant differences exist between the 24 SKUs tested for frozen sausage. The full report can be found in Appendix B.

Table 3.82. ANOVA Summary Table for Frozen Sausage

Source	**DF**	**SS**	**MS**	**F**	**P**
Model	23	5089.66	221.29	2.08	0.0021
Error	917	97459.01	106.28		
C. Total	940	102548.67			

Within the frozen treat category, seven brands and eight SKUs were tested (Figure 3.72). This product category placed 2nd amongst the product category aggregates for the TTFF metric. Based on this finding, participants on average took 93.64 seconds to fixate on SKUs within this planogram; 95% confidence interval [Cl]= 1.22, 6.05.

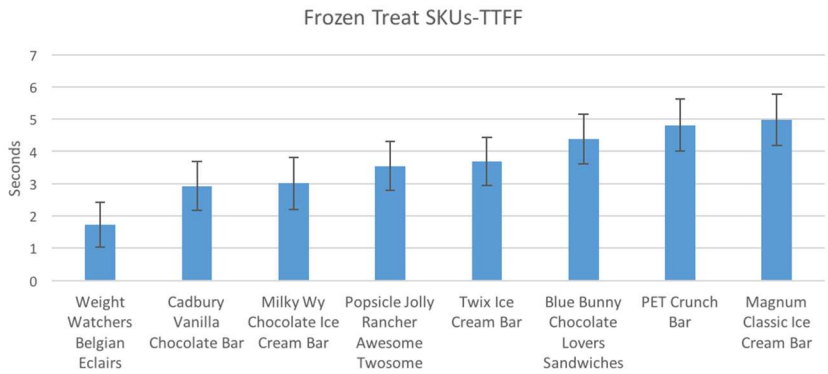

Figure 3.72. Frozen Treat SKUs for the TTFF Metric

Both Figure 3.72 and Table 3.83 illustrate the wide range of fixation values for the SKUs within the planogram, ranging from 1.73 seconds to 4.98 seconds.

Table 3.83. Descriptive Statistics for the Frozen Treat Category (in seconds)

Frozen Treat SKUs	Mean	Std Error	Lower 95%	Upper 95%
Weight Watchers Belgian Eclairs	1.73	0.68	0.38	3.07
Cadbury Vanilla Chocolate Bar	2.93	0.75	1.45	4.40
Milky Wy Chocolate Ice Cream Bar	3.01	0.80	1.43	4.60
Popsicle Jolly Rancher Awesome Twosome	3.55	0.75	2.07	5.03
Twix Ice Cream Bar	3.69	0.74	2.23	5.15
Blue Bunny Chocolate Lovers Sandwiches	4.39	0.77	2.87	5.90
PET Crunch Bar	4.81	0.80	3.23	6.40
Magnum Classic Ice Cream Bar	4.98	0.79	3.42	6.54

The null hypothesis, which stated that no significant differences were found between the SKUs, was rejected due to the fact that p<alpha ($F(7, 297) = 2.17$, $p=0.037$), indicating a significant difference between at least one SKU (Table 3.84). Using the LS Means Differences Student's t, it was found that three significant differences exist between the eight SKUs tested for frozen treats. The full report can be found in Appendix B.

Table 3.84. ANOVA Summary Table for Frozen Treats

Source	DF	SS	MS	F	P
Model	7	333.49	47.64	2.17	0.037
Error	297	6529.71	21.98		
C. Total	304	6863.20			

Within the hot sauce category, nine brands and 19 SKUs were tested (Figure 3.73). This product category placed 3rd amongst the product category aggregates for the TTFF metric. Based on this finding, participants on average took 5.15 seconds to fixate on SKUs within this planogram; 95% confidence interval [Cl]= 3.59, 6.72.

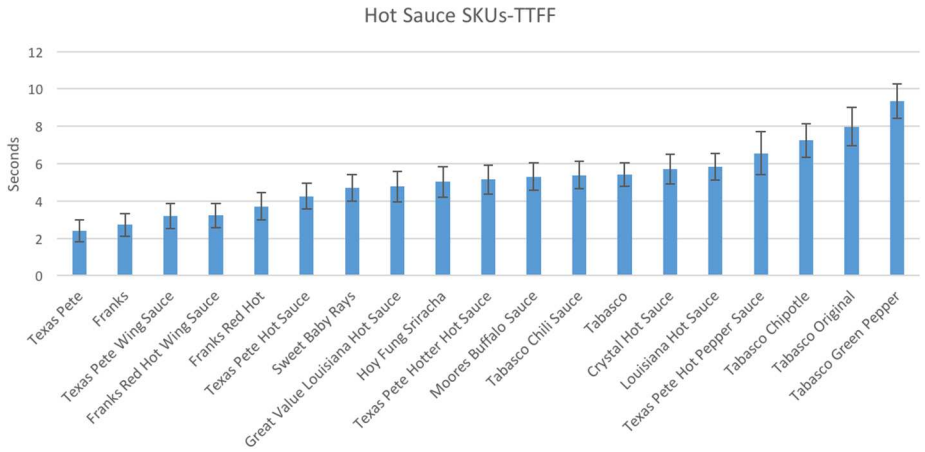

Figure 3.73. Hot Sauce SKUs for the TTFF Metric

Both Figure 3.73 and Table 3.85 illustrate the wide range of fixation values for the SKUs within the planogram, ranging from 2.41 seconds to 9.34 seconds.

Table 3.85. Descriptive Statistics for the Hot Sauce Category (in seconds)

Hot Sauce SKUs	Mean	Std Error	Lower 95%	Upper 95%
Texas Pete	2.41	0.59	1.25	3.56
Franks	2.71	0.60	1.53	3.90
Texas Pete Wing Sauce	3.19	0.66	1.90	4.48
Franks Red Hot Wing Sauce	3.23	0.66	1.94	4.52
Franks Red Hot	3.70	0.73	2.26	5.14
Texas Pete Hot Sauce	4.26	0.68	2.93	5.59
Sweet Baby Rays	4.71	0.71	3.32	6.11
Great Value Louisiana Hot Sauce	4.77	0.80	3.19	6.35
Hoy Fung Sriracha	5.02	0.82	3.41	6.64
Texas Pete Hotter Hot Sauce	5.14	0.79	3.60	6.69
Moores Buffalo Sauce	5.30	0.73	3.86	6.74
Tabasco Chili Sauce	5.39	0.72	3.98	6.80
Tabasco	5.41	0.64	4.15	6.66
Crystal Hot Sauce	5.71	0.79	4.16	7.26
Louisiana Hot Sauce	5.83	0.72	4.42	7.24
Texas Pete Hot Pepper Sauce	6.56	1.14	4.33	8.80
Tabasco Chipotle	7.23	0.90	5.46	9.01
Tabasco Original	7.99	1.02	5.99	9.99
Tabasco Green Pepper	9.34	0.90	7.57	11.12

The null hypothesis, which stated that no significant differences were found between the SKUs, was rejected due to the fact that p<alpha ($F(18, 524) = 5.19$, $p<0.0001$), indicating a significant difference between at least one SKU (Table 3.86). Using the LS Means Differences Student's t, it was found that 71 significant differences exist between the 19 SKUs tested for hot sauce. The full report can be found in Appendix B.

Table 3.86. ANOVA Summary Table for Hot Sauce

Source	**DF**	**SS**	**MS**	**F**	**P**
Model	18	1452.13	80.67	5.20	<0.0001
Error	524	8136.68	15.53		
C. Total	542	9588.81			

Within the muesli category, three brands and four SKUs were tested (Figure 3.74). This product category placed 13th amongst the product category aggregates for the TTFF metric. Based on this finding, participants on average took 8.05 seconds to fixate on SKUs within this planogram; 95% confidence interval [Cl]= 4.64, 11.46.

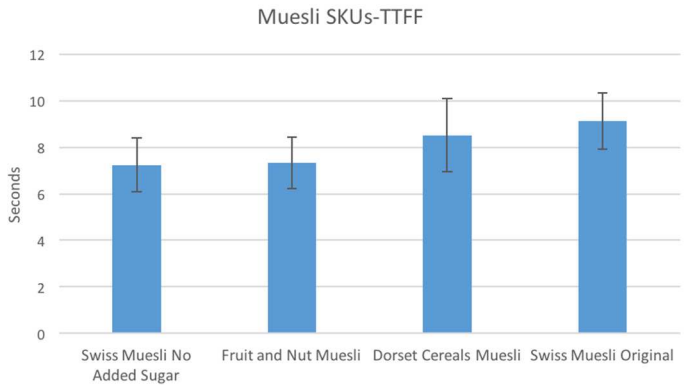

Figure 3.74. Muesli SKUs for the TTFF Metric

Both Figure 3.74 and Table 87 illustrate the wide range of fixation values for the SKUs within the planogram, ranging from 7.24 seconds to 9.13 seconds.

Table 3.87. Descriptive Statistics for the Muesli Category (in seconds)

Muesli SKUs	Mean	Std Error	Lower 95%	Upper 95%
Swiss Muesli No Added Sugar	7.24	1.15	4.97	9.51
Fruit and Nut Muesli	7.32	1.10	5.14	9.49
Dorset Cereals Muesli	8.52	1.56	5.44	11.59
Swiss Muesli Original	9.13	1.22	6.73	11.53

The null hypothesis, which stated that no significant differences were found between the SKUs, failed to be rejected due to the fact that p>alpha (F (3,197) = 0.59, p=0.62), indicating no significant difference between the various SKUs (Table 3.88).

Table 3.88. ANOVA Summary Table for Muesli

Source	**DF**	**SS**	**MS**	**F**	**P**
Model	3	134.39	44.80	0.59	0.62
Error	197	14857.16	75.42		
C. Total	200	14991.55			

Within the natural fruit drink category, eight brands and 16 SKUs were tested (Figure 3.75). This product category placed 10th amongst the product category aggregates for the TTFF metric. Based on this finding, participants on average took 7.41 seconds to fixate on SKUs within this planogram; 95% confidence interval [Cl]= 5.71, 9.12.

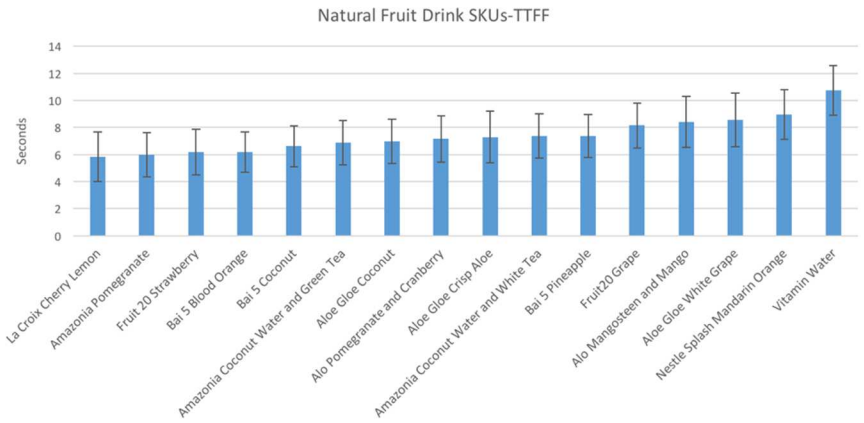

Figure 3.75. Natural Fruit Drink SKUs for the TTFF Metric

Both Figure 3.75 and Table 3.89 illustrate the wide range of fixation values for the SKUs within the planogram, ranging from 5.84 seconds to 10.74 seconds.

Table 3.89. Descriptive Statistics for the Natural Fruit Drink Category (in seconds)

Natural Fruit Drink SKUs	Mean	Std Error	Lower 95%	Upper 95%
La Croix Cherry Lemon	5.84	1.84	2.21	9.46
Amazonia Pomegranate	5.99	1.65	2.75	9.23
Fruit 20 Strawberry	6.17	1.68	2.87	9.48
Bai 5 Blood Orange	6.19	1.48	3.28	9.10
Bai 5 Coconut	6.60	1.50	3.65	9.56
Amazonia Coconut Water and Green Tea	6.88	1.65	3.64	10.12
Aloe Gloe Coconut	6.96	1.65	3.72	10.20
Alo Pomegranate and Cranberry	7.15	1.72	3.77	10.52
Aloe Gloe Crisp Aloe	7.29	1.89	3.58	11.01
Amazonia Coconut Water and White Tea	7.37	1.65	4.13	10.61
Bai 5 Pineapple	7.37	1.58	4.26	10.49
Fruit20 Grape	8.13	1.65	4.90	11.37
Alo Mangosteen and Mango	8.43	1.89	4.71	12.14
Aloe Gloe White Grape	8.55	2.00	4.63	12.48
Nestle Splash Mandarin Orange	8.94	1.84	5.32	12.56
Vitamin Water	10.74	1.84	7.12	14.36

The null hypothesis, which stated that no significant differences were found between the SKUs, failed to be rejected due to the fact that p>alpha ($F(15,359) = 0.53$, $p=0.93$), indicating no significant difference between the various SKUs (Table 3.90).

Table 3.90. ANOVA Summary Table for Natural Fruit Drinks

Source	DF	SS	MS	F	P
Model	15	535.04	35.67	0.53	0.93
Error	359	24337.43	67.79		
C. Total	374	24872.47			

Within the olive oil category, eight brands and 13 SKUs were tested (Figure 3.76). This product category placed 6th amongst the product category aggregates for the TTFF metric. Based on this finding, participants on average took 6.23 seconds to fixate on SKUs within this planogram; 95% confidence interval [Cl]= 4.34, 8.13.

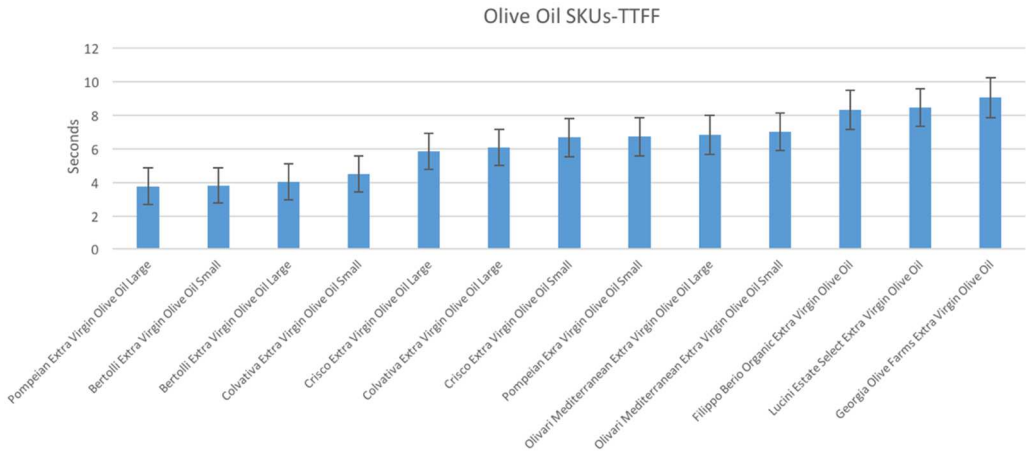

Figure 3.76. Olive Oil SKUs for the TTFF Metric

Both Figure 3.76 and Table 3.91 illustrate the wide range of fixation values for the SKUs within the planogram, ranging from 3.76 seconds to 9.03 seconds.

Table 3.91. Descriptive Statistics for the Olive Oil Category (in seconds)

Olive Oil SKUs	Mean	Std Error	Lower 95%	Upper 95%
Pompeian Extra Virgin Olive Oil Large	3.76	1.10	1.59	5.93
Bertolli Extra Virgin Olive Oil Small	3.82	1.06	1.74	5.89
Bertolli Extra Virgin Olive Oil Large	4.03	1.06	1.96	6.11
Colvativa Extra Virgin Olive Oil Small	4.51	1.07	2.41	6.62
Crisco Extra Virgin Olive Oil Large	5.85	1.07	3.75	7.96
Colvativa Extra Virgin Olive Oil Large	6.08	1.09	3.94	8.21
Crisco Extra Virgin Olive Oil Small	6.67	1.14	4.43	8.91
Pompeian Exra Virgin Olive Oil Small	6.71	1.14	4.47	8.95
Olivari Mediterranean Extra Virgin Olive Oil Large	6.82	1.16	4.54	9.10
Olivari Mediterranean Extra Virgin Olive Oil Small	6.99	1.12	4.79	9.20
Filippo Berio Organic Extra Virgin Olive Oil	8.32	1.16	6.04	10.60
Lucini Estate Select Extra Virgin Olive Oil	8.45	1.12	6.25	10.65
Georgia Olive Farms Extra Virgin Olive Oil	9.03	1.20	6.67	11.39

The null hypothesis, which stated that no significant differences were found between the SKUs, was rejected due to the fact that p<alpha ($F(12, 397) = 2.58$, $p=0.0027$), indicating a significant difference between at least one SKU (Table 3.92). Using the LS Means Differences Student's t, it was found that 15 significant differences exist between the 13 SKUs tested for olive oil. The full report can be found in Appendix B.

Table 3.92. ANOVA Summary Table for Olive Oil

Source	**DF**	**SS**	**MS**	**F**	**P**
Model	12	1200.79	100.07	2.58	0.0027
Error	397	15470.34	38.97		
C. Total	409	16671.13			

Within the organic cereal category, three brands and three SKUs were tested (Figure 3.77). This product category placed 16th amongst the product category aggregates for the TTFF metric. Based on this finding, participants on average took 8.94 seconds to fixate on SKUs within this planogram; 95% confidence interval [Cl]= 5.00, 12.00.

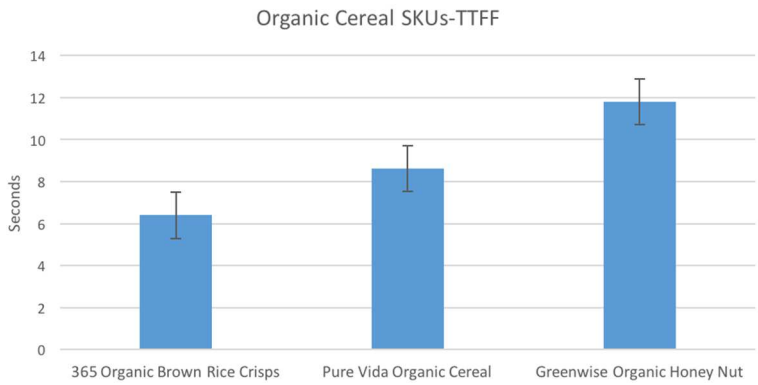

Figure 3.77. Organic Cereal SKUs for the TTFF Metric

Both Figure 3.77 and Table 3.93 illustrate the wide range of fixation values for the SKUs within the planogram, ranging from 6.40 seconds to 11.81 seconds.

Table 3.93. Descriptive Statistics for the Organic Cereal Category (in seconds)

Organic Cereal SKUs	Mean	Std Error	Lower 95%	Upper 95%
365 Organic Brown Rice Crisps	6.40	1.10	4.22	8.57
Pure Vida Organic Cereal	8.61	1.09	6.46	10.77
Greenwise Organic Honey Nut	11.81	1.09	9.65	13.96

The null hypothesis, which stated that no significant differences were found between the SKUs, was rejected due to the fact that p<alpha ($F(2, 170) = 6.16$, $p=0.0026$), indicating a significant difference between at least one SKU (Table 3.94). Using the LS Means Differences Student's t, it was found that two significant differences exist between the three SKUs tested for organic cereal. The full report can be found in Appendix B.

Table 3.94. ANOVA Summary Table for Organic Cereal

Source	**DF**	**SS**	**MS**	**F**	**P**
Model	2	852.01	426.00	6.16	0.0026
Error	170	11757.06	69.16		
C. Total	172	12609.06			

Within the rice category, nine brands and 18 SKUs (Figure 3.78). This product category placed 11th amongst the product category aggregates for the TTFF metric. Based on this finding, participants on average took 7.62 seconds to fixate on SKUs within this planogram; 95% confidence interval [Cl]= 5.91, 9.33.

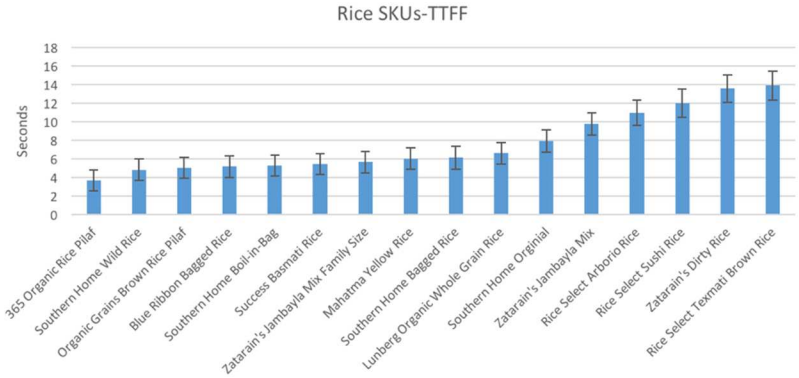

Figure 3.78. Rice SKUs for the TTFF Metric

Both Figure 3.78 and Table 3.95 illustrate the wide range of fixation values for the SKUs within the planogram, ranging from 3.66 seconds to 13.90 seconds.

Table 3.95. Descriptive Statistics for the Rice Category (in seconds)

Rice SKUs	Mean	Std Error	Lower 95%	Upper 95%
365 Organic Rice Pilaf	3.66	1.14	1.42	5.89
Southern Home Wild Rice	4.84	1.14	2.60	7.07
Organic Grains Brown Rice Pilaf	5.05	1.13	2.84	7.27
Blue Ribbon Bagged Rice	5.18	1.16	2.90	7.46
Southern Home Boil-in-Bag	5.27	1.15	3.01	7.53
Success Basmati Rice	5.43	1.13	3.21	7.64
Zatarain's Jambayla Mix Family Size	5.65	1.17	3.34	7.95
Mahatma Yellow Rice	6.03	1.16	3.75	8.31
Southern Home Bagged Rice	6.13	1.22	3.73	8.53
Lunberg Organic Whole Grain Rice	6.60	1.17	4.30	8.90
Southern Home Orginial	7.92	1.18	5.60	10.25
Zatarain's Jambayla Mix	9.77	1.21	7.40	12.15
Rice Select Arborio Rice	10.94	1.36	8.28	13.61
Rice Select Sushi Rice	12.02	1.53	9.02	15.02
Zatarain's Dirty Rice	13.57	1.48	10.66	16.48
Rice Select Texmati Brown Rice	13.90	1.55	10.85	16.95

The null hypothesis, which stated that no significant differences were found between the SKUs, was rejected due to the fact that p<alpha ($F(15, 735) = 5.93$, $p<0.0001$), indicating a significant difference between at least one SKU (Table 3.96). Using the LS Means

Differences Student's t, it was found that 55 significant differences exist between the 18 SKUs tested for rice. The full report can be found in Appendix B.

Table 3.96. ANOVA Summary Table for Rice

Source	**DF**	**SS**	**MS**	**F**	**P**
Model	15	6235.11	415.67	5.93	<0.0001
Error	735	51522.49	70.10		
C. Total	750	57757.60			

Within the ready-to-eat pasta category, six brands and 30 SKUs (Figure 3.79). This product category placed 28th amongst the product category aggregates for the TTFF metric. Based on this finding, participants on average took 18.08 seconds to fixate on SKUs within this planogram; 95% confidence interval [CI]= 16.71, 19.45.

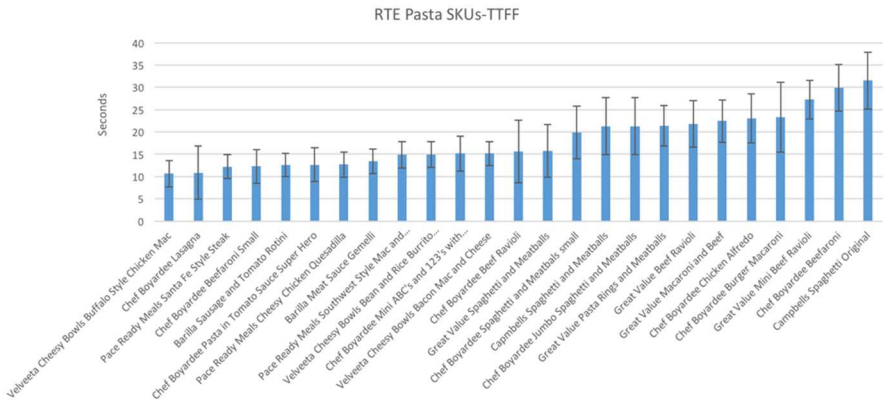

Figure 3.79. Ready-to-eat pasta SKUs for the TTFF Metric

Both Figure 3.79 and Table 3.97 illustrate the wide range of fixation values for the SKUs within the planogram, ranging from 10.62 seconds to 31.54 seconds.

Table 3.97. Descriptive Statistics for the Ready-to-eat Pasta Category (in seconds)

RTE Pasta SKUs	Mean	Std Error	Lower 95%	Upper 95%
Velveeta Cheesy Bowls Buffalo Style Chicken Mac	10.62	2.96	4.80	16.45
Chef Boyardee Lasagna	10.86	5.92	-0.79	22.51
Pace Ready Meals Santa Fe Style Steak	12.21	2.69	6.93	17.50
Chef Boyardee Beefaroni Small	12.27	3.80	4.79	19.74
Barilla Sausage and Tomato Rotini	12.58	2.65	7.37	17.79
Chef Boyardee Pasta in Tomato Sauce Super Hero	12.62	3.80	5.14	20.09
Pace Ready Meals Cheesy Chicken Quesadilla	12.68	2.82	7.15	18.22
Barilla Meat Sauce Gemelli	13.40	2.77	7.95	18.85
Pace Ready Meals Southwest Style Mac and Cheese	14.90	2.96	9.07	20.72
Velveeta Cheesy Bowls Bean and Rice Burrito Bowl	14.95	2.91	9.22	20.67
Chef Boyardee Mini ABC's and 123's with Meatballs	15.16	3.92	7.45	22.86
Velveeta Cheesy Bowls Bacon Mac and Cheese	15.19	2.69	9.90	20.47
Chef Boyardee Beef Ravioli	15.60	7.01	1.82	29.38
Great Value Spaghetti and Meatballs	15.75	5.92	4.10	27.39
Chef Boyardee Spaghetti and Meatbals small	19.83	5.92	8.18	31.48
Capmbells Spaghetti and Meatballs	21.30	6.40	8.72	33.88
Chef Boyardee Jumbo Spaghetti and Meatballs	21.31	6.40	8.72	33.89
Great Value Pasta Rings and Meatballs	21.39	4.53	12.50	30.29
Great Value Beef Ravioli	21.86	5.23	11.58	32.13
Great Value Macaroni and Beef	22.46	4.73	13.17	31.76
Chef Boyardee Chicken Alfredo	23.06	5.54	12.16	33.95
Chef Boyardee Burger Macaroni	23.34	7.84	7.93	38.75
Great Value Mini Beef Ravioli	27.26	4.35	18.72	35.81
Chef Boyardee Beefaroni	29.98	5.23	19.71	40.25
Campbells Spaghetti Original	31.54	6.40	18.95	44.12

Please note that confidence intervals that reach negative values equal approximately zero. The null hypothesis, which stated that no significant differences were found between the SKUs, was rejected due to the fact that p<alpha ($F(30, 386) = 1.69$, $p=0.023$), indicating a significant difference between at least one SKU (Table 3.98). Using the LS Means Differences Student's t, it was found that 38 significant differences exist between the 30 SKUs tested for ready-to-eat pasta. The full report can be found in Appendix B.

Table 3.98. ANOVA Summary Table for Ready-to-eat Pasta

Source	**DF**	**SS**	**MS**	**F**	**P**
Model	30	9976.80	415.70	1.69	0.023
Error	386	94844.91	245.71		
C. Total	410	104821.71			

Within the seasoned breading category, ten brands and 32 SKUs (Figure 3.80). This product category placed 15th amongst the product category aggregates for the TTFF metric. Based on this finding, participants on average took 8.24 seconds to fixate on SKUs within this planogram; 95% confidence interval [Cl]= 7.28, 9.70.

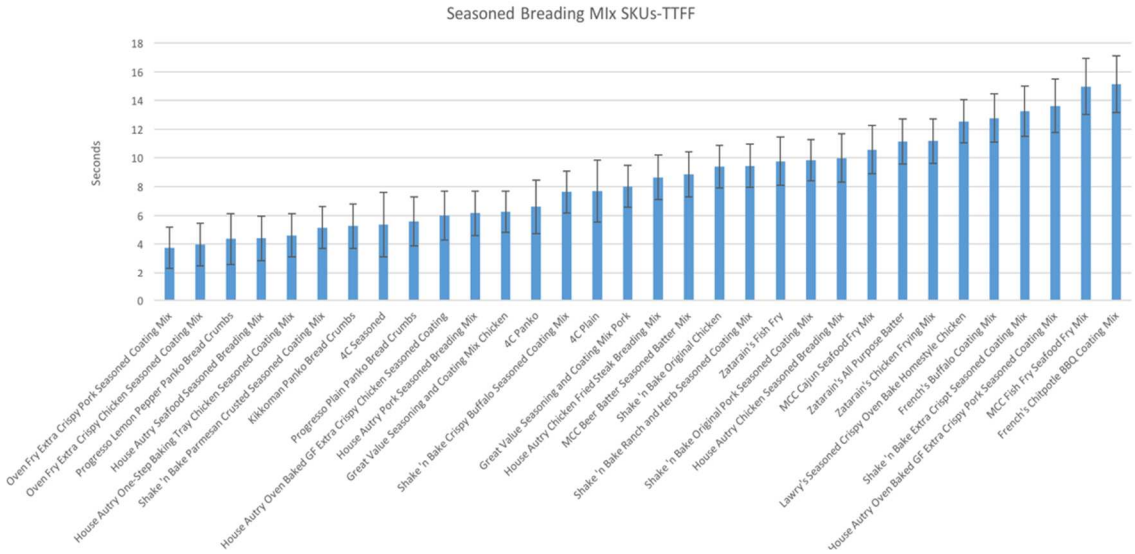

Figure 3.80. Seasoned breading SKUs for the TTFF Metric

Both Figure 3.80 and Table 3.99 illustrate the wide range of fixation values for the SKUs within the planogram, ranging from 3.74 seconds to 15.13 seconds.

Table 3.99. Descriptive Statistics for the Seasoned Breading Category (in seconds)

Seasoned Breading Mix SKUs	Mean	Std Error	Lower 95%	Upper 95%
Oven Fry Extra Crispy Pork Seasoned Coating Mix	3.74	1.45	0.90	6.58
Oven Fry Extra Crispy Chicken Seasoned Coating Mix	3.96	1.47	1.07	6.85
Progresso Lemon Pepper Panko Bread Crumbs	4.35	1.76	0.89	7.80
House Autry Seafood Seasoned Breading Mix	4.41	1.55	1.36	7.45
House Autry One-Step Baking Tray Chicken Seasoned Coating Mix	4.62	1.52	1.62	7.61
Shake 'n Bake Parmesan Crusted Seasoned Coating Mix	5.15	1.45	2.31	8.00
Kikkoman Panko Bread Crumbs	5.26	1.55	2.21	8.31
4C Seasoned	5.37	2.24	0.98	9.76
Progresso Plain Panko Bread Crumbs	5.57	1.72	2.20	8.95
House Autry Oven Baked GF Extra Crispy Chicken Seasoned Coating	5.98	1.72	2.60	9.35
House Autry Pork Seasoned Breading Mix	6.15	1.55	3.11	9.20
Great Value Seasoning and Coating Mix Chicken	6.25	1.43	3.45	9.05
4C Panko	6.59	1.85	2.96	10.22
Shake 'n Bake Crispy Buffalo Seasoned Coating Mix	7.63	1.47	4.74	10.52
4C Plain	7.68	2.15	3.44	11.91
Great Value Seasoning and Coating Mix Pork	8.02	1.45	5.18	10.86
House Autry Chicken Fried Steak Breading Mix	8.64	1.55	5.59	11.68
MCC Beer Batter Seasoned Batter Mix	8.86	1.58	5.75	11.96
Shake 'n Bake Original Chicken	9.39	1.50	6.45	12.33
Shake 'n Bake Ranch and Herb Seasoned Coating Mix	9.44	1.50	6.50	12.38
Zatarain's Fish Fry	9.76	1.68	6.46	13.06
Shake 'n Bake Original Pork Seasoned Coating Mix	9.84	1.45	7.00	12.69
House Autry Chicken Seasoned Breading Mix	9.98	1.68	6.68	13.28
MCC Cajun Seafood Fry Mix	10.58	1.68	7.28	13.88
Zatarain's All Purpose Batter	11.13	1.58	8.03	14.24
Zatarain's Chicken Frying Mix	11.17	1.55	8.12	14.21
Lawry's Seasoned Crispy Oven Bake Homestyle Chicken	12.55	1.50	9.61	15.49
French's Buffalo Coating Mix	12.77	1.68	9.47	16.07
Shake 'n Bake Extra Crispt Seasoned Coating Mix	13.25	1.76	9.80	16.71
House Autry Oven Baked GF Extra Crispy Pork Seasoned Coating Mix	13.63	1.85	10.00	17.26
MCC Fish Fry Seafood Fry Mix	14.96	1.96	11.12	18.80
French's Chitpotle BBQ Coating Mix	15.13	1.96	11.29	18.97

The null hypothesis, which stated that no significant differences were found between the SKUs, was rejected due to the fact that p<alpha ($F(31, 763) = 3.98$, $p<0.0001$), indicating a significant difference between at least one SKU (Table 100). Using the LS Means Differences Student's t, it was found that 181 significant differences exist between the 32 SKUs tested for seasoned breading. The full report can be found in Appendix B.

Table 3.100. ANOVA Summary Table for Seasoned Breading

Source	**DF**	**SS**	**MS**	**F**	**P**
Model	31	8019.15	258.68	3.98	<0.0001
Error	763	49606.91	65.02		
C. Total	794	57626.06			

Within the shelf stable tuna category, four brands and 28 SKUs were tested (Figure 3.81). This product category placed 24th amongst the product category aggregates for the TTFF metric. Based on this finding, participants on average took 10.67 seconds to fixate on SKUs within this planogram; 95% confidence interval [Cl]= 9.37, 11.96.

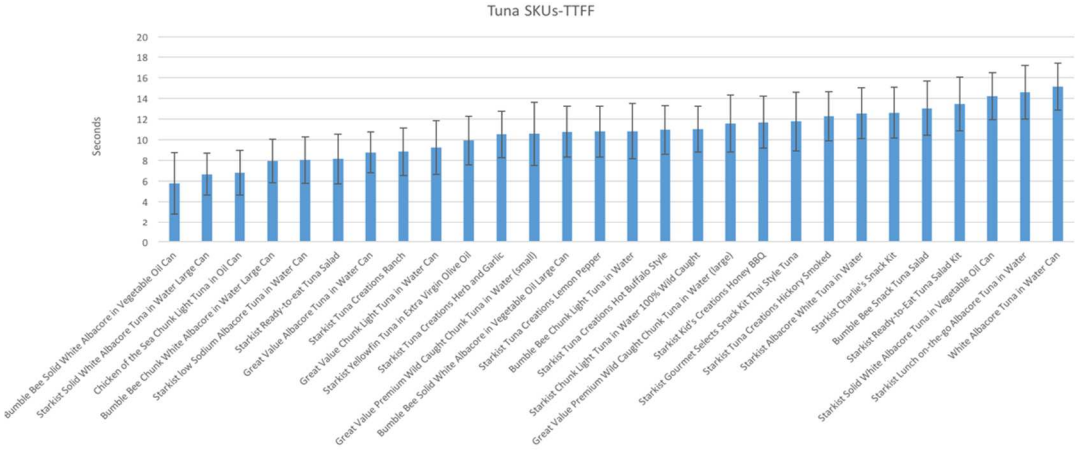

Figure 3.81. Shelf Stable Tuna SKUs for the TTFF Metric

Both Figure 3.81 and Table 3.101 illustrate the wide range of fixation values for the SKUs within the planogram, ranging from 5.77 seconds to 15.14 seconds.

Table 3.101. Descriptive Statistics for the Shelf Stable Tuna Category (in seconds)

Tuna SKUs	Mean	Std Error	Lower 95%	Upper 95%
Bumble Bee Solid White Albacore in Vegetable Oil Can	5.77	2.96	-0.03	11.58
Starkist Solid White Albacore Tuna in Water Large Can	6.66	2.02	2.69	10.63
Chicken of the Sea Chunk Light Tuna in Oil Can	6.80	2.17	2.53	11.06
Bumble Bee Chunk White Albacore in Water Large Can	7.94	2.13	3.75	12.12
Starkist low Sodium Albacore Tuna in Water Can	8.04	2.26	3.60	12.47
Starkist Ready-to-eat Tuna Salad	8.14	2.41	3.40	12.89
Great Value Albacore Tuna in Water Can	8.77	1.99	4.87	12.68
Starkist Tuna Creations Ranch	8.86	2.31	4.32	13.39
Great Value Chunk Light Tuna in Water Can	9.24	2.61	4.12	14.36
Starkist Yellowfin Tuna in Extra Virgin Olive Oil	9.94	2.36	5.30	14.57
Starkist Tuna Creations Herb and Garlic	10.52	2.26	6.09	14.96
Great Value Premium Wild Caught Chunk Tuna in Water (small)	10.57	3.07	4.55	16.60
Bumble Bee Solid White Albacore in Vegetable Oil Large Can	10.77	2.47	5.91	15.63
Starkist Tuna Creations Lemon Pepper	10.80	2.47	5.94	15.66
Bumble Bee Chunk Light Tuna in Water	10.83	2.68	5.56	16.10
Starkist Tuna Creations Hot Buffalo Style	10.97	2.36	6.34	15.60
Starkist Chunk Light Tuna in Water 100% Wild Caught	11.02	2.21	6.67	15.36
Great Value Premium Wild Caught Chunk Tuna in Water (large)	11.59	2.77	6.15	17.02
Starkist Kid's Creations Honey BBQ	11.70	2.54	6.72	16.69
Starkist Gourmet Selects Snack Kit Thai Style Tuna	11.77	2.86	6.16	17.38
Starkist Tuna Creations Hickory Smoked	12.28	2.36	7.64	16.91
Starkist Albacore White Tuna in Water	12.57	2.47	7.71	17.43
Starkist Charlie's Snack Kit	12.62	2.47	7.76	17.48
Bumble Bee Snack Tuna Salad	13.06	2.61	7.94	18.18
Starkist Ready-to-Eat Tuna Salad Kit	13.48	2.61	8.36	18.60
Starkist Solid White Albacore Tuna in Vegetable Oil Can	14.22	2.26	9.79	18.66
Starkist Lunch on-the-go Albacore Tuna in Water	14.60	2.61	9.48	19.72
White Albacore Tuna in Water Can	15.14	2.26	10.70	19.58

The null hypothesis, which stated that no significant differences were found between the SKUs, failed to be rejected due to the fact that p>alpha ($F(27, 563) = 1.06$, $p=0.38$) indicating no significant difference between the various SKUs (Table 3.102).

Table 3.102. ANOVA Summary Table for Shelf Stable Tuna

Source	**DF**	**SS**	**MS**	**F**	**P**
Model	27	3503.50	129.76	1.06	0.38
Error	563	68925.01	122.43		
C. Total	590	72428.51			

Within the snack bar category, 11 brands and 47 SKUs were tested (Figure 3.82). This product category placed 22nd amongst the product category aggregates for the TTFF metric. Based on this finding, participants on average took 10.41 seconds to fixate on SKUs within this planogram; 95% confidence interval [CI]= 9.42, 11.41.

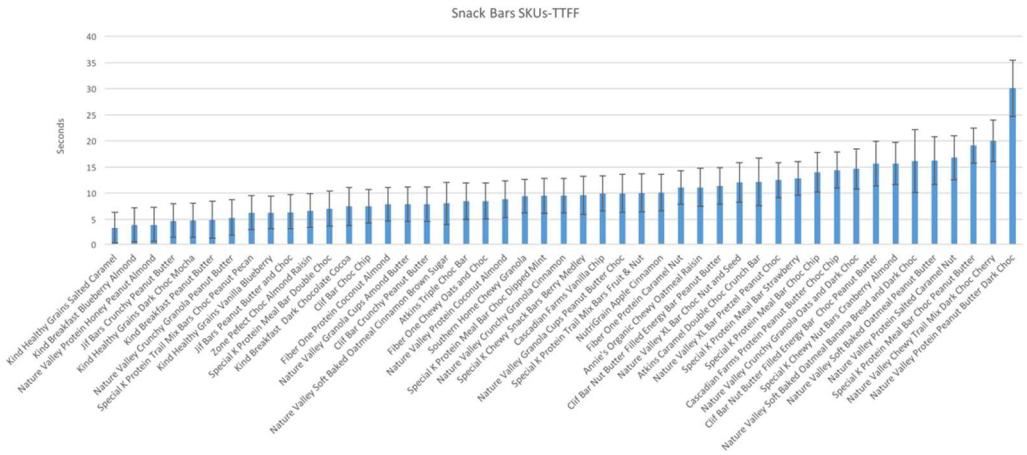

Figure 3.82. Snack Bar SKUs for the TTFF Metric

Both Figure 3.82 and Table 3.103 illustrate the wide range of fixation values for the SKUs within the planogram, ranging from 3.31 seconds to 30.09 seconds.

Table 3.103. Descriptive Statistics for the Snack Bar Category (in seconds)

Snack Bars SKUs	Mean	Std Error	Lower 95%	Upper 95%
Kind Healthy Grains Salted Caramel	3.31	3.00	-3.25	9.87
Kind Breakfast Blueberry Almond	3.87	3.34	-2.69	10.42
Nature Valley Protein Honey Peanut Almond	3.92	3.34	-2.64	10.48
Jif Bars Crunchy Peanut Butter	4.68	3.34	-1.88	11.24
Kind Healthy Grains Dark Choc Mocha	4.76	3.34	-1.80	11.32
Kind Breakfast Peanut Butter	4.84	3.63	-2.29	11.97
Nature Valley Crunchy Granola Peanut Butter	5.26	3.47	-1.57	12.09
Special K Protein Trail Mix Bars Choc Peanut Pecan	6.19	3.34	-0.37	12.75
Kind Healthy Grains Vanilla Blueberry	6.21	3.22	-0.11	12.53
Jif Bars Peanut Butter and Choc	6.38	3.34	-0.18	12.93
Zone Pefect Choc Almond Raisin	6.67	3.22	0.34	12.99
Special K Protein Meal Bar Double Choc	7.05	3.34	0.49	13.61
Kind Breakfast Dark Chocolate Cocoa	7.46	3.63	0.33	14.59
Clif Bar Choc Chip	7.50	3.22	1.18	13.82
Fiber One Protein Coconut Almond	7.87	3.22	1.55	14.19
Nature Valley Granola Cups Amond Butter	7.88	3.34	1.32	14.44
Clif Bar Crunchy Peanut Butter	7.88	3.34	1.32	14.44
Nature Valley Soft Baked Oatmeal Cinnamon Brown Sugar	8.04	4.01	0.16	15.92
Atkins Triple Choc Bar	8.49	3.47	1.66	15.32
Fiber One Chewy Oats and Choc	8.50	3.47	1.67	15.33
Nature Valley Protein Coconut Almond	8.83	3.47	2.01	15.66
Southern Home Chewy Granola	9.43	3.22	3.11	15.75
Special K Protein Meal Bar Choc Dipped Mint	9.51	3.34	2.95	16.07
Nature Valley Crunchy Granola Cinnamon	9.53	3.34	2.97	16.09
Special K Chewy Snack Bars Berry Medley	9.58	3.63	2.45	16.71
Cascadian Farms Vanilla Chip	9.94	3.34	3.38	16.50
Nature Valley Granola Cups Peanut Butter Choc	9.96	3.63	2.83	17.09
Special K Protein Trail Mix Bars Fruit & Nut	10.06	3.63	2.93	17.19
NutriGrain Apple Cinnamon	10.11	3.47	3.28	16.93
Fiber One Protein Caramel Nut	11.07	3.22	4.75	17.39
Annie's Organic Chewy Oatmeal Raisin	11.12	3.63	3.99	18.25
Clif Bar Nut Butter Filled Energy Bar Peanut Butter	11.36	3.47	4.53	18.18
Nature Valley XL Bar Choc Nut and Seed	12.06	3.81	4.58	19.54
Atkins Caramel Double Choc Crunch Bar	12.14	4.55	3.21	21.08
Nature Valley XL Bar Pretzel Peanut Choc	12.52	3.34	5.96	19.08
Special K Protein Meal Bar Strawberry	12.85	3.22	6.53	19.17
Special K Protein Meal Bar Choc Chip	13.99	3.81	6.51	21.47
Cascadian Farms Protein Peanut Butter Choc Chip	14.42	3.47	7.59	21.25
Nature Valley Crunchy Granola Oats and Dark Choc	14.63	3.81	7.15	22.11
Clif Bar Nut Butter Filled Energy Bar Choc Peanut Butter	15.65	4.26	7.29	24.01
Special K Chewy Nut Bars Cranberry Almond	15.68	4.01	7.80	23.56
Nature Valley Soft Baked Oatmeal Banana Bread and Dark C	16.12	6.02	4.29	27.94
Nature Valley Soft Baked Oatmeal Peanut Butter	16.20	4.55	7.26	25.14
Nature Valley Protein Salted Caramel Nut	16.78	4.26	8.41	25.14
Special K Protein Meal Bar Choc Peanut Butter	19.12	3.34	12.57	25.68
Nature Valley Chewy Trail Mix Dark Choc Cherry	20.02	4.01	12.13	27.90
Nature Valley Protein Peanut Butter Dark Choc	30.09	5.38	19.51	40.67

Please note that confidence intervals that reach negative values equal approximately zero. The null hypothesis, which stated that no significant differences were found between the SKUs, was rejected due to the fact that p<alpha ($F(46, 492) = 1.55$, $p=0.014$), indicating a significant difference between at least one SKU (Table 3.104). Using the LS Means Differences Student's t, it was found that 127 significant differences exist between the 46 SKUs tested for snack bars. The full report can be found in Appendix B.

Table 3.104. ANOVA Summary Table for Snack Bars

Source	DF	SS	MS	F	P
Model	46	10346.74	224.93	1.55	0.014
Error	492	71270.99	144.86		
C. Total	538	81617.74			

Within the snack cake category, five brands and 19 SKUs were tested (Figure 3.83). This product category placed 9th amongst the product category aggregates for the TTFF metric. Based on this finding, participants on average took 6.98 seconds to fixate on SKUs within this planogram; 95% confidence interval [Cl]= 5.41, 8.54.

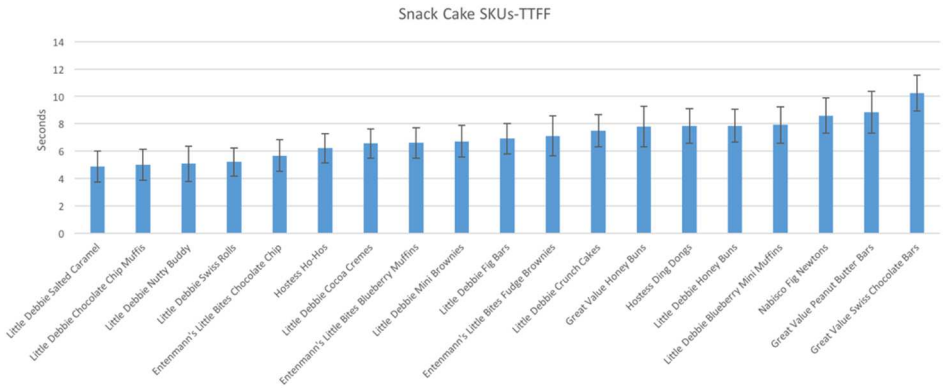

Figure 3.83. Snack Cake SKUs for the TTFF Metric

Both Figure 3.83 and Table 3.105 illustrate the wide range of fixation values for the SKUs within the planogram, ranging from 4.88 seconds to 10.24 seconds.

Table 3.105. Descriptive Statistics for the Snack Cake Category (in seconds)

Snack Cakes SKUs	Mean	Std Error	Lower 95%	Upper 95%
Little Debbie Salted Caramel	4.88	1.13	2.66	7.10
Little Debbie Chocolate Chip Muffis	5.02	1.13	2.80	7.23
Little Debbie Nutty Buddy	5.07	1.30	2.52	7.63
Little Debbie Swiss Rolls	5.22	1.02	3.21	7.23
Entenmann's Little Bites Chocolate Chip	5.68	1.17	3.38	7.98
Hostess Ho-Hos	6.22	1.07	4.11	8.32
Little Debbie Cocoa Cremes	6.56	1.07	4.45	8.66
Entenmann's Little Bites Blueberry Muffins	6.60	1.11	4.43	8.78
Little Debbie Mini Brownies	6.72	1.15	4.47	8.98
Little Debbie Fig Bars	6.90	1.13	4.69	9.12
Entenmann's Little Bites Fudge Brownies	7.11	1.45	4.27	9.96
Little Debbie Crunch Cakes	7.50	1.17	5.20	9.80
Great Value Honey Buns	7.79	1.49	4.86	10.72
Hostess Ding Dongs	7.83	1.27	5.33	10.32
Little Debbie Honey Buns	7.85	1.19	5.51	10.20
Little Debbie Blueberry Mini Muffins	7.92	1.33	5.30	10.54
Nabisco Fig Newtons	8.60	1.30	6.04	11.16
Great Value Peanut Butter Bars	8.84	1.54	5.81	11.87
Great Value Swiss Chocolate Bars	10.24	1.30	7.68	12.80

The null hypothesis, which stated that no significant differences were found between the SKUs, failed to be rejected due to the fact that p>alpha ($F(18,447) = 1.36$, $p=0.15$) indicating no significant difference between the various SKUs (Table 3.106).

Table 3.106. ANOVA Summary Table for Snack Cakes

Source	**DF**	**SS**	**MS**	**F**	**P**
Model	18	871.08	48.39	1.36	0.15
Error	447	15905.36	35.58		
C. Total	465	16776.44			

Within the sour cream category, four brands and seven SKUs were tested (Figure 3.84). This product category placed 1st amongst the product category aggregates for the TTFF metric. Based on this finding, participants on average took 2.90 seconds to fixate on SKUs within this planogram; 95% confidence interval [Cl]= 0.31, 5.48.

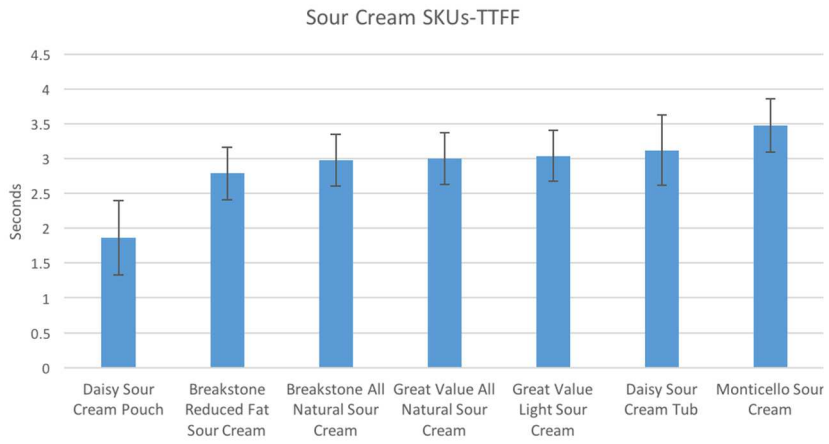

Figure 3.84. Sour Cream SKUs for the TTFF Metric

Both Figure 3.84 and Table 3.107 illustrate the wide range of fixation values for the SKUs within the planogram, ranging from 1.86 seconds to 3.47 seconds.

Table 3.107. Descriptive Statistics for the Sour Cream Category (in seconds)

Sour Cream SKUs	Mean	Std Error	Lower 95%	Upper 95%
Daisy Sour Cream Pouch	1.86	0.53	0.81	2.91
Breakstone Reduced Fat Sour Cream	2.79	0.38	2.04	3.54
Breakstone All Natural Sour Cream	2.98	0.37	2.24	3.71
Great Value All Natural Sour Cream	3.00	0.37	2.27	3.74
Great Value Light Sour Cream	3.04	0.37	2.32	3.76
Daisy Sour Cream Tub	3.12	0.51	2.13	4.12
Monticello Sour Cream	3.47	0.38	2.73	4.22

The null hypothesis, which stated that no significant differences were found between the SKUs, failed to be rejected due to the fact that p>alpha ($F(6,323) = 1.07$, $p=0.38$) indicating no significant difference between the various SKUs (Table 3.108).

Table 3.108. ANOVA Summary Table for Sour Cream

Source	**DF**	**SS**	**MS**	**F**	**P**
Model	6	49.53	8.26	1.07	0.38
Error	323	2482.57	7.69		
C. Total	329	2532.11			

Within the spaghetti sauce category, seven brands and 25 SKUs were tested (Figure 3.85). This product category placed 23rd amongst the product category aggregates for the TTFF metric. Based on this finding, participants on average took 10.49 seconds to fixate on SKUs within this planogram; 95% confidence interval [Cl]= 9.12, 11.85.

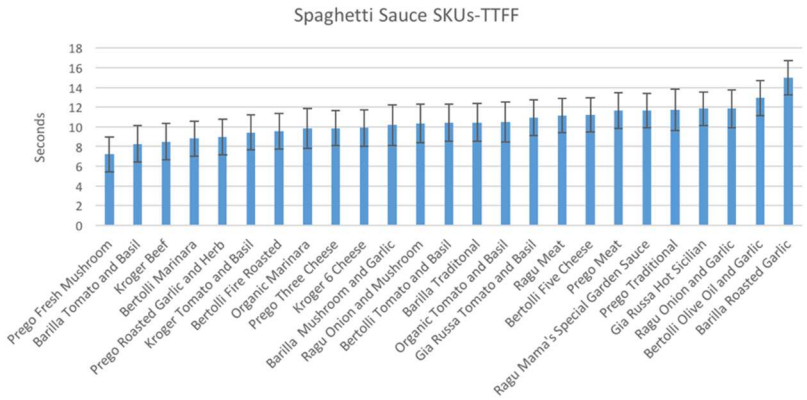

Figure 3.85. Spaghetti Sauce SKUs for the TTFF Metric

Both Figure 3.85 and Table 3.109 illustrate the wide range of fixation values for the SKUs within the planogram, ranging from 7.20 seconds to 15.00 seconds.

Table 3.109. Descriptive Statistics for the Sour Cream Category (in seconds)

Spaghetti SKUs	Mean	Std Error	Lower 95%	Upper 95%
Prego Fresh Mushroom	7.20	1.80	3.67	10.74
Barilla Tomato and Basil	8.26	1.83	4.66	11.87
Kroger Beef	8.48	1.83	4.88	12.08
Bertolli Marinara	8.80	1.77	5.33	12.28
Prego Roasted Garlic and Herb	8.98	1.83	5.38	12.58
Kroger Tomato and Basil	9.43	1.77	5.95	12.90
Bertolli Fire Roasted	9.54	1.83	5.94	13.14
Organic Marinara	9.82	2.03	5.83	13.81
Prego Three Cheese	9.88	1.74	6.46	13.29
Kroger 6 Cheese	9.89	1.83	6.29	13.49
Barilla Mushroom and Garlic	10.17	2.03	6.18	14.16
Ragu Onion and Mushroom	10.35	1.94	6.53	14.17
Bertolli Tomato and Basil	10.43	1.91	6.68	14.17
Barilla Traditonal	10.45	1.91	6.71	14.19
Organic Tomato and Basil	10.50	2.03	6.51	14.49
Gia Russa Tomato and Basil	10.91	1.80	7.37	14.45
Ragu Meat	11.16	1.74	7.75	14.58
Bertolli Five Cheese	11.20	1.74	7.78	14.61
Prego Meat	11.65	1.80	8.11	15.18
Ragu Mama's Special Garden Sauce	11.65	1.71	8.29	15.01
Prego Traditional	11.73	2.13	7.54	15.91
Gia Russa Hot Sicilian	11.84	1.71	8.48	15.20
Ragu Onion and Garlic	11.86	1.91	8.11	15.60
Bertolli Olive Oil and Garlic	12.94	1.77	9.47	16.42
Barilla Roasted Garlic	15.00	1.74	11.58	18.42

The null hypothesis, which stated that no significant differences were found between the SKUs, failed to be rejected due to the fact that p>alpha (F(24,648) = 0.83, p=0.70) indicating no significant difference between the various SKUs (Table 3.110).

Table 3.110. ANOVA Summary Table for Spaghetti Sauce

Source	**DF**	**SS**	**MS**	**F**	**P**
Model	24	1809.85	75.41	0.83	0.70
Error	648	58828.56	90.78		
C. Total	672	60638.41			

Within the kid's sunscreen category, three brands and three SKUs were tested (Figure 3.86). This product category placed 7th amongst the product category aggregates for the TTFF metric. Based on this finding, participants on average took 6.46 seconds to fixate on SKUs within this planogram; 95% confidence interval [Cl]= 2.52, 10.40.

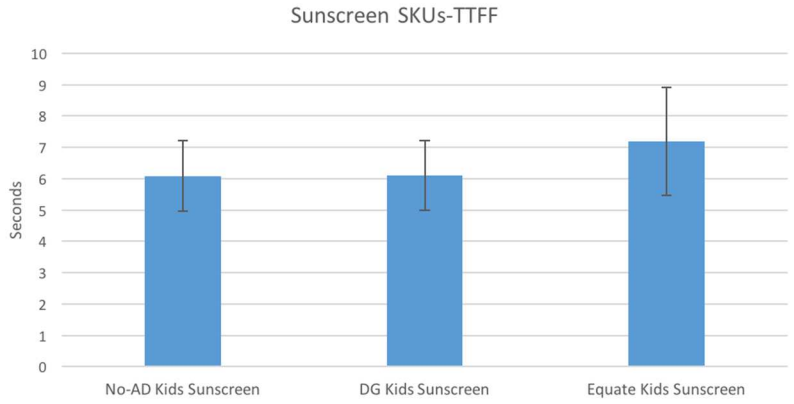

Figure 3.86. Kid's Sunscreen SKUs for the TTFF Metric

Both Figure 3.86 and Table 3.111 illustrate the wide range of fixation values for the SKUs within the planogram, ranging from 6.08 seconds to 7.19 seconds.

Table 3.111. Descriptive Statistics for the Kid's Sunscreen Category (in seconds)

Sunscreen SKUs	Mean	Std Error	Lower 95%	Upper 95%
No-AD Kids Sunscreen	6.08	1.13	3.85	8.31
DG Kids Sunscreen	6.11	1.11	3.91	8.32
Equate Kids Sunscreen	7.19	1.73	3.77	10.61

The null hypothesis, which stated that no significant differences were found between the SKUs, failed to be rejected due to the fact that p>alpha (F (2,112) = 0.16, p=0.85) indicating no significant difference between the various SKUs (Table 3.112).

Table 3.112. ANOVA Summary Table for Kid's Sunscreen

Source	**DF**	**SS**	**MS**	**F**	**P**
Model	2	19.59	9.80	0.16	0.85
Error	112	6670.05	59.55		
C. Total	114	6689.64			

Within the tissues category, four brands and 17 SKUs were tested (Figure 87). This product category placed 18th amongst the product category aggregates for the TTFF metric. Based on this finding, participants on average took 9.01 seconds to fixate on SKUs within this planogram; 95% confidence interval [Cl]= 7.36, 10.67.

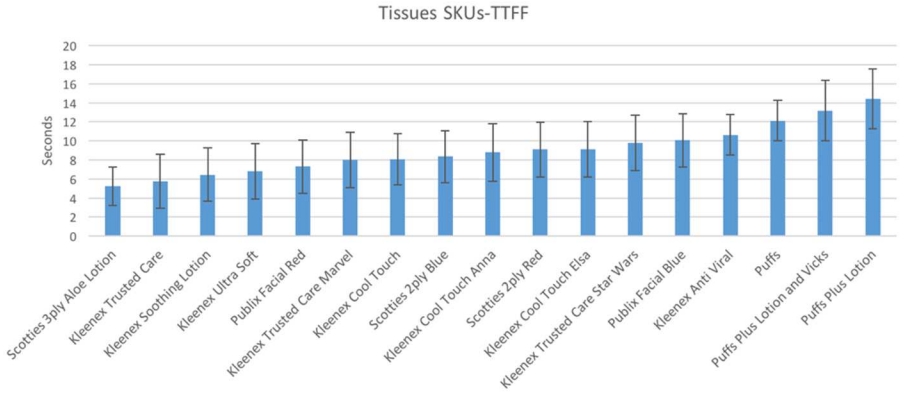

Figure 3.87. Tissue SKUs for the TTFF Metric

Both Figure 3.87 and Table 3.113 illustrate the wide range of fixation values for the SKUs within the planogram, ranging from 5.24 seconds to 14.43 seconds.

Table 3.113. Descriptive Statistics for the Tissue Category (in seconds)

Tissues SKUs	Mean	Std Error	Lower 95%	Upper 95%
Scotties 3ply Aloe Lotion	5.24	2.02	1.26	9.21
Kleenex Trusted Care	5.76	2.80	0.24	11.27
Kleenex Soothing Lotion	6.45	2.80	0.93	11.97
Kleenex Ultra Soft	6.82	2.91	1.10	12.54
Publix Facial Red	7.32	2.80	1.80	12.84
Kleenex Trusted Care Marvel	8.02	2.91	2.30	13.75
Kleenex Cool Touch	8.06	2.71	2.73	13.38
Scotties 2ply Blue	8.34	2.71	3.02	13.67
Kleenex Cool Touch Anna	8.78	3.02	2.83	14.74
Scotties 2ply Red	9.08	2.91	3.36	14.81
Kleenex Cool Touch Elsa	9.12	2.91	3.40	14.85
Kleenex Trusted Care Star Wars	9.76	2.91	4.04	15.49
Publix Facial Blue	10.06	2.80	4.54	15.58
Kleenex Anti Viral	10.63	2.14	6.42	14.85
Puffs	12.13	2.14	7.92	16.34
Puffs Plus Lotion and Vicks	13.16	3.16	6.94	19.39
Puffs Plus Lotion	14.43	3.16	8.20	20.65

The null hypothesis, which stated that no significant differences were found between the SKUs, failed to be rejected due to the fact that p>alpha ($F(16,243) = 0.90$, $p=0.56$) indicating no significant difference between the various SKUs (Table 3.114).

Table 3.114. ANOVA Summary Table for Tissues

Source	**DF**	**SS**	**MS**	**F**	**P**
Model	16	1589.64	99.35	0.90	0.56
Error	243	26682.79	109.81		
C. Total	259	28272.42			

Within the vegetables category, three types were tested (Figure 3.88). This product category placed 5th amongst the product category aggregates for the TTFF

metric. Based on this finding, participants on average took 5.98 seconds to fixate on SKUs within this planogram; 95% confidence interval [CI]= 2.04, 9.92.

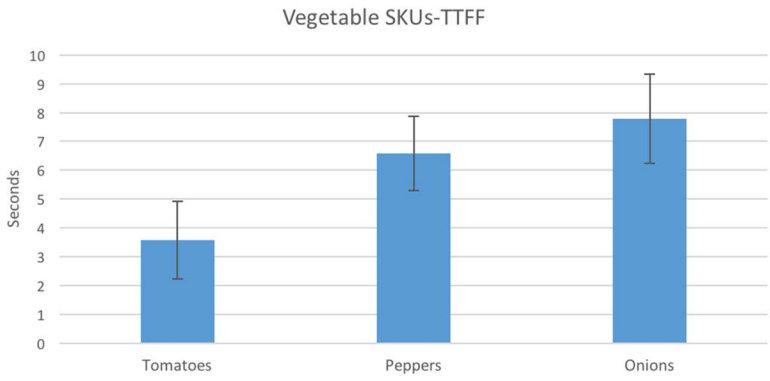

Figure 3.88. Vegetable SKUs for the TTFF Metric

Both Figure 3.88 and Table 3.115 illustrate the wide range of fixation values for the SKUs within the planogram, ranging from 3.58 seconds to 7.78 seconds.

Table 3.115. Descriptive Statistics for the Vegetable Category (in seconds)

Vegetable SKUs	Mean	Std Error	Lower 95%	Upper 95%
Tomatoes	3.58	1.35	0.90	6.25
Peppers	6.58	1.29	4.02	9.14
Onions	7.78	1.55	4.72	10.84

The null hypothesis, which stated that no significant differences were found between the SKUs, failed to be rejected due to the fact that p>alpha ($F(2,117) = 2.36$, $p=0.099$) indicating no significant difference between the various SKUs (Table 3.116).

Table 3.116. ANOVA Summary Table for Vegetables

Source	**DF**	**SS**	**MS**	**F**	**P**
Model	2	360.90	180.45	2.36	0.099
Error	117	8963.84	76.61		
C. Total	119	9324.74			

Fixation Count (FC)

Quantifying how many times participants looked at the SKUs within the categories was an additional goal of this study. This metric measures the number of times the participant fixates on an AOI or an AOI group [12]. If the participant leaves and returns to the same media element during a recording, the new fixations on the media will be included in the calculation of the metric, but if the participant has not fixated on the AOI by the end of the recording, the fixation count value will not be computed and the recording will not be included in the descriptive statistics calculations [12]. A higher average fixation count for a specific product reveals how many times that product was fixated on, however does not mean the product was looked a longer or found quicker than other products [13]. This metric works in conjunction with the TFD metric, and is often used to verify trends in addition to this metric [13]. Simply put, the higher the number of counts, the better the product typically performs.

Similar to the TFD metric, 27 categories were tested for the FC metric and had anywhere from three to 30 SKUs. Within each product category, AOIs were drawn around each SKU and aggregated using the expanded estimates intercept function in

JMP. This was done to avoid analyzing negative shelf space that was not observed by participants. The 27 categories were placed on the same graph (Figure 3.89) to show the impact of each grouping compared to each other in terms of overall performance of the products.

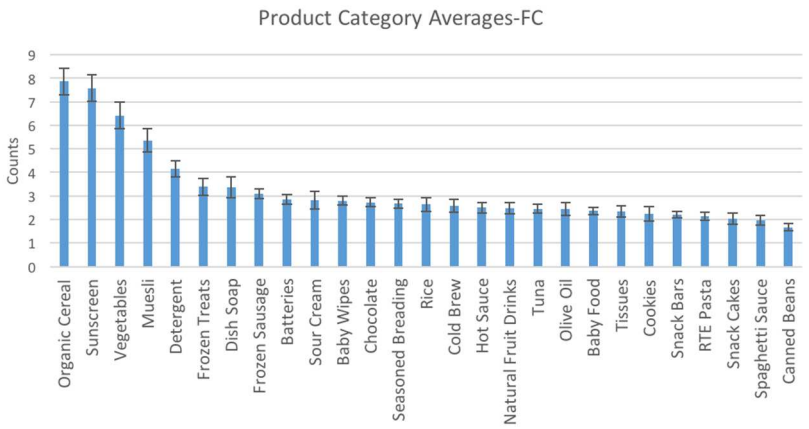

Figure 3.89. Product Category Data for the FC Metric

Table 3.117 shows more information than the graph including mean, standard error, and confidence intervals (explained in detail in previous section). Even though this data represents different categories within the retail grocery sector, it is not to say that these direct category comparisons would not be useful to researchers. For example, a new company can reference this data to see how many times on average consumers look at products within these categories and use the data to cross compare amongst categories of interest.

Table 3.117. Descriptive Statistics for Product Categories (in counts)

Product Category	Mean	Median	Std error	Lower 95%	Upper 95%
Organic Cereal	7.86	7.09	0.56	6.75	8.97
Sunscreen	7.57	7.58	0.56	6.46	8.68
Vegetables	6.42	6.74	0.56	5.31	7.53
Muesli	5.37	5.09	0.49	4.40	6.33
Detergent	4.15	3.85	0.35	3.47	4.83
Frozen Treats	3.39	3.10	0.35	2.71	4.06
Dish Soap	3.36	3.52	0.44	2.50	4.22
Frozen Sausage	3.09	3.02	0.20	2.70	3.49
Batteries	2.85	2.33	0.21	2.43	3.27
Sour Cream	2.81	2.63	0.37	2.09	3.54
Baby Wipes	2.80	2.59	0.18	2.45	3.15
Chocolate	2.72	2.25	0.19	2.35	3.09
Seasoned Breading	2.68	2.57	0.18	2.32	3.03
Rice	2.64	2.39	0.29	2.06	3.22
Cold Brew	2.58	2.31	0.26	2.07	3.10
Hot Sauce	2.50	2.16	0.22	2.06	2.94
Natural Fruit Drinks	2.47	2.43	0.24	1.99	2.95
Tuna	2.46	2.32	0.18	2.10	2.82
Olive Oil	2.43	2.35	0.27	1.90	2.96
Baby Food	2.36	2.32	0.17	2.04	2.69
Tissues	2.35	2.33	0.24	1.88	2.81
Cookies	2.25	2.11	0.31	1.64	2.85
Snack Bars	2.21	2.00	0.14	1.93	2.49
RTE Pasta	2.14	2.00	0.18	1.79	2.49
Snack Cakes	2.04	1.92	0.22	1.59	2.48
Spaghetti Sauce	1.97	1.86	0.20	1.59	2.36
Canned Beans	1.67	1.62	0.16	1.36	1.99

Along with calculating descriptive statistics for the 28 product categories, an ANOVA test was run to be able to see what significant differences existed between product categories (Table 3.118). This was done to be able to say within the 95% confidence interval that one product was looked at significantly more times than another product or multiple other products using a pairwise comparison test (LS Means Differences Student's t).

Table 3.118. ANOVA Summary Table for Product Categories

Source	**DF**	**SS**	**MS**	**F**	**P**
Model	26	85.74	3.18	16.86	<0.0001
Error	504	94.95	0.19		
C. Total	530	180.69			

Data were analyzed using an α equal to 0.05. The null hypothesis, which stated that no significant difference was found between the product categories, was rejected due to the fact that p<alpha (F(26, 504) =16.86, p<0.0001), indicating a significant difference between at least one product category. Using the LS Means Differences Student's t, it was found that 174 differences exist between the 27 product categories for the FC metric. The full report can be found in Appendix C. The data for each of the products within each product category is highlighted in Figures 3.90-3.166.

Within the baby food category, four brands and 33 SKUs were tested (Figure 3.90). This product category placed 20th amongst the product category aggregates for the FC metric. Based on this finding, participants on average looked at SKUs within this planogram 2.36 times; 95% confidence interval [Cl]= 2.04, 2.69.

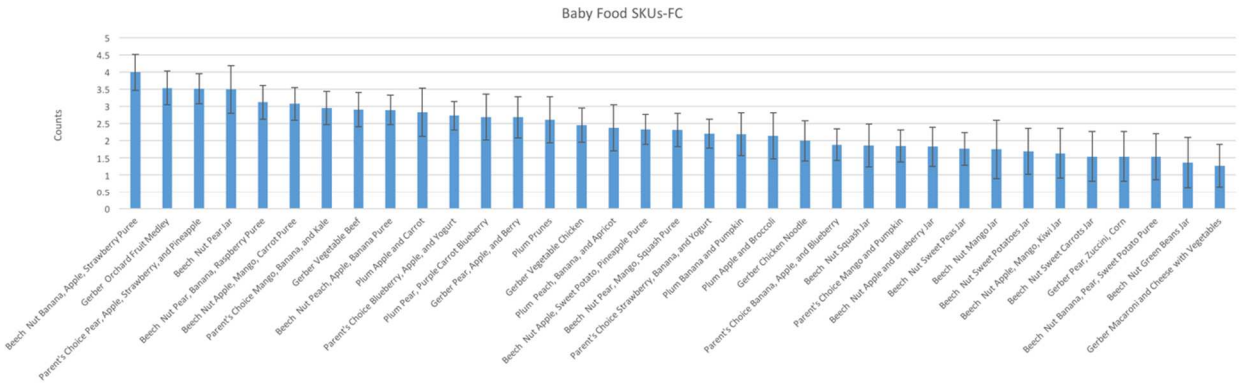

Figure 3.90. Baby Food SKUs for the FC Metric

Both Figure 3.90 and Table 3.119 illustrate the wide range of fixation values for the SKUs within the planogram, ranging from 1.27 counts to 4.00 counts.

Table 3.119. Descriptive Statistics for the Baby Food (in counts)

Baby Food SKUs	Mean	Std Error	Lower 95%	Upper 95%
Beech Nut Banana, Apple, Strawberry Puree	4.00	0.53	2.96	5.04
Gerber Orchard Fruit Medley	3.54	0.49	2.57	4.51
Parent's Choice Pear, Apple, Strawberry, and Pineapple	3.52	0.43	2.66	4.37
Beech Nut Pear Jar	3.50	0.70	2.13	4.87
Beech Nut Pear, Banana, Raspberry Puree	3.13	0.49	2.16	4.09
Beech Nut Apple, Mango, Carrot Puree	3.08	0.47	2.15	4.01
Parent's Choice Mango, Banana, and Kale	2.96	0.48	2.01	3.91
Gerber Vegetable Beef	2.91	0.50	1.92	3.90
Beech Nut Peach, Apple, Banana Puree	2.90	0.43	2.05	3.76
Plum Apple and Carrot	2.83	0.70	1.46	4.21
Parent's Choice Blueberry, Apple, and Yogurt	2.74	0.42	1.92	3.55
Plum Pear, Purple Carrot Blueberry	2.69	0.67	1.37	4.01
Gerber Pear, Apple, and Berry	2.69	0.60	1.50	3.88
Plum Prunes	2.62	0.67	1.30	3.93
Gerber Vegetable Chicken	2.46	0.49	1.49	3.43
Plum Peach, Banana, and Apricot	2.38	0.67	1.07	3.70
Beech Nut Apple, Sweet Potato, Pineapple Puree	2.33	0.44	1.47	3.20
Beech Nut Pear, Mango, Squash Puree	2.32	0.48	1.37	3.27
Parent's Choice Strawberry, Banana, and Yogurt	2.21	0.42	1.38	3.04
Plum Banana and Pumpkin	2.20	0.62	0.97	3.43
Plum Apple and Broccoli	2.15	0.67	0.84	3.47
Gerber Chicken Noodle	2.00	0.59	0.85	3.15
Parent's Choice Banana, Apple, and Blueberry	1.89	0.47	0.97	2.80
Beech Nut Squash Jar	1.87	0.62	0.64	3.09
Parent's Choice Mango and Pumpkin	1.85	0.47	0.94	2.77
Beech Nut Apple and Blueberry Jar	1.83	0.57	0.71	2.95
Beech Nut Sweet Peas Jar	1.77	0.47	0.84	2.70
Beech Nut Mango Jar	1.75	0.86	0.07	3.43
Beech Nut Sweet Potatoes Jar	1.69	0.67	0.37	3.01
Beech Nut Apple, Mango, Kiwi Jar	1.64	0.73	0.20	3.07
Beech Nut Sweet Carrots Jar	1.55	0.73	0.11	2.98
Gerber Pear, Zuccini, Corn	1.55	0.73	0.11	2.98
Beech Nut Banana, Pear, Sweet Potato Puree	1.54	0.67	0.22	2.86
Beech Nut Green Beans Jar	1.36	0.73	-0.07	2.80
Gerber Macaroni and Cheese with Vegetables	1.27	0.62	0.04	2.49

Please note that confidence intervals that reach negative values equal approximately zero. The null hypothesis, which stated that no significant differences were found between the SKUs, was rejected due to the fact that p<alpha ($F(32, 646) = 1.53$, $p=0.029$, indicating a significant difference between at least one SKU (Table 3.120). Using the LS Means Differences Student's t, it was found that 54 significant differences exist between the 35 SKUs tested for baby food. The full report can be found in Appendix C.

Table 3.120. ANOVA Summary Table for Baby Food

Source	DF	SS	MS	F	P
Model	32	304.69	8.96	1.53	0.029
Error	646	3782.88	5.86		
C. Total	678	4087.57			

Within the baby wipes category, four brands and 30 SKUs were tested (Figure 3.91). This product category placed 11th amongst the product category aggregates for the FC metric. Based on this finding, participants on average looked at SKUs within this planogram 2.80 times; 95% confidence interval [Cl]= 2.45, 3.15.

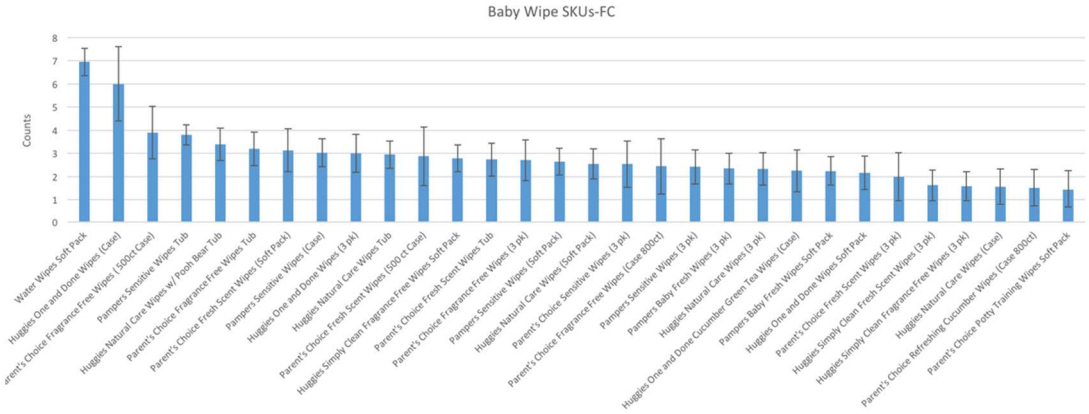

Figure 3.91. Baby Wipe SKUs for the FC Metric

Both Figure 3.91 and Table 3.121 illustrate the wide range of fixation values for the SKUs within the planogram, ranging from 1.44 counts to 6.94 counts.

Table 3.121. Descriptive Statistics for the Baby Wipes (in counts)

Baby Wipe SKUs	Mean	Std Error	Lower 95%	Upper 95%
Water Wipes Soft Pack	6.94	0.60	5.77	8.12
Huggies One and Done Wipes (Case)	6.00	1.61	2.85	9.15
Parent's Choice Fragrance Free Wipes (500ct Case)	3.90	1.14	1.67	6.13
Pampers Sensitive Wipes Tub	3.81	0.44	2.94	4.67
Huggies Natural Care Wipes w/ Pooh Bear Tub	3.38	0.70	2.00	4.77
Parent's Choice Fragrance Free Wipes Tub	3.20	0.72	1.79	4.61
Parent's Choice Fresh Scent Wipes (Soft Pack)	3.13	0.93	1.31	4.95
Pampers Sensitive Wipes (Case)	3.03	0.61	1.84	4.22
Huggies One and Done Wipes (3 pk)	3.00	0.82	1.38	4.62
Huggies Natural Care Wipes Tub	2.94	0.60	1.77	4.12
Parent's Choice Fresh Scent Wipes (500 ct Case)	2.88	1.27	0.38	5.37
Huggies Simply Clean Fragrance Free Wipes Soft Pack	2.79	0.58	1.65	3.93
Parent's Choice Fresh Scent Wipes Tub	2.73	0.70	1.35	4.11
Parent's Choice Fragrance Free Wipes (3 pk)	2.71	0.87	1.00	4.42
Pampers Sensitive Wipes (Soft Pack)	2.64	0.57	1.51	3.77
Huggies Natural Care Wipes (Soft Pack)	2.55	0.64	1.28	3.81
Parent's Choice Sensitive Wipes (3 pk)	2.54	1.00	0.58	4.49
Parent's Choice Fragrance Free Wipes (Case 800ct)	2.44	1.20	0.09	4.79
Pampers Sensitive Wipes (3 pk)	2.42	0.73	0.98	3.86
Pampers Baby Fresh Wipes (3 pk)	2.34	0.67	1.04	3.65
Huggies Natural Care Wipes (3 pk)	2.33	0.69	0.98	3.69
Huggies One and Done Cucumber Green Tea Wipes (Case)	2.25	0.90	0.49	4.01
Pampers Baby Fresh Wipes Soft Pack	2.24	0.62	1.03	3.44
Huggies One and Done Wipes Soft Pack	2.16	0.72	0.75	3.57
Parent's Choice Fresh Scent Wipes (3 pk)	2.00	1.04	-0.03	4.03
Huggies Simply Clean Fresh Scent Wipes (3 pk)	1.62	0.67	0.31	2.93
Huggies Simply Clean Fragrance Free Wipes (3 pk)	1.58	0.62	0.35	2.80
Huggies Natural Care Wipes (Case)	1.56	0.78	-0.79	3.91
Parent's Choice Refreshing Cucumber Wipes (Case 800ct)	1.50	0.80	-2.02	5.02
Parent's Choice Potty Training Wipes Soft Pack	1.44	0.80	-0.91	3.79

Please note that confidence intervals that reach negative values equal approximately zero. The null hypothesis, which stated that no significant differences were found between the SKUs, was rejected due to the fact that p<alpha ($F(29, 676) = 2.51$, $p<0.0001$, indicating a significant difference between at least one SKU (Table 3.122). Using the LS Means Differences Student's t, it was found that 41 significant differences exist between the 30 SKUs tested for baby wipes. The full report can be found in Appendix C.

Table 3.122. ANOVA Summary Table for Baby Wipes

Source	**DF**	**SS**	**MS**	**F**	**P**
Model	29	940.68	32.44	2.51	<0.0001
Error	676	8713.15	12.89		
C. Total	705	9655.83			

Within the batteries category, four brands and 21 SKUs were tested (Figure 3.92). This product category placed 9th amongst the product category aggregates for the FC metric. Based on this finding, participants on average looked at SKUs within this planogram 2.85 times; 95% confidence interval [Cl]= 2.43, 3.37.

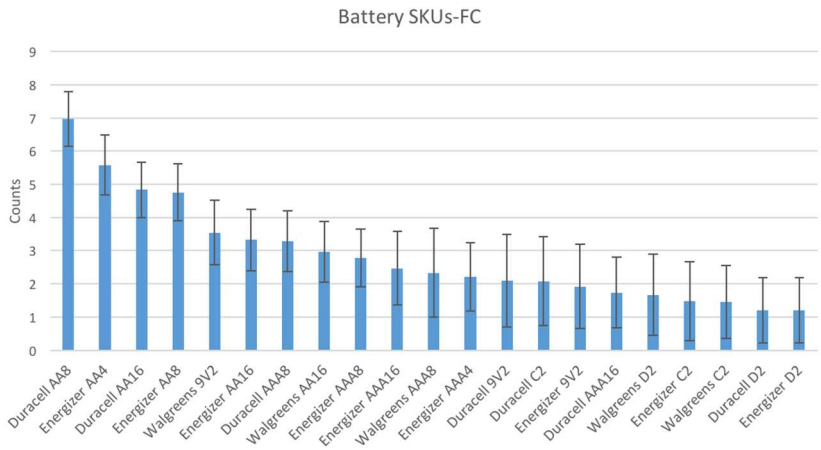

Figure 3.92. Battery SKUs for the FC Metric

Both Figure 3.92 and Table 3.123 illustrate the wide range of fixation values for the SKUs within the planogram, ranging from 1.20 counts to 6.97 counts.

Table 3.123. Descriptive Statistics for the Batteries (in counts)

Battery SKUs	Mean	Std Error	Lower 95%	Upper 95%
Duracell AA8	6.97	0.83	5.34	8.59
Energizer AA4	5.58	0.90	3.80	7.35
Duracell AA16	4.83	0.84	3.18	6.49
Energizer AA8	4.76	0.86	3.08	6.44
Walgreens 9V2	3.55	0.98	1.61	5.48
Energizer AA16	3.32	0.92	1.51	5.13
Duracell AAA8	3.28	0.92	1.47	5.09
Walgreens AA16	2.96	0.92	1.15	4.77
Energizer AAA8	2.79	0.87	1.07	4.50
Energizer AAA16	2.47	1.12	0.27	4.67
Walgreens AAA8	2.33	1.33	-0.28	4.95
Energizer AAA4	2.20	1.03	0.18	4.22
Duracell 9V2	2.09	1.39	-0.64	4.82
Duracell C2	2.08	1.33	-0.53	4.70
Energizer 9V2	1.92	1.28	-0.59	4.43
Duracell AAA16	1.74	1.06	-0.34	3.81
Walgreens D2	1.67	1.22	-3.56	6.89
Energizer C2	1.47	1.19	-0.87	3.80
Walgreens C2	1.44	1.10	-1.57	4.46
Duracell D2	1.20	0.99	-2.85	5.25
Energizer D2	1.20	0.98	-1.66	4.06

Please note that confidence intervals that reach negative values equal approximately zero. The null hypothesis, which stated that no significant differences were found between the SKUs, was rejected due to the fact that p<alpha ($F(20, 366) = 2.35$, $p=0.0010$, indicating a significant difference between at least one SKU (Table 3.124). Using the LS Means Differences Student's t, it was found that 36 significant differences exist between the 21 SKUs tested for batteries. The full report can be found in Appendix C.

Table 3.124. ANOVA Summary Table for Batteries

Source	**DF**	**SS**	**MS**	**F**	**P**
Model	20	999.16	49.96	2.35	0.0010
Error	366	7759.96	21.20		
C. Total	386	8759.12			

Within the canned beans category, seven brands and 37 SKUs were tested (Figure 3.93). This product category placed 27th amongst the product category aggregates for the FC metric. Based on this finding, participants on average looked at SKUs within this planogram 1.67 times; 95% confidence interval [Cl]= 1.36, 1.99

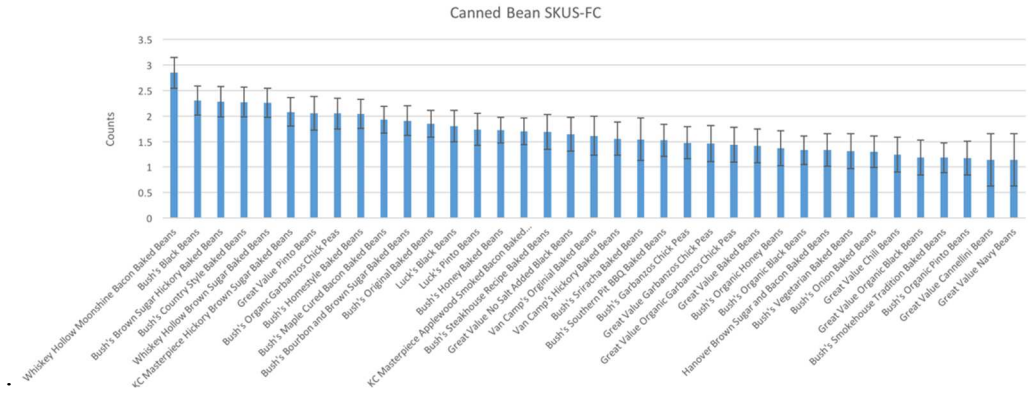

Figure 3.93. Canned Bean SKUs for the FC Metric

Both Figure 3.93 and Table 3.125 illustrate the wide range of fixation values for the SKUs within the planogram, ranging from 1.14 counts to 2.85 counts.

Table 3.125. Descriptive Statistics for the Canned Beans (in counts)

Canned Beans SKUs	Mean	Std Error	Lower 95%	Upper 95%
Whiskey Hollow Moonshine Bacon Baked Beans	2.85	0.31	2.25	3.45
Bush's Black Beans	2.30	0.29	1.74	2.87
Bush's Brown Sugar Hickory Baked Beans	2.29	0.30	1.70	2.87
Bush's Country Style Baked Beans	2.27	0.29	1.70	2.85
Whiskey Hollow Brown Sugar Baked Beans	2.26	0.29	1.70	2.82
KC Masterpiece Hickory Brown Sugar Baked Beans	2.08	0.28	1.53	2.63
Great Value Pinto Beans	2.06	0.33	1.41	2.71
Bush's Organc Garbanzos Chick Peas	2.05	0.31	1.45	2.65
Bush's Homestyle Baked Beans	2.04	0.29	1.48	2.60
Bush's Maple Cured Bacon Baked Beans	1.93	0.26	1.41	2.44
Bush's Bourbon and Brown Sugar Baked Beans	1.91	0.29	1.34	2.48
Bush's Original Baked Beans	1.85	0.26	1.33	2.37
Luck's Black Beans	1.80	0.31	1.20	2.40
Luck's Pinto Beans	1.74	0.31	1.12	2.35
Bush's Honey Baked Beans	1.72	0.25	1.22	2.22
KC Masterpiece Applewood Smoked Bacon Baked Beans	1.70	0.26	1.19	2.22
Bush's Steakhouse Recipe Baked Beans	1.69	0.34	1.02	2.36
Great Value No Salt Added Black Beans	1.65	0.33	0.99	2.30
Van Camp's Orginial Baked Beans	1.62	0.38	0.87	2.36
Van Camp's Hickory Baked Beans	1.56	0.32	0.92	2.19
Bush's Sriracha Baked Beans	1.55	0.41	0.73	2.36
Bush's Southern Pit BBQ Baked Beans	1.53	0.31	0.91	2.14
Bush's Garbanzos Chick Peas	1.47	0.31	0.86	2.09
Great Value Garbanzos Chick Peas	1.47	0.35	0.77	2.16
Great Value Organic Garbanzos Chick Peas	1.44	0.34	0.77	2.11
Great Value Baked Beans	1.41	0.33	0.76	2.06
Bush's Organic Honey Beans	1.38	0.34	0.70	2.05
Bush's Organic Black Beans	1.33	0.28	0.78	1.88
Hanover Brown Sugar and Bacon Baked Beans	1.33	0.32	0.70	1.97
Bush's Vegetarian Baked Beans	1.31	0.34	0.64	1.98
Bush's Onion Baked Beans	1.30	0.31	0.70	1.90
Great Value Chili Beans	1.25	0.34	0.58	1.92
Great Value Organic Black Beans	1.19	0.34	0.52	1.86
Bush's Smokehouse Tradition Baked Beans	1.18	0.29	0.61	1.76
Bush's Organic Pinto Beans	1.18	0.33	0.52	1.83
Great Value Cannellini Beans	1.14	0.52	0.13	2.16
Great Value Navy Beans	1.14	0.52	0.13	2.16

The null hypothesis, which stated that no significant differences were found between the SKUs, was rejected due to the fact that p<alpha ($F(36, 667) = 1.65$, $p=0.011$, indicating a significant difference between at least one SKU (Table 3.126). Using the LS Means Differences Student's t, it was found that 71 significant differences exist between the 37 SKUs tested for canned beans. The full report can be found in Appendix C.

Table 3.126. ANOVA Summary Table for Canned Beans

Source	**DF**	**SS**	**MS**	**F**	**P**
Model	36	111.07	3.09	1.65	0.011
Error	667	1251.02	1.88		
C. Total	703	1362.09			

Within the chocolate category, ten brands and 25 SKUs were tested (Figure 3.94). This product category placed 12th amongst the product category aggregates for the FC metric. Based on this finding, participants on average looked at SKUs within this planogram 2.72 times; 95% confidence interval [Cl]= 2.35, 3.09.

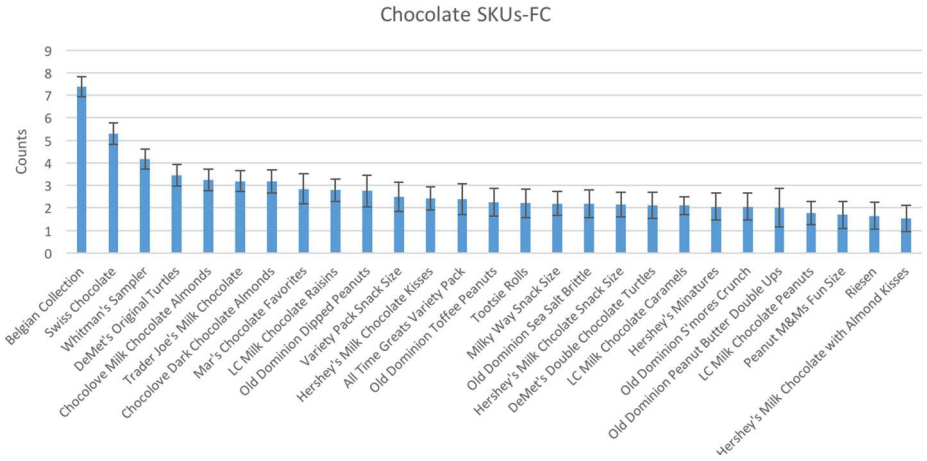

Figure 3.94. Chocolate SKUs for the FC Metric

Both Figure 3.94 and Table 3.127 illustrate the wide range of fixation values for the SKUs within the planogram, ranging from 1.53 counts to 7.38 counts.

Table 3.127. Descriptive Statistics for the Chocolate Category (in counts)

Chocolate SKUs	Mean	Std Error	Lower 95%	Upper 95%
Belgian Collection	7.38	0.45	6.49	8.27
Swiss Chocolate	5.31	0.48	4.37	6.24
Whitman's Sampler	4.17	0.45	3.29	5.06
DeMet's Original Turtles	3.44	0.49	2.48	4.40
Chocolove Milk Chocolate Almonds	3.24	0.49	2.28	4.20
Trader Joe's Milk Chocolate	3.19	0.47	2.27	4.10
Chocolove Dark Chocolate Almonds	3.17	0.51	2.18	4.17
Mar's Chocolate Favorites	2.85	0.67	1.52	4.17
LC Milk Chocolate Raisins	2.78	0.51	1.79	3.78
Old Dominion Dipped Peanuts	2.75	0.70	1.37	4.13
Variety Pack Snack Size	2.50	0.65	1.22	3.78
Hershey's Milk Chocolate Kisses	2.41	0.52	1.39	3.43
All Time Greats Variety Pack	2.38	0.67	1.06	3.71
Old Dominion Toffee Peanuts	2.25	0.61	1.06	3.44
Tootsie Rolls	2.20	0.63	0.97	3.43
Milky Way Snack Size	2.19	0.53	1.15	3.23
Old Dominion Sea Salt Brittle	2.19	0.61	0.99	3.38
Hershey's Milk Chcolate Snack Size	2.15	0.54	1.08	3.22
DeMet's Double Chocolate Turtles	2.12	0.59	0.96	3.28
LC Milk Chocolate Caramels	2.10	0.39	1.34	2.87
Hershey's Minatures	2.06	0.59	0.90	3.22
Old Dominion S'mores Crunch	2.06	0.59	0.90	3.22
Old Dominion Peanut Butter Double Ups	2.00	0.86	0.31	3.69
LC Milk Chocolate Peanuts	1.77	0.52	0.75	2.79
Peanut M&Ms Fun Size	1.69	0.61	0.49	2.88
Riesen	1.65	0.59	0.49	2.81
Hershey's Milk Chocolate with Almond Kisses	1.53	0.59	0.37	2.69

The null hypothesis, which stated that no significant differences were found between the SKUs, was rejected due to the fact that p<alpha ($F(24, 512) = 6.67$, $p<0.0001$, indicating a significant difference between at least one SKU (Table 3.128). Using the LS Means Differences Student's t, it was found that 81 significant differences exist between the 25 SKUs tested for chocolate. The full report can be found in Appendix C.

Table 3.128. ANOVA Summary Table for Chocolate

Source	**DF**	**SS**	**MS**	**F**	**P**
Model	24	1025.09	39.43	6.67	<0.0001
Error	512	3028.63	5.92		
C. Total	536	4053.73			

Within the cold brew category, five brands and 14 SKUs were tested (Figure 3.95). This product category placed 15th amongst the product category aggregates for the FC metric. Based on this finding, participants on average looked at SKUs within this planogram 2.58 times; 95% confidence interval [Cl]= 2.07, 3.10.

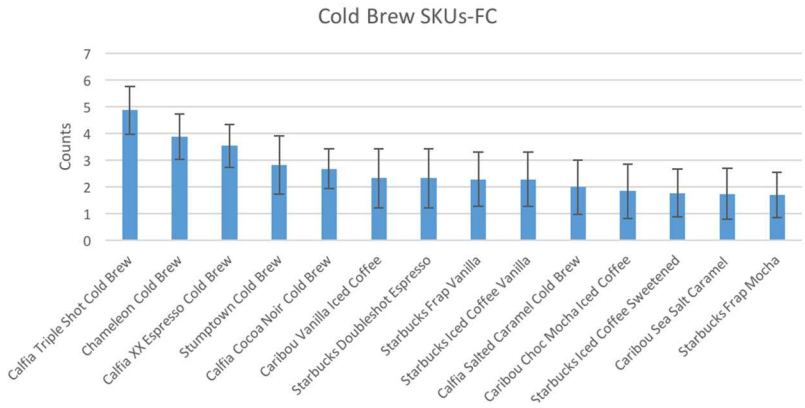

Figure 3.95. Cold Brew SKUs for the FC Metric

Both Figure 95 and Table 3.129 illustrate the wide range of fixation values for the SKUs within the planogram, ranging from 1.70 counts to 4.89 counts.

Table 3.129. Descriptive Statistics for the Cold Brew Category (in counts)

Cold Brew SKUs	Mean	Std Error	Lower 95%	Upper 95%
Calfia Triple Shot Cold Brew	4.89	0.90	3.11	6.66
Chameleon Cold Brew	3.90	0.85	2.22	5.58
Calfia XX Espresso Cold Brew	3.55	0.81	1.94	5.15
Stumptown Cold Brew	2.83	1.10	0.66	5.01
Calfia Cocoa Noir Cold Brew	2.69	0.74	1.21	4.17
Caribou Vanilla Iced Coffee	2.33	1.10	0.16	4.51
Starbucks Doubleshot Espresso	2.33	1.10	0.16	4.51
Starbucks Frap Vanilla	2.29	1.02	0.27	4.30
Starbucks Iced Coffee Vanilla	2.29	1.02	0.27	4.30
Calfia Salted Caramel Cold Brew	2.00	1.02	-0.01	4.01
Caribou Choc Mocha Iced Coffee	1.86	1.02	-0.16	3.87
Starbucks Iced Coffee Sweetened	1.78	0.90	0.00	3.55
Caribou Sea Salt Caramel	1.75	0.95	-0.13	3.63
Starbucks Frap Mocha	1.70	0.85	0.02	3.38

The null hypothesis, which stated that no significant differences were found between the SKUs, failed to be rejected due to the fact that p>alpha (F(13,102) = 1.09, p=0.37) indicating no significant difference between the various SKUs (Table 3.130).

Table 3.130. ANOVA Summary Table for Cold Brew

Source	**DF**	**SS**	**MS**	**F**	**P**
Model	13	102.55	7.89	1.09	0.37
Error	102	735.66	7.21		
C. Total	115	838.21			

Within the cookie category, six brands and ten SKUs were tested (Figure 3.96). This product category placed 22nd amongst the product category aggregates for the FC metric. Based on this finding, participants on average looked at SKUs within this planogram 2.25 times; 95% confidence interval [Cl]= 1.64, 2.85

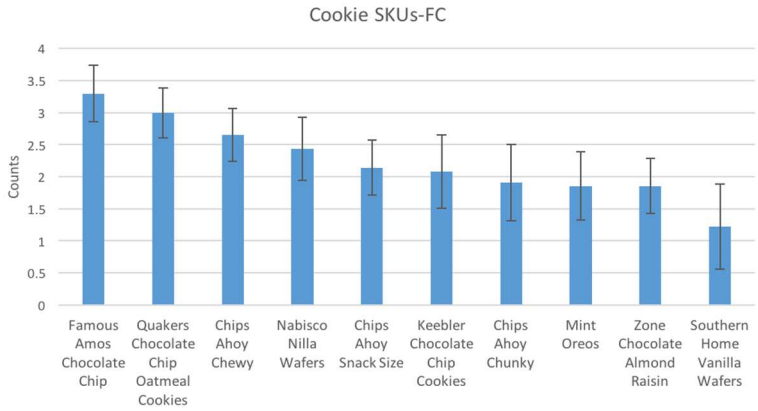

Figure 3.96. Cookie SKUs for the FC Metric

Both Figure 3.96 and Table 3.131 illustrate the wide range of fixation values for the SKUs within the planogram, ranging from 1.22 counts to 3.30 counts.

Table 3.131. Descriptive Statistics for the Cookie Category (in counts)

Cookie SKUs	Mean	Std Error	Lower 95%	Upper 95%
Famous Amos Chocolate Chip	3.30	0.44	2.43	4.17
Quakers Chocolate Chip Oatmeal (	3.00	0.39	2.23	3.77
Chips Ahoy Chewy	2.65	0.41	1.84	3.47
Nabisco Nilla Wafers	2.44	0.50	1.46	3.42
Chips Ahoy Snack Size	2.14	0.43	1.29	3.00
Keebler Chocolate Chip Cookies	2.08	0.57	0.95	3.21
Chips Ahoy Chunky	1.91	0.60	0.73	3.09
Mint Oreos	1.86	0.53	0.81	2.90
Zone Chocolate Almond Raisin	1.86	0.43	1.00	2.71
Southern Home Vanilla Wafers	1.22	0.66	-0.08	2.53

The null hypothesis, which stated that no significant differences were found between the SKUs, failed to be rejected due to the fact that p>alpha ($F(9,163) = 1.56$, $p=0.13$) indicating no significant difference between the various SKUs (Table 3.132).

Table 3.132. ANOVA Summary Table for Cookies

Source	**DF**	**SS**	**MS**	**F**	**P**
Model	9	54.98	6.11	1.56	0.13
Error	163	639.59	3.92		
C. Total	172	694.58			

Within the detergent category, three brands and eight SKUs were tested (Figure 3.97). This product category placed 5th amongst the product category aggregates for the FC metric. Based on this finding, participants on average looked at SKUs within this planogram 4.15 times; 95% confidence interval [Cl]= 3.47,4.83.

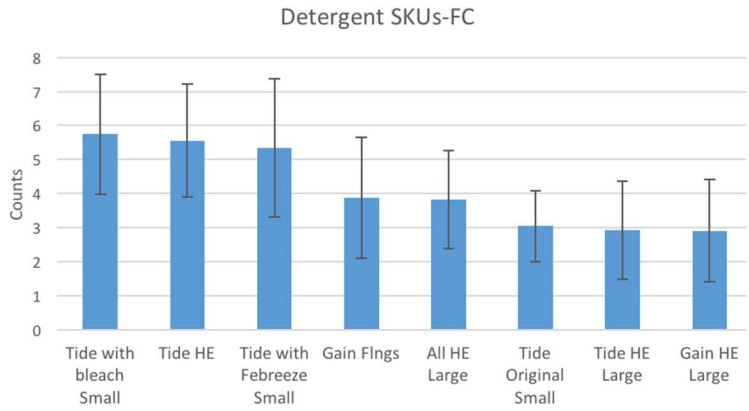

Figure 3.97. Detergent SKUs for the FC Metric

Both Figure 3.97 and Table 3.133 illustrate the wide range of fixation values for the SKUs within the planogram, ranging from 2.91 counts to 5.75 counts.

Table 3.133. Descriptive Statistics for the Detergent Category (in counts)

Detergent SKUs	Mean	Std Error	Lower 95%	Upper 95%
Tide with Bleach Small	5.75	1.76	2.24	9.26
Tide HE	5.56	1.66	2.25	8.86
Tide with Febreeze Small	5.33	2.04	1.28	9.38
Gain Flngs	3.88	1.76	0.37	7.38
All HE Large	3.83	1.44	0.97	6.70
Tide Original Small	3.04	1.04	0.97	5.11
Tide HE Large	2.92	1.44	0.05	5.78
Gain HE Large	2.91	1.50	-0.08	5.90

The null hypothesis, which stated that no significant differences were found between the SKUs, failed to be rejected due to the fact that p>alpha ($F(7,81) = 0.59$, $p=0.76$) indicating no significant difference between the various SKUs (Table 3.134).

Table 3.134. ANOVA Summary Table for Detergent

Source	**DF**	**SS**	**MS**	**F**	**P**
Model	7	103.42	14.77	0.59	0.76
Error	81	2014.38	24.87		
C. Total	88	2117.80			

Within the dish soap category, three brands and five SKUs were tested (Figure 3.98). This product category placed 7th amongst the product category aggregates for the FC metric. Based on this finding, participants on average looked at SKUs within this planogram 3.36 times; 95% confidence interval [Cl]= 2.50, 4.22.

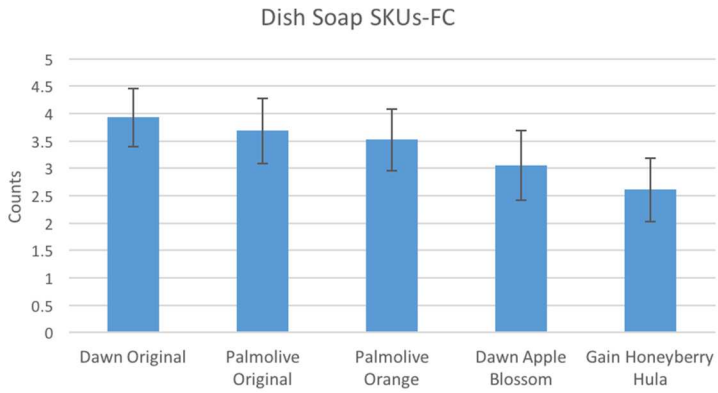

Figure 3.98. Dish Soap SKUs for the FC Metric

Both Figure 3.98 and Table 3.135 illustrate the wide range of fixation values for the SKUs within the planogram, ranging from 2.61 counts to 3.93 counts.

Table 3.135. Descriptive Statistics for the Dish Soap Category (in counts)

Dish Soap SKUs	Mean	Std Error	Lower 95%	Upper 95%
Dawn Original	3.93	0.53	2.89	4.97
Palmolive Original	3.68	0.59	2.50	4.86
Palmolive Orange	3.52	0.56	2.42	4.62
Dawn Apple Blossom	3.05	0.64	1.79	4.32
Gain Honeyberry Hula	2.61	0.58	1.46	3.76

The null hypothesis, which stated that no significant differences were found between the SKUs, failed to be rejected due to the fact that p>alpha ($F(4, 112) = 0.86$, $p=0.49$) indicating no significant difference between the various SKUs (Table 3.136).

Table 3.136. ANOVA Summary Table for Dish Soap

Source	DF	SS	MS	F	P
Model	4	26.62	6.65	0.86	0.49
Error	112	869.30	7.76		
C. Total	116	895.91			

Within the frozen sausage category, four brands and 24 SKUs were tested (Figure 3.99). This product category placed 8th amongst the product category aggregates for the FC metric. Based on this finding, participants on average looked at SKUs within this planogram 3.09 times; 95% confidence interval [Cl]= 2.70, 3.49.

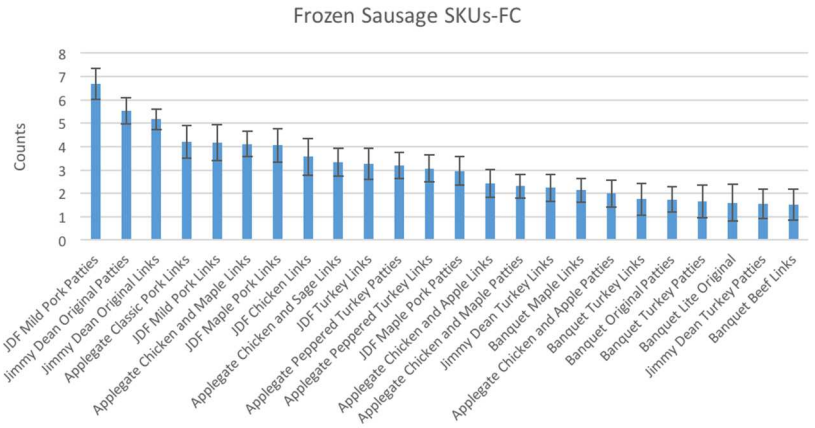

Figure 3.99. Frozen Sausage SKUs for the FC Metric

Both Figure 3.99 and Table 3.137 illustrate the wide range of fixation values for the SKUs within the planogram, ranging from 1.52 counts to 6.68 counts.

Table 3.137. Descriptive Statistics for the Frozen Sausage Category (in counts)

Frozen Sausage SKUs	Mean	Std Error	Lower 95%	Upper 95%
JDF Mild Pork Patties	6.68	0.66	5.39	7.97
Jimmy Dean Original Patties	5.53	0.56	4.43	6.64
Jimmy Dean Original Links	5.17	0.45	4.29	6.05
Applegate Classic Pork Links	4.20	0.69	2.85	5.55
JDF Mild Pork Links	4.19	0.77	2.67	5.70
Applegate Chicken and Maple Links	4.12	0.53	3.08	5.16
JDF Maple Pork Links	4.06	0.73	2.63	5.48
JDF Chicken Links	3.56	0.77	2.05	5.08
Applegate Chicken and Sage Links	3.33	0.59	2.17	4.50
JDF Turkey Links	3.27	0.66	1.98	4.56
Applegate Peppered Turkey Patties	3.20	0.56	2.09	4.31
Applegate Peppered Turkey Links	3.07	0.57	1.94	4.19
JDF Maple Pork Patties	2.96	0.60	1.77	4.15
Applegate Chicken and Apple Links	2.43	0.58	1.28	3.57
Applegate Chicken and Maple Patties	2.31	0.49	1.34	3.28
Jimmy Dean Turkey Links	2.24	0.57	1.12	3.37
Banquet Maple Links	2.14	0.51	1.13	3.15
Applegate Chicken and Apple Patties	2.00	0.58	0.86	3.14
Banquet Turkey Links	1.75	0.69	0.40	3.10
Banquet Original Patties	1.74	0.55	0.65	2.83
Banquet Turkey Patties	1.65	0.69	0.30	3.00
Banquet Lite Original	1.60	0.80	0.04	3.16
Jimmy Dean Turkey Patties	1.54	0.63	0.31	2.78
Banquet Beef Links	1.52	0.67	0.20	2.85

The null hypothesis, which stated that no significant differences were found between the SKUs, was rejected due to the fact that p<alpha ($F(23, 604) = 5.33$, $p<0.0001$), indicating a significant difference between at least one SKU (Table 3.138). Using the LS Means Differences Student's t, it was found that 97 significant differences exist between the 24 SKUs tested for frozen sausage. The full report can be found in Appendix C.

Table 3.138. ANOVA Summary Table for Frozen Sausage

Source	**DF**	**SS**	**MS**	**F**	**P**
Model	23	1166.94	50.74	5.33	<0.0001
Error	604	5746.73	9.51		
C. Total	627	6913.67			

Within the frozen treats category, seven brands and eight SKUs were tested (Figure 100). This product category placed 6th amongst the product category aggregates for the FC metric. Based on this finding, participants on average looked at SKUs within this planogram 3.39 times; 95% confidence interval [Cl]= 2.71, 4.06.

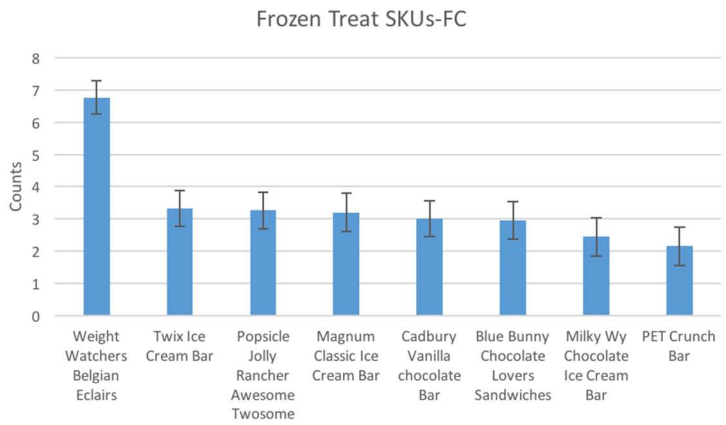

Figure 3.100. Frozen Treat SKUs for the FC Metric

Both Figure 3.100 and Table 3.139 illustrate the wide range of fixation values for the SKUs within the planogram, ranging from 2.15 counts to 6.77 counts.

Table 3.139. Descriptive Statistics for the Frozen Treats Category (in counts)

Frozen Treat SKUs	Mean	Std Error	Lower 95%	Upper 95%
Weight Watchers Belgian Eclairs	6.77	0.51	5.76	7.77
Twix Ice Cream Bar	3.33	0.56	2.23	4.42
Popsicle Jolly Rancher Awesome Twosome	3.26	0.56	2.15	4.36
Magnum Classic Ice Cream Bar	3.20	0.59	2.03	4.37
Cadbury Vanilla Chocolate Bar	3.00	0.56	1.91	4.09
Blue Bunny Chocolate Lovers Sandwiches	2.95	0.58	1.81	4.08
Milky Wy Chocolate Ice Cream Bar	2.44	0.60	1.26	3.63
PET Crunch Bar	2.15	0.60	0.96	3.33

The null hypothesis, which stated that no significant differences were found between the SKUs, was rejected due to the fact that p<alpha ($F(7, 298) = 7.28$, $p<0.0001$), indicating a significant difference between at least one SKU (Table 3.140). Using the LS Means

Differences Student's t, it was found that seven significant differences exist between the eight SKUs tested for frozen treats. The full report can be found in Appendix C.

Table 3.140. ANOVA Summary Table for Frozen Treats

Source	**DF**	**SS**	**MS**	**F**	**P**
Model	7	629.67	89.95	7.28	<0.0001
Error	298	3680.78	12.35		
C. Total	305	4310.45			

Within the hot sauce category, nine brands and 19 SKUs were tested (Figure 3.101). This product category placed 16th amongst the product category aggregates for the FC metric. Based on this finding, participants on average looked at SKUs within this planogram 2.50 times; 95% confidence interval [Cl]= 2.06, 2.94.

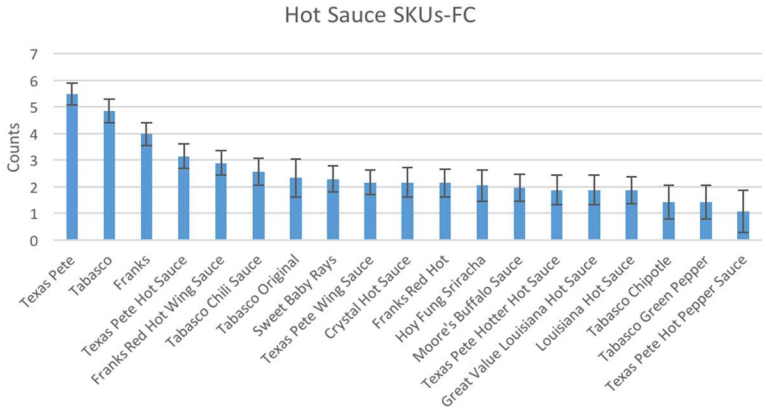

Figure 3.101. Hot Sauce SKUs for the FC Metric

Both Figure 3.101 and Table 3.141 illustrate the wide range of fixation values for the SKUs within the planogram, ranging from 1.08 counts to 5.47 counts.

Table 3.141. Descriptive Statistics for the Hot Sauce Category (in counts)

Hot Sauce SKUs	Mean	Std Error	Lower 95%	Upper 95%
Texas Pete	5.47	0.41	4.66	6.27
Tabasco	4.84	0.45	3.96	5.72
Franks	3.98	0.42	3.15	4.80
Texas Pete Hot Sauce	3.15	0.47	2.22	4.07
Franks Red Hot Wing Sauce	2.89	0.46	1.99	3.79
Tabasco Chili Sauce	2.57	0.50	1.58	3.55
Tabasco Original	2.33	0.71	0.94	3.73
Sweet Baby Rays	2.29	0.49	1.32	3.26
Texas Pete Wing Sauce	2.17	0.46	1.27	3.07
Crystal Hot Sauce	2.16	0.55	1.08	3.24
Franks Red Hot	2.14	0.51	1.13	3.14
Hoy Fung Sriracha	2.04	0.57	0.92	3.17
Moore's Buffalo Sauce	1.97	0.51	0.96	2.97
Texas Pete Hotter Hot Sauce	1.88	0.55	0.80	2.96
Great Value Louisiana Hot Sauce	1.88	0.56	0.77	2.98
Louisiana Hot Sauce	1.87	0.50	0.88	2.85
Tabasco Chipotle	1.42	0.63	0.18	2.66
Tabasco Green Pepper	1.42	0.63	0.18	2.66
Texas Pete Hot Pepper Sauce	1.08	0.79	-0.48	2.64

The null hypothesis, which stated that no significant differences were found between the SKUs, was rejected due to the fact that p<alpha ($F(18, 524) = 5.98$, $p<0.0001$), indicating a significant difference between at least one SKU (Table 3.142). Using the LS Means Differences Student's t, it was found that 51 significant differences exist between the eight SKUs tested for hot sauce. The full report can be found in Appendix C.

Table 3.142. ANOVA Summary Table for Hot Sauce

Source	**DF**	**SS**	**MS**	**F**	**P**
Model	18	801.26	44.51	5.98	<0.0001
Error	524	3970.78	7.58		
C. Total	542	4772.04			

Within the muesli category, three brands and four SKUs were tested (Figure 3.102). This product category placed 4th amongst the product category aggregates for the FC metric. Based on this finding, participants on average looked at SKUs within this planogram 5.37 times; 95% confidence interval [Cl]= 4.40, 6.33.

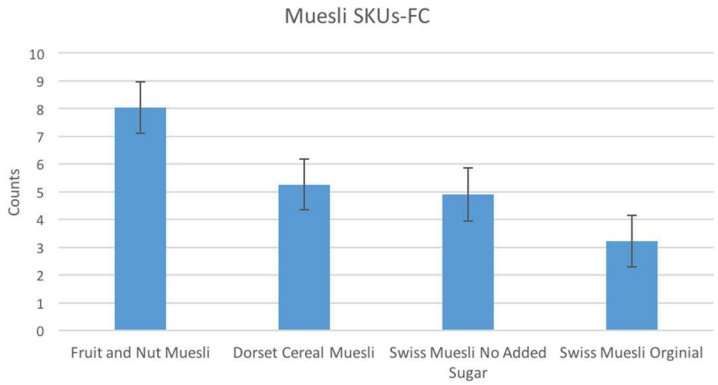

Figure 3.102. Muesli SKUs for the FC Metric

Both Figure 3.102 and Table 3.143 illustrate the wide range of fixation values for the SKUs within the planogram, ranging from 3.24 counts to 8.04 counts.

Table 3.143. Descriptive Statistics for the Muesli Category (in counts)

Muesli SKUs	Mean	Std Error	Lower 95%	Upper 95%
Fruit and Nut Muesli	8.04	0.93	6.20	9.88
Dorset Cereal Muesli	5.27	0.91	3.46	7.07
Swiss Muesli No Added Sugar	4.91	0.97	2.99	6.83
Swiss Muesli Orginial	3.24	0.93	1.40	5.08

The null hypothesis, which stated that no significant differences were found between the SKUs, was rejected due to the fact that p<alpha ($F(3, 95) = 4.60$, $p=0.0047$), indicating a significant difference between at least one SKU (Table 3.144). Using the LS Means Differences Student's t, it was found that three significant differences exist between the four SKUs tested for muesli. The full report can be found in Appendix C.

Table 3.144. ANOVA Summary Table for Muesli

Source	DF	SS	MS	F	P
Model	3	296.71	98.90	4.60	0.0047
Error	95	2042.26	21.50		
C. Total	98	2339.17			

Within the natural fruit drink category, eight brands and 16 SKUs (Figure 3.103). This product category placed 17th amongst the product category aggregates for the FC metric. Based on this finding, participants on average looked at SKUs within this planogram 2.47 times; 95% confidence interval [Cl]= 1.99, 2.95.

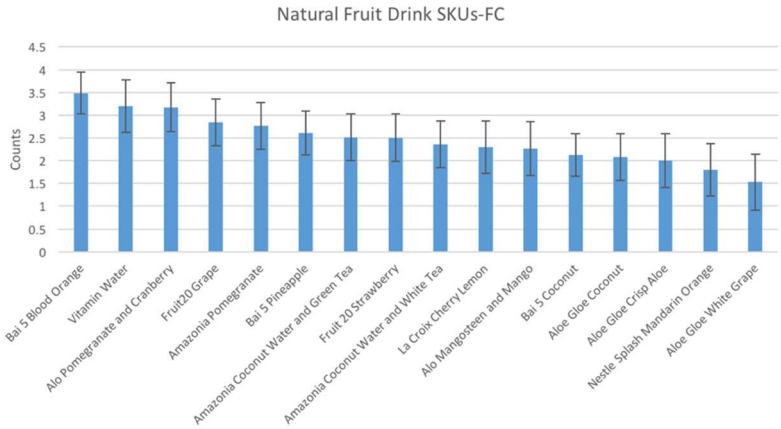

Figure 3.103. Natural Fruit Drink SKUs for the FC Metric

Both Figure 3.103 and Table 3.145 illustrate the wide range of fixation values for the SKUs within the planogram, ranging from 1.53 counts to 3.48 counts.

Table 3.145. Descriptive Statistics for the Natural Fruit Drink Category (in counts)

Natural Fruit Drink SKUs	Mean	Std Error	Lower 95%	Upper 95%
Bai 5 Blood Orange	3.48	0.46	2.58	4.39
Vitamin Water	3.20	0.57	2.08	4.32
Alo Pomegranate and Cranberry	3.17	0.53	2.13	4.22
Fruit20 Grape	2.84	0.51	1.83	3.85
Amazonia Pomegranate	2.76	0.51	1.75	3.77
Bai 5 Pineapple	2.61	0.48	1.66	3.56
Amazonia Coconut Water and Green Tea	2.52	0.51	1.51	3.53
Fruit20 Strawberry	2.50	0.52	1.47	3.53
Amazonia Coconut Water and White Tea	2.36	0.51	1.35	3.37
La Croix Cherry Lemon	2.30	0.57	1.18	3.42
Alo Mangosteen and Mango	2.26	0.59	1.11	3.42
Bai 5 Coconut	2.13	0.47	1.22	3.05
Aloe Gloe Coconut	2.08	0.51	1.07	3.09
Aloe Gloe Crisp Aloe	2.00	0.59	0.85	3.15
Nestle Splash Mandarin Orange	1.80	0.57	0.68	2.92
Aloe Gloe White Grape	1.53	0.62	0.31	2.75

The null hypothesis, which stated that no significant differences were found between the SKUs, failed to be rejected due to the fact that p>alpha ($F(15, 360) = 0.98$, $p=0.98$) indicating no significant difference between the various SKUs (Table 3.146).

Table 3.146. ANOVA Summary Table for Natural Fruit Drinks

Source	**DF**	**SS**	**MS**	**F**	**P**
Model	15	96.46	6.43	0.98	0.47
Error	360	2351.47	6.53		
C. Total	375	2447.93			

Within the olive oil category, eight brands and 13 SKUs were tested (Figure 3.104). This product category placed 19th amongst the product category aggregates for the FC metric. Based on this finding, participants on average looked at SKUs within this planogram 2.43 times; 95% confidence interval [Cl]= 1.90, 2.96.

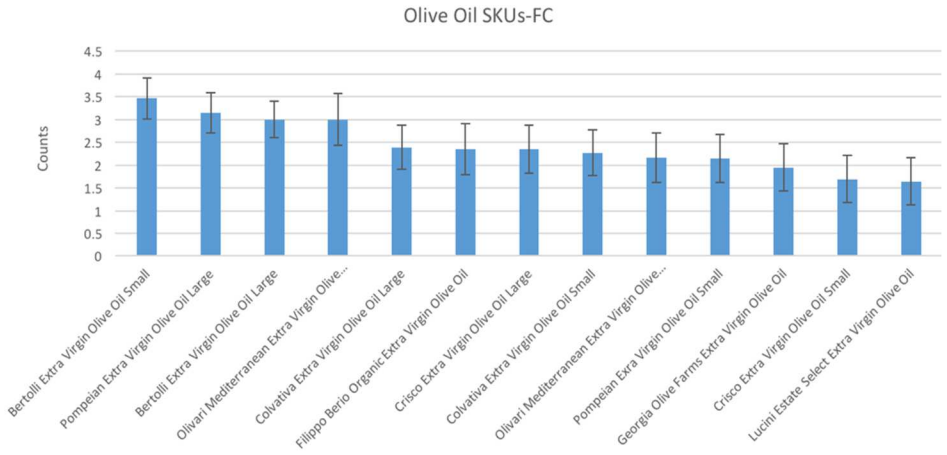

Figure 3.104. Olive Oil SKUs for the FC Metric

Both Figure 3.104 and Table 3.147 illustrate the wide range of fixation values for the SKUs within the planogram, ranging from 1.65 counts to 3.46 counts.

Table 3.147. Descriptive Statistics for the Olive Oil Category (in counts)

Olive Oil SKUs	Mean	Std Error	Lower 95%	Upper 95%
Bertolli Extra Virgin Olive Oil Small	3.46	0.45	2.57	4.36
Pompeian Extra Virgin Olive Oil Large	3.14	0.44	2.28	4.01
Bertolli Extra Virgin Olive Oil Large	3.00	0.40	2.22	3.78
Olivari Mediterranean Extra Virgin Olive Oil Small	3.00	0.56	1.89	4.11
Colvativa Extra Virgin Olive Oil Large	2.39	0.48	1.44	3.34
Filippo Berio Organic Extra Virgin Olive Oil	2.35	0.56	1.25	3.46
Crisco Extra Virgin Olive Oil Large	2.35	0.52	1.33	3.37
Colvativa Extra Virgin Olive Oil Small	2.27	0.49	1.30	3.25
Olivari Mediterranean Extra Virgin Olive Oil Large	2.17	0.55	1.09	3.24
Pompeian Exra Virgin Olive Oil Small	2.15	0.52	1.13	3.17
Georgia Olive Farms Extra Virgin Olive Oil	1.95	0.52	0.93	2.97
Crisco Extra Virgin Olive Oil Small	1.70	0.52	0.68	2.72
Lucini Estate Select Extra Virgin Olive Oil	1.65	0.52	0.63	2.67

The null hypothesis, which stated that no significant differences were found between the SKUs, failed to be rejected due to the fact that p>alpha ($F(12, 272) = 1.37$, $p=0.18$) indicating no significant difference between the various SKUs (Table 3.148).

Table 3.148. ANOVA Summary Table for Olive Oil

Source	DF	SS	MS	F	P
Model	12	86.33	7.36	1.37	0.18
Error	272	1462.91	5.38		
C. Total	284	1551.24			

Within the organic cereal category, three brands and three SKUs were tested (Figure 3.105). This product category placed 1st amongst the product category aggregates for the FC metric. Based on this finding, participants on average looked at SKUs within this planogram 7.86 times; 95% confidence interval [Cl]= 6.75, 8.97.

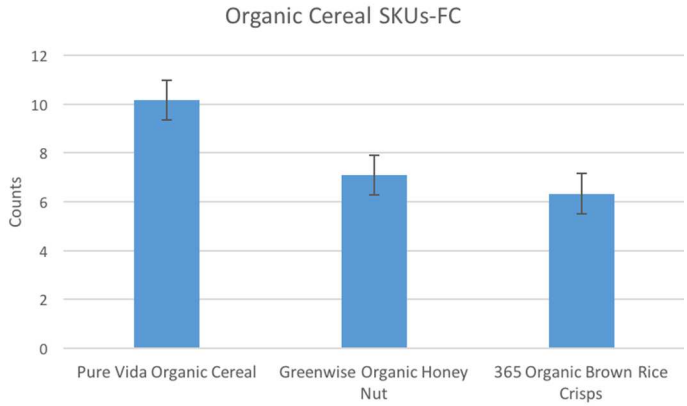

Figure 3.105. Organic Cereal SKUs for the FC Metric

Both Figure 3.105 and Table 3.149 illustrate the wide range of fixation values for the SKUs within the planogram, ranging from 6.33 counts to 10.16 counts.

Table 3.149. Descriptive Statistics for the Organic Cereal Category (in counts)

Organic Cereal SKUs	Mean	Std Error	Lower 95%	Upper 95%
Pure Vida Organic Cereal	10.16	0.80	8.57	11.75
Greenwise Organic Honey Nut	7.09	0.82	5.47	8.71
365 Organic Brown Rice Crisps	6.33	0.82	4.72	7.95

The null hypothesis, which stated that no significant differences were found between the SKUs, was rejected due to the fact that p<alpha (F(2, 161) = 6.26, p=0.0024), indicating a significant difference between at least one SKU (Table 3.150). Using the LS Means Differences Student's t, it was found that two significant differences exist between the three SKUs tested for organic cereal. The full report can be found in Appendix C.

Table 3.150. ANOVA Summary Table for Organic Cereal

Source	**DF**	**SS**	**MS**	**F**	**P**
Model	2	452.93	226.97	6.26	0.0024
Error	161	5838.09	36.36		
C. Total	163	6292.02			

Within the rice category, six brands and 11 SKUs were tested (Figure 3.106). This product category placed 14th amongst the product category aggregates for the FC metric. Based on this finding, participants on average looked at SKUs within this planogram 2.64 times; 95% confidence interval [Cl]= 2.06, 3.22.

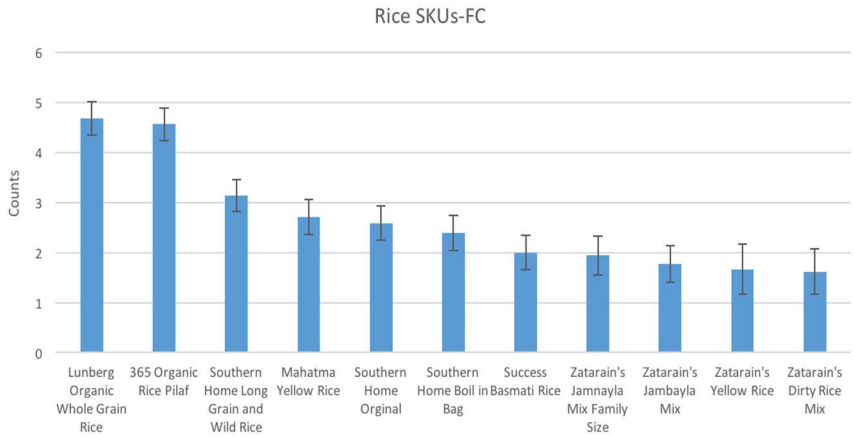

Figure 3.106. Rice SKUs for the FC Metric

Both Figure 3.106 and Table 3.151 illustrate the wide range of fixation values for the SKUs within the planogram, ranging from 1.62 counts to 4.68 counts.

Table 3.151. Descriptive Statistics for the Rice Category (in counts)

Rice SKUs	Mean	Std Error	Lower 95%	Upper 95%
Lunberg Organic Whole Grain Rice	4.68	0.34	4.02	5.34
365 Organic Rice Pilaf	4.56	0.33	3.92	5.20
Southern Home Long Grain and Wild Rice	3.13	0.32	2.51	3.76
Mahatma Yellow Rice	2.70	0.35	2.02	3.39
Southern Home Orginal	2.59	0.34	1.92	3.26
Southern Home Boil in Bag	2.39	0.35	1.70	3.07
Success Basmati Rice	2.00	0.34	1.34	2.66
Zatarain's Jamnayla Mix Family Size	1.94	0.39	1.18	2.71
Zatarain's Jambayla Mix	1.78	0.37	1.06	2.49
Zatarain's Yellow Rice	1.67	0.50	0.68	2.66
Zatarain's Dirty Rice Mix	1.62	0.45	0.73	2.51

The null hypothesis, which stated that no significant differences were found between the SKUs, was rejected due to the fact that p<alpha ($F(10, 441) = 9.35$, $p<0.0001$), indicating a significant difference between at least one SKU (Table 3.152). Using the LS Means Differences Student's t, it was found that 23 significant differences exist between the 11 SKUs tested for rice. The full report can be found in Appendix C.

Table 3.152. ANOVA Summary Table for Rice

Source	**DF**	**SS**	**MS**	**F**	**P**
Model	10	498.26	49.83	9.34	<0.0001
Error	441	2351.01	5.33		
C. Total	451	2849.27			

Within the ready-to-eat pasta category, six brands and 30 SKUs were tested (Figure 3.107). This product category placed 24th amongst the product category aggregates for the FC metric. Based on this finding, participants on average looked at SKUs within this planogram 2.14 times; 95% confidence interval [Cl]= 1.79, 2.49.

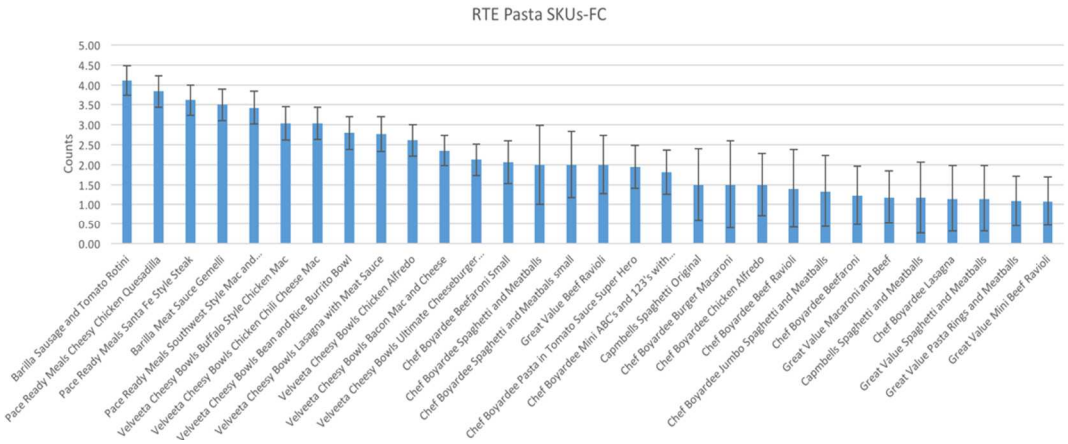

Figure 3.107. Ready-to-eat Pasta SKUs for the FC Metric

Both Figure 3.107 and Table 3.153 illustrate the wide range of fixation values for the SKUs within the planogram, ranging from 1.08 counts to 4.11 counts.

Table 3.153. Descriptive Statistics for the Ready-to-eat Pasta Category (in counts)

RTE Pasta SKUs	Mean	Std Error	Lower 95%	Upper 95%
Barilla Sausage and Tomato Rotini	4.11	0.37	3.38	4.85
Pace Ready Meals Cheesy Chicken Quesadilla	3.84	0.40	3.06	4.62
Pace Ready Meals Santa Fe Style Steak	3.62	0.38	2.88	4.36
Barilla Meat Sauce Gemelli	3.50	0.39	2.74	4.26
Pace Ready Meals Southwest Style Mac and Cheese	3.43	0.42	2.61	4.25
Velveeta Cheesy Bowls Buffalo Style Chicken Mac	3.04	0.42	2.22	3.85
Velveeta Cheesy Bowls Chicken Chili Cheese Mac	3.03	0.40	2.24	3.82
Velveeta Cheesy Bowls Bean and Rice Burrito Bowl	2.79	0.41	1.99	3.60
Velveeta Cheesy Bowls Lasagna with Meat Sauce	2.77	0.43	1.92	3.62
Velveeta Cheesy Bowls Chicken Alfredo	2.61	0.40	1.84	3.39
Velveeta Cheesy Bowls Bacon Mac and Cheese	2.35	0.38	1.61	3.09
Velveeta Cheesy Bowls Ultimate Cheeseburger Mac	2.13	0.39	1.36	2.89
Chef Boyardee Beefaroni Small	2.06	0.53	1.01	3.11
Chef Boyardee Spaghetti and Meatballs	2.00	0.99	-1.06	5.06
Chef Boyardee Spaghetti and Meatbals small	2.00	0.83	0.37	3.63
Great Value Beef Ravioli	2.00	0.73	0.56	3.44
Chef Boyardee Pasta in Tomato Sauce Super Hero	1.94	0.53	0.89	2.99
Chef Boyardee Mini ABC's and 123's with Meatballs	1.81	0.55	0.73	2.89
Capmbells Spaghetti Original	1.50	0.90	-0.27	3.27
Chef Boyardee Burger Macaroni	1.50	1.10	-0.66	3.66
Chef Boyardee Chicken Alfredo	1.50	0.78	-0.03	3.03
Chef Boyardee Beef Ravioli	1.40	0.98	-0.53	3.33
Chef Boyardee Jumbo Spaghetti and Meatballs	1.33	0.90	-0.43	3.10
Chef Boyardee Beefaroni	1.22	0.73	-0.22	2.66
Great Value Macaroni and Beef	1.18	0.66	-0.12	2.49
Capmbells Spaghetti and Meatballs	1.17	0.90	-0.60	2.93
Chef Boyardee Lasagna	1.14	0.83	-0.49	2.78
Great Value Spaghetti and Meatballs	1.14	0.83	-0.49	2.78
Great Value Pasta Rings and Meatballs	1.08	0.64	-0.16	2.33
Great Value Mini Beef Ravioli	1.08	0.61	-0.12	2.28

Please note that confidence intervals that reach negative values equal approximately zero. The null hypothesis, which stated that no significant differences were found between the SKUs, was rejected due to the fact that p<alpha ($F(29, 502) = 3.10$, $p<0.0001$), indicating

a significant difference between at least one SKU (Table 3.154). Using the LS Means Differences Student's t, it was found that 106 significant differences exist between the 30 SKUs tested for ready-to-eat pasta. The full report can be found in Appendix C.

Table 3.154. ANOVA Summary Table for Ready-to-eat Pasta

Source	**DF**	**SS**	**MS**	**F**	**P**
Model	29	436.04	15.04	3.10	<0.0001
Error	502	2431.48	4.84		
C. Total	531	2867.52			

Within the seasoned breading category, ten brands and 32 SKUs were tested (Figure 3.108). This product category placed 13th amongst the product category aggregates for the FC metric. Based on this finding, participants on average looked at SKUs within this planogram 2.68 times; 95% confidence interval [Cl]= 2.32, 3.03.

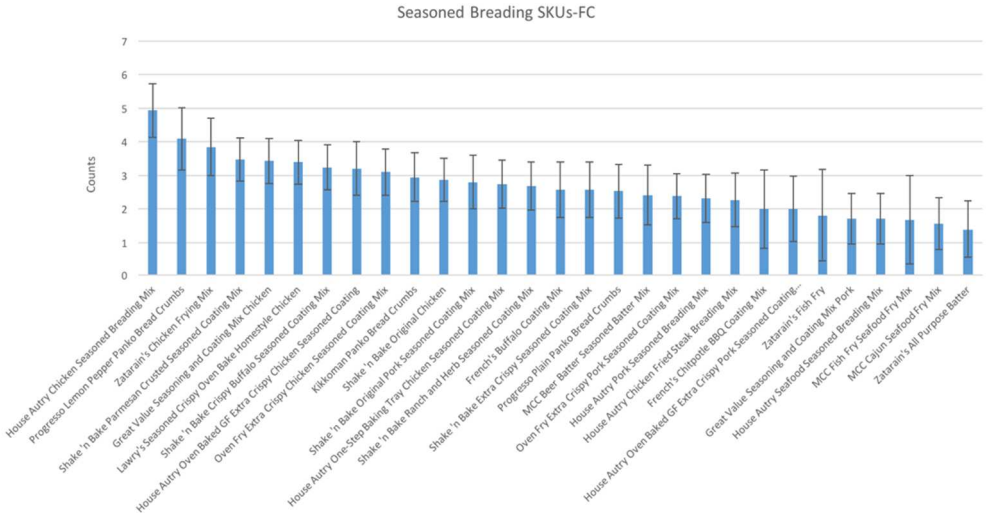

Figure 3.108. Seasoned Breading SKUs for the FC Metric

Both Figure 3.108 and Table 3.155 illustrate the wide range of fixation values for the SKUs within the planogram, ranging from 1.38 counts to 4.93 counts.

Table 3.155. Descriptive Statistics for the Seasoned Breading Category (in counts)

Seasoned Breading SKUs	Mean	Std Error	Lower 95%	Upper 95%
House Autry Chicken Seasoned Breading Mix	4.93	0.80	3.37	6.50
Progresso Lemon Pepper Panko Bread Crumbs	4.09	0.93	2.26	5.92
Zatarain's Chicken Frying Mix	3.85	0.86	2.16	5.53
Shake 'n Bake Parmesan Crusted Seasoned Coating Mix	3.48	0.64	2.21	4.74
Great Value Seasoning and Coating Mix Chicken	3.43	0.67	2.10	4.75
Lawry's Seasoned Crispy Oven Bake Homestyle Chicken	3.39	0.64	2.13	4.66
Shake 'n Bake Crispy Buffalo Seasoned Coating Mix	3.24	0.67	1.91	4.56
House Autry Oven Baked GF Extra Crispy Chicken Seasoned Coating	3.20	0.80	1.63	4.77
Oven Fry Extra Crispy Chicken Seasoned Coating Mix	3.10	0.69	1.74	4.46
Kikkoman Panko Bread Crumbs	2.94	0.73	1.51	4.38
Shake 'n Bake Original Chicken	2.87	0.64	1.60	4.14
Shake 'n Bake Original Pork Seasoned Coating Mix	2.80	0.80	1.23	4.37
House Autry One-Step Baking Tray Chicken Seasoned Coating Mix	2.74	0.71	1.34	4.13
Shake 'n Bake Ranch and Herb Seasoned Coating Mix	2.68	0.71	1.29	4.08
French's Buffalo Coating Mix	2.57	0.83	0.95	4.19
Shake 'n Bake Extra Crispy Seasoned Coating Mix	2.57	0.83	0.95	4.19
Progresso Plain Panko Bread Crumbs	2.53	0.80	0.97	4.10
MCC Beer Batter Seasoned Batter Mix	2.42	0.89	0.66	4.17
Oven Fry Extra Crispy Pork Seasoned Coating Mix	2.38	0.67	1.06	3.71
House Autry Pork Seasoned Breading Mix	2.32	0.71	0.92	3.71
House Autry Chicken Fried Steak Breading Mix	2.27	0.80	0.70	3.83
French's Chitpotle BBQ Coating Mix	2.00	1.17	-0.29	4.29
House Autry Oven Baked GF Extra Crispy Pork Seasoned Coating Mi	2.00	0.98	0.08	3.92
Zatarain's Fish Fry	1.80	1.38	-0.92	4.52
Great Value Seasoning and Coating Mix Pork	1.71	0.75	0.23	3.18
House Autry Seafood Seasoned Breading Mix	1.71	0.75	0.23	3.18
MCC Fish Fry Seafood Fry Mix	1.67	1.33	-1.84	5.17
MCC Cajun Seafood Fry Mix	1.56	0.77	0.04	3.08
Zatarain's All Purpose Batter	1.38	0.86	-0.30	3.07

The null hypothesis, which stated that no significant differences were found between the SKUs, failed to be rejected due to the fact that p>alpha ($F(31, 425) = 0.99$, $p=0.48$) indicating no significant difference between the various SKUs (Table 3.156).

Table 3.156. ANOVA Summary Table for Seasoned Breading

Source	**DF**	**SS**	**MS**	**F**	**P**
Model	31	264.03	9.43	0.99	0.48
Error	425	4054.69	9.54		
C. Total	457	4318.72			

Within the shelf stable tuna category, four brands and 28 SKUs were tested (Figure 3.109). This product category placed 18th amongst the product category aggregates for the FC metric. Based on this finding, participants on average looked at SKUs within this planogram 2.46 times; 95% confidence interval [Cl]= 2.10, 2.82.

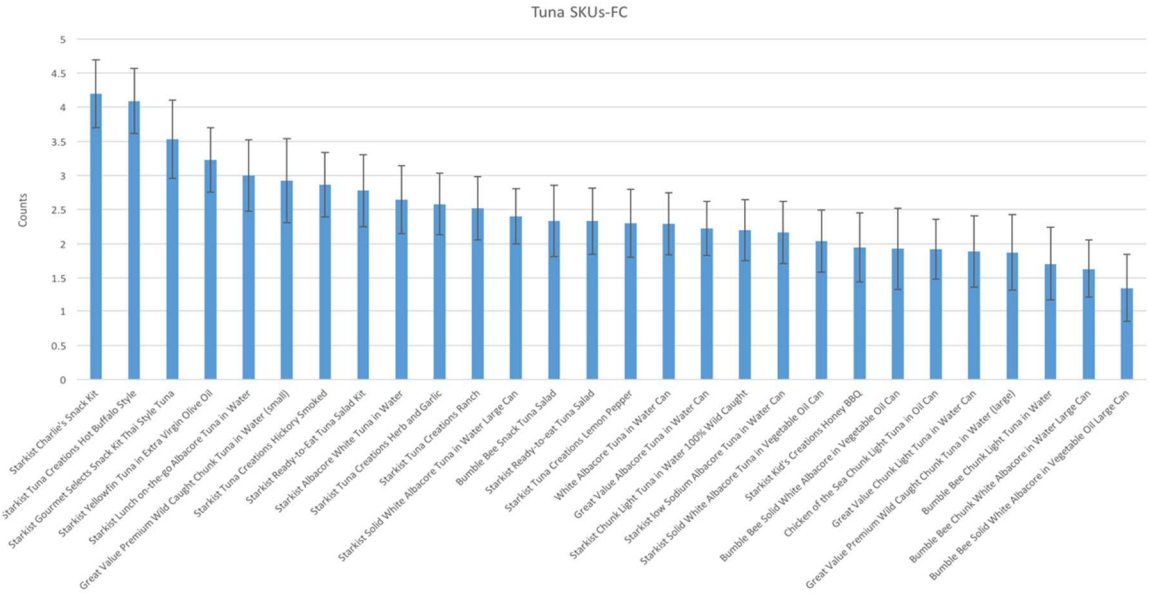

Figure 3.109. Shelf Stable Tuna SKUs for the FC Metric

Both Figure 3.109 and Table 3.157 illustrate the wide range of fixation values for the SKUs within the planogram, ranging from 1.35 counts to 4.20 counts.

Table 3.157. Descriptive Statistics for the Shelf Stable Tuna Category (in counts)

Tuna SKUs	Mean	Std Error	Lower 95%	Upper 95%
Starkist Charlie's Snack Kit	4.20	0.50	3.22	5.18
Starkist Tuna Creations Hot Buffalo Style	4.09	0.47	3.16	5.02
Starkist Gourmet Selects Snack Kit Thai Style Tuna	3.53	0.57	2.41	4.66
Starkist Yellowfin Tuna in Extra Virgin Olive Oil	3.23	0.47	2.30	4.16
Starkist Lunch on-the-go Albacore Tuna in Water	3.00	0.52	1.97	4.03
Great Value Premium Wild Caught Chunk Tuna in Water (small)	2.92	0.62	1.71	4.13
Starkist Tuna Creations Hickory Smoked	2.86	0.47	1.93	3.79
Starkist Ready-to-Eat Tuna Salad Kit	2.78	0.52	1.75	3.81
Starkist Albacore White Tuna in Water	2.65	0.50	1.67	3.63
Starkist Tuna Creations Herb and Garlic	2.58	0.45	1.69	3.47
Starkist Tuna Creations Ranch	2.52	0.46	1.61	3.43
Starkist Solid White Albacore Tuna in Water Large Can	2.40	0.41	1.60	3.20
Bumble Bee Snack Tuna Salad	2.33	0.52	1.30	3.36
Starkist Ready-to-eat Tuna Salad	2.33	0.48	1.38	3.29
Starkist Tuna Creations Lemon Pepper	2.30	0.50	1.32	3.28
White Albacore Tuna in Water Can	2.29	0.45	1.40	3.18
Great Value Albacore Tuna in Water Can	2.23	0.40	1.44	3.01
Starkist Chunk Light Tuna in Water 100% Wild Caught	2.20	0.44	1.33	3.07
Starkist low Sodium Albacore Tuna in Water Can	2.17	0.45	1.28	3.06
Starkist Solid White Albacore Tuna in Vegetable Oil Can	2.04	0.45	1.15	2.93
Starkist Kid's Creations Honey BBQ	1.95	0.51	0.95	2.95
Bumble Bee Solid White Albacore in Vegetable Oil Can	1.93	0.59	0.76	3.09
Chicken of the Sea Chunk Light Tuna in Oil Can	1.92	0.44	1.07	2.78
Great Value Chunk Light Tuna in Water Can	1.89	0.52	0.86	2.92
Great Value Premium Wild Caught Chunk Tuna in Water (large)	1.88	0.56	0.78	2.97
Bumble Bee Chunk Light Tuna in Water	1.71	0.54	0.65	2.76
Bumble Bee Chunk White Albacore in Water Large Can	1.63	0.43	0.79	2.47
Bumble Bee Solid White Albacore in Vegetable Oil Large Can	1.35	0.50	0.37	2.33

The null hypothesis, which stated that no significant differences were found between the SKUs, was rejected due to the fact that p<alpha ($F(27, 563) = 1.92$, $p=0.0037$), indicating a significant difference between at least one SKU (Table 3.158). Using the LS Means Differences Student's t, it was found that 58 significant differences exist between the 28 SKUs tested for shelf stable tuna. The full report can be found in Appendix C.

Table 3.158. ANOVA Summary Table for Shelf Stable Tuna

Source	**DF**	**SS**	**MS**	**F**	**P**
Model	27	256.01	9.48	1.92	0.0037
Error	563	2777.72	4.93		
C. Total	590	3033.74			

Within the snack bar category, 11 brands and 47 SKUs were tested (Figure 3.110). This product category placed 23rd amongst the product category aggregates for the FC metric. Based on this finding, participants on average looked at SKUs within this planogram 2.21 times; 95% confidence interval [Cl]= 1.93, 2.49.

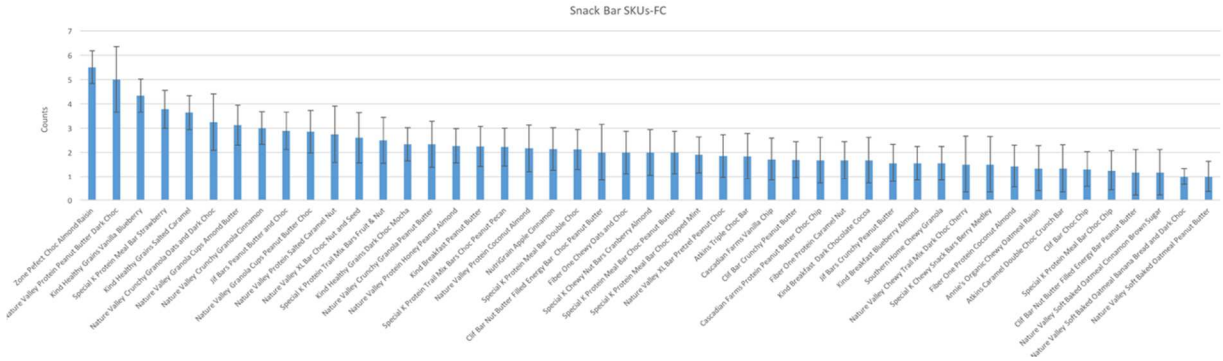

Figure 3.110. Snack Bar SKUs for the FC Metric

Both Figure 3.110 and Table 3.159 illustrate the wide range of fixation values for the SKUs within the planogram, ranging from 1.00 counts to 5.00 counts.

Table 3.159. Descriptive Statistics for the Snack Bar Category (in counts)

Snack Bar SKUs	Mean	Std Error	Lower 95%	Upper 95%
Zone Pefect Choc Almond Raisin	5.50	0.67	4.18	6.82
Nature Valley Protein Peanut Butter Dark Choc	5.00	1.34	2.36	7.64
Kind Healthy Grains Vanilla Blueberry	4.33	0.67	3.01	5.65
Special K Protein Meal Bar Strawberry	3.78	0.78	2.25	5.30
Kind Healthy Grains Salted Caramel	3.64	0.70	2.26	5.02
Nature Valley Crunchy Granola Oats and Dark Choc	3.25	1.16	0.96	5.54
Nature Valley Granola Cups Amond Butter	3.13	0.82	1.51	4.74
Nature Valley Crunchy Granola Cinnamon	3.00	0.67	1.68	4.32
Jif Bars Peanut Butter and Choc	2.89	0.78	1.36	4.41
Nature Valley Granola Cups Peanut Butter Choc	2.86	0.88	1.13	4.59
Nature Valley Protein Salted Caramel Nut	2.75	1.16	0.46	5.04
Nature Valley XL Bar Choc Nut and Seed	2.60	1.04	0.55	4.65
Special K Protein Trail Mix Bars Fruit & Nut	2.50	0.95	0.63	4.37
Kind Healthy Grains Dark Choc Mocha	2.33	0.67	1.01	3.65
Nature Valley Crunchy Granola Peanut Butter	2.33	0.95	0.46	4.20
Nature Valley Protein Honey Peanut Almond	2.27	0.70	0.89	3.65
Kind Breakfast Peanut Butter	2.25	0.82	0.63	3.87
Special K Protein Trail Mix Bars Choc Peanut Pecan	2.22	0.78	0.70	3.75
Nature Valley Protein Coconut Almond	2.17	0.95	0.30	4.04
NutriGrain Apple Cinnamon	2.14	0.88	0.41	3.87
Special K Protein Meal Bar Double Choc	2.13	0.82	0.51	3.74
Clif Bar Nut Butter Filled Energy Bar Choc Peanut Butter	2.00	1.16	-0.29	4.29
Fiber One Chewy Oats and Choc	2.00	0.88	0.27	3.73
Special K Chewy Nut Bars Cranberry Almond	2.00	0.95	0.13	3.87
Special K Protein Meal Bar Choc Peanut Butter	2.00	0.88	0.27	3.73
Special K Protein Meal Bar Choc Dipped Mint	1.90	0.74	0.45	3.35
Nature Valley XL Bar Pretzel Peanut Choc	1.86	0.88	0.13	3.59
Atkins Triple Choc Bar	1.83	0.95	-0.04	3.70
Cascadian Farms Vanilla Chip	1.71	0.88	-0.02	3.44
Clif Bar Crunchy Peanut Butter	1.70	0.74	0.25	3.15
Cascadian Farms Protein Peanut Butter Choc Chip	1.67	0.95	-0.20	3.54
Fiber One Protein Caramel Nut	1.67	0.78	0.14	3.19
Kind Breakfast Dark Chocolate Cocoa	1.67	0.95	-0.20	3.54
Jif Bars Crunchy Peanut Butter	1.56	0.78	0.03	3.08
Kind Breakfast Blueberry Almond	1.55	0.70	0.17	2.93
Southern Home Chewy Granola	1.55	0.70	0.17	2.93
Nature Valley Chewy Trail Mix Dark Choc Cherry	1.50	1.17	-1.74	4.74
Special K Chewy Snack Bars Berry Medley	1.50	1.16	-0.79	3.79
Fiber One Protein Coconut Almond	1.43	0.88	-0.30	3.16
Annie's Organic Chewy Oatmeal Raisin	1.33	0.95	-0.54	3.20
Atkins Caramel Double Choc Crunch Bar	1.33	0.99	-1.31	3.98
Clif Bar Choc Chip	1.30	0.74	-0.15	2.75
Special K Protein Meal Bar Choc Chip	1.25	0.82	-0.37	2.87
Clif Bar Nut Butter Filled Energy Bar Peanut Butter	1.17	0.95	-0.70	3.04
Nature Valley Soft Baked Oatmeal Cinnamon Brown Sugar	1.17	0.95	-0.70	3.04
Nature Valley Soft Baked Oatmeal Banana Bread and Dark (	1.00	0.34	-1.64	3.64
Nature Valley Soft Baked Oatmeal Peanut Butter	1.00	0.64	-2.24	4.24

Please note that confidence intervals that reach negative values equal approximately zero. The null hypothesis, which stated that no significant differences were found between the SKUs, was rejected due to the fact that p<alpha ($F(46, 295) = 1.43$, $p=0.045$), indicating a significant difference between at least one SKU (Table 3.160). Using the LS Means Differences Student's t, it was found that 104 significant differences exist between the 47 SKUs tested for snack bars. The full report can be found in Appendix C.

Table 3.160. ANOVA Summary Table for Snack Bars

Source	DF	SS	MS	F	P
Model	46	354.56	7.71	1.43	0.045
Error	295	1595.34	5.41		
C. Total	341	1949.89			

Within the snack cake category, five brands and 19 SKUs were tested (Figure 3.111). This product category placed 25th amongst the product category aggregates for the FC metric. Based on this finding, participants on average looked at SKUs within this planogram 2.04 times; 95% confidence interval [Cl]= 1.59, 2.48.

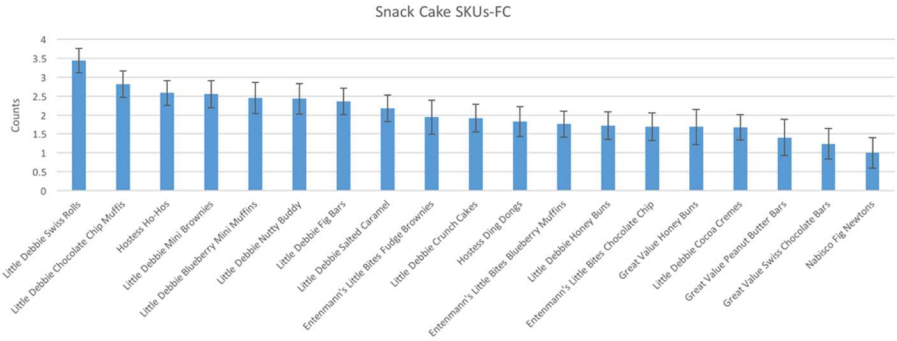

Figure 3.111. Snack Cake SKUs for the FC Metric

Both Figure 3.111 and Table 3.161 illustrate the wide range of fixation values for the SKUs within the planogram, ranging from 1.00 counts to 3.44 counts.

Table 3.161. Descriptive Statistics for the Snack Cake Category (in counts)

Snack Cake SKUs	Mean	Std Error	Lower 95%	Upper 95%
Little Debbie Swiss Rolls	3.44	0.32	2.81	4.07
Little Debbie Chocolate Chip Muffis	2.82	0.35	2.13	3.51
Hostess Ho-Hos	2.58	0.33	1.92	3.24
Little Debbie Mini Brownies	2.56	0.36	1.85	3.26
Little Debbie Blueberry Mini Muffins	2.45	0.42	1.63	3.27
Little Debbie Nutty Buddy	2.43	0.41	1.63	3.23
Little Debbie Fig Bars	2.36	0.35	1.67	3.05
Little Debbie Salted Caramel	2.18	0.35	1.49	2.87
Entenmann's Little Bites Fudge Brownies	1.94	0.45	1.05	2.83
Little Debbie Crunch Cakes	1.92	0.36	1.21	2.64
Hostess Ding Dongs	1.82	0.40	1.04	2.60
Entenmann's Little Bites Blueberry Muffins	1.76	0.35	1.08	2.44
Little Debbie Honey Buns	1.72	0.37	0.99	2.45
Entenmann's Little Bites Chocolate Chip	1.69	0.36	0.97	2.41
Great Value Honey Buns	1.69	0.47	0.77	2.60
Little Debbie Cocoa Cremes	1.68	0.33	1.02	2.33
Great Value Peanut Butter Bars	1.40	0.48	0.46	2.34
Great Value Swiss Chocolate Bars	1.24	0.41	0.44	2.04
Nabisco Fig Newtons	1.00	0.41	-2.66	4.66

The null hypothesis, which stated that no significant differences were found between the SKUs, was rejected due to the fact that p<alpha ($F(18, 427) = 2.26$, $p=0.0024$), indicating a significant difference between at least one SKU (Table 3.162). Using the LS Means Differences Student's t, it was found that 24 significant differences exist between the 19 SKUs tested for snack cakes. The full report can be found in Appendix C.

Table 3.162. ANOVA Summary Table for Snack Cakes

Source	**DF**	**SS**	**MS**	**F**	**P**
Model	18	140.73	7.82	2.36	0.0024
Error	427	1478.90	3.46		
C. Total	445	1619.63			

Within the sour cream category, four brands and seven SKUs were tested (Figure 3.112). This product category placed 10th amongst the product category aggregates for the FC metric. Based on this finding, participants on average looked at SKUs within this planogram 2.81 times; 95% confidence interval [Cl]= 2.09, 3.54.

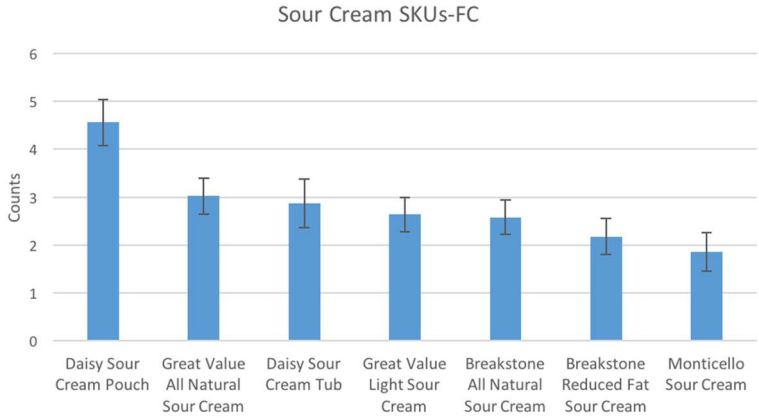

Figure 3.112. Sour Cream SKUs for the FC Metric

Both Figure 3.112 and Table 3.163 illustrate the wide range of fixation values for the SKUs within the planogram, ranging from 1.86 counts to 4.56 counts.

Table 3.163. Descriptive Statistics for the Sour Cream Category (in counts)

Sour Cream SKUs	Mean	Std Error	Lower 95%	Upper 95%
Daisy Sour Cream Pouch	4.56	0.48	3.62	5.50
Great Value All Natural Sour Cream	3.02	0.37	2.29	3.76
Daisy Sour Cream Tub	2.87	0.50	1.89	3.85
Great Value Light Sour Cream	2.64	0.36	1.92	3.35
Breakstone All Natural Sour Cream	2.58	0.36	1.87	3.28
Breakstone Reduced Fat Sour Cream	2.18	0.38	1.42	2.94
Monticello Sour Cream	1.86	0.41	1.06	2.65

The null hypothesis, which stated that no significant differences were found between the SKUs, was rejected due to the fact that p<alpha ($F(6, 245) = 3.70$, $p=0.0015$), indicating a significant difference between at least one SKU (Table 3.164). Using the LS Means Differences Student's t, it was found that seven significant differences exist between the seven SKUs tested for sour cream. The full report can be found in Appendix C.

Table 3.164. ANOVA Summary Table for Sour Cream

Source	DF	SS	MS	F	P
Model	6	127.62	21.27	3.70	0.0015
Error	245	1406.93	5.74		
C. Total	251	1532.56			

Within the spaghetti sauce category, seven brands and 25 SKUs were tested (Figure 3.113). This product category placed 26th amongst the product category aggregates for the FC metric. Based on this finding, participants on average looked at SKUs within this planogram 1.97 times; 95% confidence interval [Cl]= 1.59, 2.36.

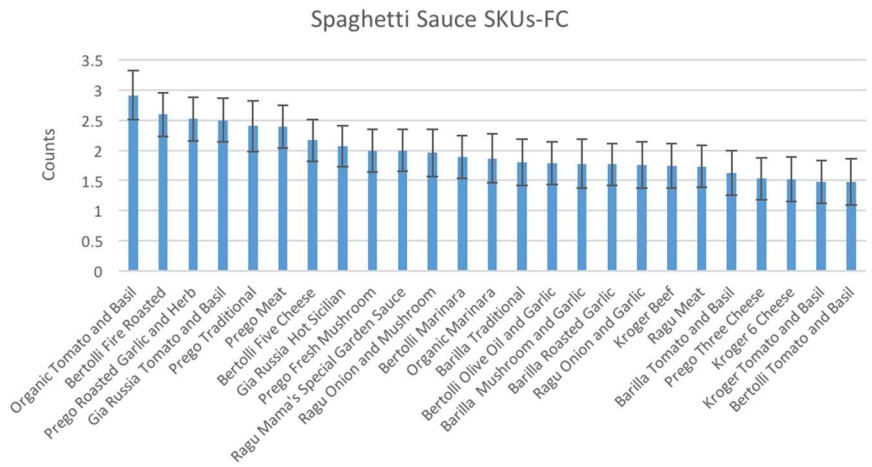

Figure 3.113. Spaghetti Sauce SKUs for the FC Metric

Both Figure 3.113 and Table 3.165 illustrate the wide range of fixation values for the SKUs within the planogram, ranging from 1.48 counts to 2.91 counts.

Table 3.165. Descriptive Statistics for the Spaghetti Sauce Category (in counts)

Spaghetti Sauce SKUs	Mean	Std Error	Lower 95%	Upper 95%
Organic Tomato and Basil	2.91	0.41	2.11	3.71
Bertolli Fire Roasted	2.59	0.37	1.87	3.31
Prego Roasted Garlic and Herb	2.52	0.37	1.80	3.24
Gia Russia Tomato and Basil	2.50	0.36	1.79	3.21
Prego Traditional	2.40	0.43	1.56	3.24
Prego Meat	2.39	0.36	1.69	3.10
Bertolli Five Cheese	2.17	0.35	1.48	2.85
Gia Russia Hot Sicilian	2.06	0.34	1.39	2.74
Prego Fresh Mushroom	2.00	0.35	1.31	2.69
Ragu Mama's Special Garden Sauce	2.00	0.34	1.33	2.67
Ragu Onion and Mushroom	1.96	0.39	1.20	2.72
Bertolli Marinara	1.90	0.35	1.20	2.59
Organic Marinara	1.86	0.41	1.07	2.66
Barilla Traditional	1.80	0.38	1.05	2.55
Bertolli Olive Oil and Garlic	1.79	0.35	1.10	2.49
Barilla Mushroom and Garlic	1.77	0.41	0.98	2.57
Barilla Roasted Garlic	1.77	0.35	1.08	2.45
Ragu Onion and Garlic	1.76	0.38	1.01	2.51
Kroger Beef	1.74	0.37	1.02	2.46
Ragu Meat	1.73	0.35	1.05	2.42
Barilla Tomato and Basil	1.63	0.37	0.91	2.35
Prego Three Cheese	1.53	0.35	0.85	2.22
Kroger 6 Cheese	1.52	0.37	0.80	2.24
Kroger Tomato and Basil	1.48	0.35	0.79	2.18
Bertolli Tomato and Basil	1.48	0.38	0.73	2.23

The null hypothesis, which stated that no significant differences were found between the SKUs, failed to be rejected due to the fact that p>alpha ($F(24, 649) = 1.05$, $p=0.39$) indicating no significant difference between the various SKUs (Table 3.166).

Table 3.166. ANOVA Summary Table for Spaghetti Sauce

Source	**DF**	**SS**	**MS**	**F**	**P**
Model	24	91.58	3.82	1.05	0.39
Error	649	2351.42	3.62		
C. Total	673	2442.99			

Within the kid's sunscreen category, three brands and three SKUs were tested (Figure 3.114). This product category placed 2nd amongst the product category aggregates for the FC metric. Based on this finding, participants on average looked at SKUs within this planogram 7.57 times; 95% confidence interval [Cl]= 6.46, 8.68.

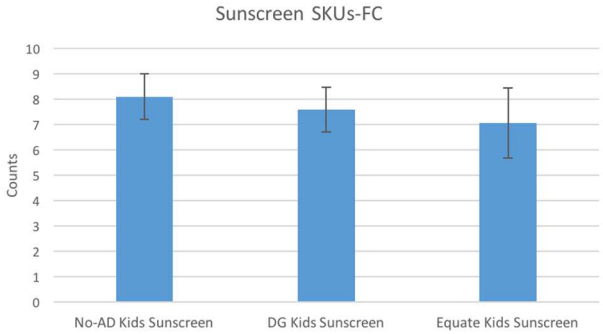

Figure 3.114. Kid's Sunscreen SKUs for the FC Metric

Both Figure 3.114 and Table 3.167 illustrate the wide range of fixation values for the SKUs within the planogram, ranging from 7.05 counts to 8.09 counts.

Table 3.167. Descriptive Statistics for the Kid's Sunscreen Category (in counts)

Sunscreen SKUs	Mean	Std Error	Lower 95%	Upper 95%
No-AD Kids Sunscreen	8.09	0.89	6.32	9.85
DG Kids Sunscreen	7.58	0.88	5.83	9.33
Equate Kids Sunscreen	7.05	1.37	4.34	9.76

The null hypothesis, which stated that no significant differences were found between the SKUs, failed to be rejected due to the fact that p>alpha ($F(2, 112) = 0.22$, $p=0.81$) indicating no significant difference between the various SKUs (Table 3.168).

Table 3.168. ANOVA Summary Table for Kid's Sunscreen

Source	DF	SS	MS	F	P
Model	2	16.07	8.04	0.22	0.81
Error	112	4186.28	37.38		
C. Total	114	4202.35			

Within the tissue category, four brands and 17 SKUs were tested (Figure 3.115). This product category placed 21st amongst the product category aggregates for the FC metric. Based on this finding, participants on average looked at SKUs within this planogram 2.35 times; 95% confidence interval [Cl]= 1.88, 2.81.

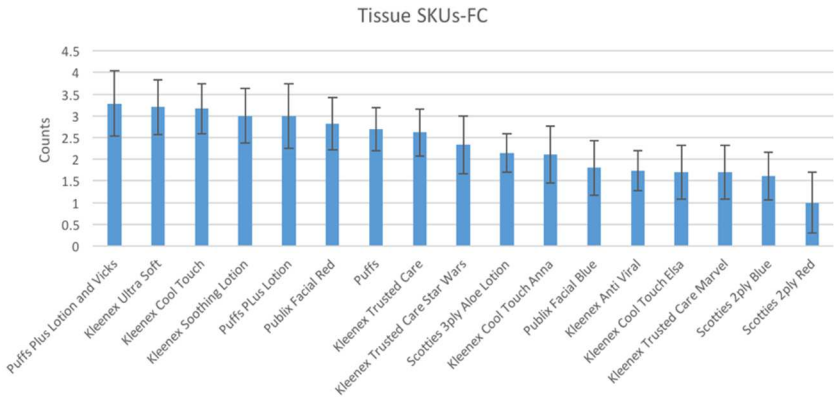

Figure 3.115. Tissue SKUs for the FC Metric

Both Figure 3.115 and Table 3.169 illustrate the wide range of fixation values for the SKUs within the planogram, ranging from 1.00 counts to 3.29 counts.

Table 3.169. Descriptive Statistics for the Tissue Category (in counts)

Tissue SKUs	Mean	Std Error	Lower 95%	Upper 95%
Puffs Plus Lotion and Vicks	3.29	0.75	1.81	4.76
Kleenex Ultra Soft	3.20	0.63	1.97	4.43
Kleenex Cool Touch	3.17	0.57	2.04	4.29
Kleenex Soothing Lotion	3.00	0.63	1.77	4.23
Puffs PLus Lotion	3.00	0.75	1.52	4.48
Publix Facial Red	2.82	0.60	1.64	4.00
Puffs	2.69	0.49	1.71	3.66
Kleenex Trusted Care	2.62	0.55	1.53	3.70
Kleenex Trusted Care Star Wars	2.33	0.66	1.03	3.63
Scotties 3ply Aloe Lotion	2.15	0.44	1.28	3.02
Kleenex Cool Touch Anna	2.11	0.66	0.81	3.41
Publix Facial Blue	1.80	0.63	0.57	3.03
Kleenex Anti Viral	1.74	0.45	0.84	2.63
Kleenex Cool Touch Elsa	1.70	0.63	0.47	2.93
Kleenex Trusted Care Marvel	1.70	0.63	0.47	2.93
Scotties 2ply Blue	1.62	0.55	0.53	2.70
Scotties 2ply Red	1.00	0.70	-0.38	2.38

The null hypothesis, which stated that no significant differences were found between the SKUs, failed to be rejected due to the fact that p>alpha ($F(16, 177) = 1.20$, $p=0.27$) indicating no significant difference between the various SKUs (Table 3.170).

Table 3.170. ANOVA Summary Table for Tissues

Source	**DF**	**SS**	**MS**	**F**	**P**
Model	16	74.97	4.69	1.20	0.27
Error	177	692.85	33.91		
C. Total	193	767.82			

Within the vegetable category, three types were tested (Figure 3.116). This product category placed 3rd amongst the product category aggregates for the FC metric. Based on this finding, participants on average looked at SKUs within this planogram 6.42 times; 95% confidence interval [Cl]= 5.31, 7.53.

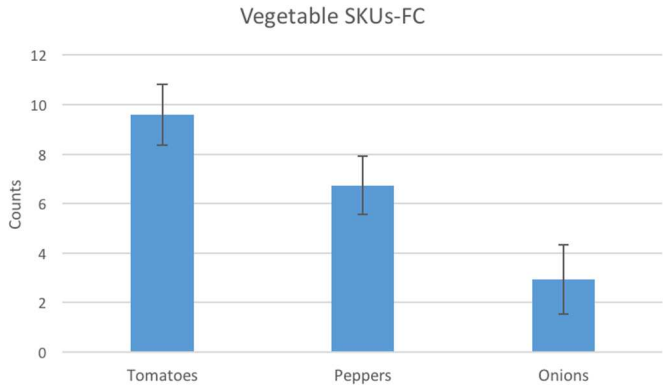

Figure 3.116. Vegetable SKUs for the FC Metric

Both Figure 3.116 and Table 3.171. illustrate the wide range of fixation values for the SKUs within the planogram, ranging from 2.43 counts to 9.58 counts.

Table 3.171. Descriptive Statistics for the Vegetable Category (in counts)

Vegetable SKUs	Mean	Std Error	Lower 95%	Upper 95%
Tomatoes	9.58	1.22	7.15	12.01
Peppers	6.74	1.19	4.37	9.10
Onions	2.93	1.39	0.17	5.68

The null hypothesis, which stated that no significant differences were found between the SKUs, was rejected due to the fact that p<alpha ($F(2, 99) = 6.46$, $p=0.0023$), indicating a significant difference between at least one SKU (Table 3.172). Using the LS Means Differences Student's t, it was found that two significant differences exist between the three SKUs tested for vegetables. The full report can be found in Appendix C.

Table 3.172. ANOVA Summary Table for Vegetables

Source	DF	SS	MS	F	P
Model	2	697.60	348.80	6.46	0.0023
Error	99	5347.98	54.02		
C. Total	101	6045.58			

CONCLUSIONS

Overall this research examined the major eye tracking metrics: total fixation duration, time to first fixation, and fixation count over 28 CPG categories. These categories were examined at a top level manner to understand how product categories behave in their entirety. This work is founded in the belief that doing a single A/B study is not sufficient in order to gain optimal insight when running an eye tracking study. This research aims to provide a comprehensive analysis for various categories in the CPG arena in order fill the current void in literature in area of benchmarking aggregate data for common retail grocery categories.

This work herein, though analyzed to completeness, was not meant to showcase 28 one-off studies done in an immersive retail space. Rather, this work aimed to provide a supplemental guide to those who run eye tracking studies in the CPG sector. By creating data models that showcase "norms" for each category, researchers in the future can use this as a resource to prevent excessive time and capital on creating a comprehensive control dataset themselves. For example, say that a research group has a new project on coffee, specifically K-Cups. This work outlined herein, allows the

researcher to already have an idea about the category without having spent any time or resources themselves completing an entire eye tracking study.

Using these results, researchers can then test their own products (design iterations, font changes, graphic adjustments) to see how they perform against the category norms that were already created. Analyzing eye tracking in this manner helps add context to every study, by not only extrapolating on how much better design A did than design B, but also comparing how both designs performed against the category as a whole. This work allows for researchers to use this categorical data to compare single studies against, thus not needing to compete an A/B study to compare fresh data. Overall, this work is novel in the field of eye tracking for the retail grocery sector, being the first benchmark to be created to date on the specific categories included. Future work in this respect will work to continually expand this benchmark for a more comprehensive view of the sector as a whole.

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CHAPTER FOUR

A MIXED METHODS APPROACH TO CONSUMER BEHAVIOR RESEARCH THROUGH EYE TRACKING AND INTERVIEW ANALYSIS

ABSTRACT

The overarching purpose of science and research is to establish principles that can help explain phenomena in the world in a more systematic manner and, in many cases, how researchers may be able to predict these phenomena. In this attempt, qualitative and quantitative research methods can offer researchers many useful tools. In consumer behavior research, eye tracking is a quantitative method that is a valuable tool to measure attention and a participant's point of gaze. Eye tracking can determine where consumers look, where they do not look, and how long and many times they look at a particular product or shelf set. However, like most types of data, eye tracking should not be used in isolation. To gather more valid conclusions, eye tracking should be used in conjunction with other types of data. Thus, fundamental experimental hypotheses should always be tested with multiple forms of data. Similarly, qualitative research such as surveys and interviews also have limitations such that they rely on consumers to be able to explain their own cognitive processes. The study herein sought to combine eye tracking, surveys, and interviews to be able to better understand the consumer than either approach could do alone. Utilizing a mixed methods approach to better understand why participants looked at a particular item within the competitive array and *did not* ultimately purchase it, it was found that both surveys and interviews should be used to follow-up eye tracking based on the specific questions being asked.

INTRODUCTION

From its creation, eye tracking has been used by researchers to study attention by examining the effectiveness of package designs, websites, and marketing campaigns [1]. Many disciplines have had success leveraging eye tracking as a behavioral research method and to inform the design of communications and interactions [1]. Specifically, in food packaging research, eye tracking can be used to distinguish the effects of different designs; the results of which are beneficial in understanding, validating, and improving the designs [2]. The use and range of eye tracking has increased in the past decade, and more and more marketers, brand owners, designers, and researchers are recognizing the benefit from its added value [3]. Nonetheless, broader development has led to misuse and misinterpretation of study findings.

In order to apply eye tracking effectively, it is crucial for researchers to not only understand the benefits, but to also be aware of the limitations. A leading consumer insights company, found through a multitude of studies that eye tracking can document visibility, engagement, and viewing patterns of consumers [3]. In terms of visibility, eye tracking can help researchers investigate if consumers notice a package on a cluttered shelf or point-of-purchase display in an overwhelming large store. Considering engagement, researchers can see if marketing efforts hold the attention of participants, or if they are bypassed completely [3]. When investigating viewing patters, researchers can study the specific elements or messages on a package that draw attention and which are frequently overlooked. With these three dimensions in mind, eye tracking is the most beneficial when researchers are attempting to capture the viewer's time and attention [3].

In terms of unobtrusive research, eye tracking to study product evaluations has a number of strengths. Unlike other biometric tracking technologies that add conspicuous attachments to the participants, eye tracking can non-intrusively monitor human behavior [2]. Eye tracking can be used to design experiments that avoid asking particular questions explicitly in the study [2]. Specifically, eye tracking can reduce intrusive and interrupter probes that are required during "talk-aloud" usability testing [1]. Questions such as "what are you looking at now," or "did you notice this" can distract participants or derail their train of thought [4]. Utilizing eye tracking and reviewing it post hoc, can help answer many of these questions without altering or effecting the participants' behavior [1]. Eye tracking can also help reduce bias resulting from social expectations, desirability of leaving a suitable impression, or political correctness [5]. For instance, social scientists have documented the fact that participants will adjust their actions and tell "white lies" in order to please the researcher during studies with a self-reporting component [6]. Thus, utilizing eye tracking, which cannot be as easily altered as verbal responses, is one way to control the social desirability effect [1]. Eye tracking also plays well with survey questions, as having two sources of data can be more helpful to identify how decisions are made.

Contrariwise, eye tracking research does have its limitations. First off, eye tracking does not tell us whether a consumer likes a package or wants to buy the product inside. For example, take a pink polka dot box and place it within the toothpaste aisle. Predictably, it would stand out get attention within this dissimilar aisle, but this increased attention would not necessarily translate to more purchases [3]. The reality that the most

visual impact within a planogram is not necessarily most effective has been cited as an argument against using eye tracking as a research tool [3]. However, it is critical in any research study that eye tracking should not generally be used in isolation. An important limitation of eye-tracking methodology is that there is still little knowledge of how cognitive processes can be deduced from eye movements [7][8]. Oftentimes, studies have research questions that cannot solely be answered through eye tracking. For example, when research questions concern feelings and attitudes it is best that eye tracking be complemented by other forms of data. Eye tracking can ultimately not tell researchers what people think, but rather provide insight into what people are doing [1]. Conversely, studies also have research questions that cannot solely be answered by more qualitative means such as interviews, focus groups, and more open-ended survey questions. Because of this fact, triangulation, a technique that facilitates validation of data through cross verification from two or more sources, is critical in eye tracking research, specifically in the food packaging sector.

By utilizing a mixed methods approach for research, data triangulation can help validate collected data by cross verifying the same information. From a package design perspective, triangulation is a powerful multi-faceted approach to gain insights from as many views as possible in order to obtain the most accurate representation of what the consumer wants for the package being tested [9]. There are four basic types of triangulation: data triangulation, investigator triangulation, theory triangulation, and methodological triangulation [10]. Methodological triangulation best applies to user or package design research, and is the type of triangulation typically used for mixed methods

research. This type of triangulation involves using more than one kind of method to study a phenomenon (i.e. eye tracking, surveys, interviews, focus groups). Researchers have found it to be beneficial in providing confirmation of findings, more comprehensive data, and increased validity and enhanced understanding of the studies phenomena [11]. Ultimately, the core of mixed methods research is legitimation [12]. In order to assess the trustworthiness of the data, mixed methods approaches are often implemented to validate findings from qualitative and quantitative methods. This legitimation process may include additional data collection, data analysis, and/or data interpretation until all shadows of doubt have been reduced [12]. The added value of implementing a mixed methods approach within the field of eye tracking research allows the potential to dive deeper into the analyses by asking more intricate questions of the data [12]. Instead of determining qualitative and quantitative data to be incompatible, as they generate different types of data, mixed methods research forces the data to be seen as pieces of a puzzle [12]. However, twisting data to fit a larger picture can be messy, thus a mixed methods researcher needs to have flexibility and pragmatism about design, openness to data, and a touch of inventiveness when approaching data analysis [12], [13]. By complementing biometric technology (quantitative) with post hoc phone interviews and a survey section (qualitative), researchers are getting the best of both worlds by combining qualitative and quantitative methods to better understand the total consumer experience. The goal was this study was to better understand through eye tracking, surveys, and interviews why consumers do one thing and say another.

MATERIALS AND METHODS

Study Design

An explanatory sequential design was executed in this study. The purpose of implementing this design was to be able to use qualitative approaches to explain quantitative results. The question asked when using this method is, "In what ways do the qualitative data help explain the quantitative results?" In this two phase design, eye tracking was implemented as the quantitative portion of the study, while phone interviews were used to help explain the quantitative eye tracking results. The main objective of the study was to determine consumer interest in the seasoned coating mix section when introducing a new baking tray design to the competitive array. The study was designed to measure actions in visual attention and product selection action, as well as consumer feedback and perception of the baking tray. The study in its entirety included an eye tracking portion and post-survey as well as follow-up phone interviews after the data had been ascertained.

Data Collection Procedure

Following the eye tracking study, data was analyzed and a sub set of participants were chosen to for the interviews post hoc. With the research question of "Why did participants look at the tray within the competitive array" in mind, participants that looked at the tray the longest out of the 37 sampled were chosen for follow-up interviews. Out of the 37 participants for the eye tracking study, only 28 looked at this package at all. Consequently, the ten participants that looked at the package the longest and did not purchase it were selected, as well as the participant that looked at it the absolute longest and *did* purchase it. Participant profiles including information from the eye tracking study

such as the total fixation duration (or time spent looking at the package) and their final purchase decision are included in Table 4.1.

Table 4.1. Phone Interview Participant Profiles

Participant number	TFD (seconds)	Purchased
19A	6.64	One-Step Baking Tray Chicken Seasoned Coating Mix
34A	2.18	Chicken Seasoned Breading Mix
21A	1.46	Progresso Lemon Pepper Panko Bread Crumbs
11A	0.88	4C Seasoned
35A	0.72	Great Value Seasoning and Coating Mix Chicken
30A	0.66	4C Seasoned
26A	0.60	Oven Fry Extra Crispy Chicken Seasoned Coating Mix
25A	0.50	Shake 'n Bake Crispy Buffalo Seasoned Coating Mix
4A	0.40	Great Value Seasoning and Coating Mix Chicken
6A	0.38	Shake 'n Bake Parmesan Crusted Seasoned Coating Mix
2A	0.36	Shake 'n Bake Extra Crispy Seasoned Coating Mix

An interview guide was created and modeled after the post-survey questions. This was done to able to evaluate the differences between how participant responded on the survey versus the phone interview. This guideline for interview questions, which can be viewed in Appendix D, was designed by a member of the committee and a graduate student. Prior to each 10-15-minute phone interview, full confidentiality was assured, and participants consented to audio recording of the phone conversation. This was done using Call Recorder application on iPhone 6. A written script was transcribed from each conversation verbatim, removing all names in the process.

Location and Participants

The eye tracking study took place in CUshop™, a consumer experience laboratory at Clemson University's Sonoco Institute of Packaging Design and Graphics. CUshop™ is a realistic shopping environment featuring three 12-foot shopping aisles, a frozen food section, produce area, and simulated open refrigeration. Being human subjects research, this study was approved by the Institutional Review Board (IRB). All participants were required to complete and sign an approved IRB consent form to ensure the confidentiality of each participant. Consenting participants included 7 females and 4 males ranging from 27 to 66 years with a median of 34 years. Regarding education level, 45% of the participants had a graduate degree, 37% had a bachelor's degree, 9% had some college but no degree, and 9% had a high school degree or equivalent (GED). 64% of the participants were married, while a smaller percentage were single (18%), divorced (9%), or in a domestic partnership (9%). Regarding children, 54% of the participants were parents. All participants were employed, and a vast variety of incomes were represented ranging from $20,000 to $150,000. All participants were the primary shoppers in their household, shopped at Walmart Superstore or Neighborhood Market, and purchased flavored bread crumb-style coating for chicken and/or pork in the past 6 months.

Theoretical Framework

The analysis of material for this portion of the study was informed by grounded theory, a systematic methodology involving the construction of theory through the analysis of data. This approach is the easiest to incorporate with mixed methods and

plays well with quantitative data. Grounded theory uses systematic procedures to generate theory or insights describing phenomena and is grounded in the views expressed by study participants [14]. Using a systematic approach for data collection and analysis, grounded theory follows clear procedures and rules throughout the research process [15]. The basic premise of grounded theory is that theory comes from data. In this approach, the collection and analysis of data and theory subsequently derived from them are in close relationship with each other [16]. The researcher starts with a specific field of study and allows the theory to appear from the data collected, instead of beginning the study with a predetermined hypothesis. Since grounded theories are derived from data, they can be safe guides for the operation by the establishment of a deeper understanding and insight [16]. Instead of having hypotheses to test, researchers using this approach have research questions to address and should keep their mind open to any possible evidence that might exist in the dataset [17].

Data Analysis

The data from the phone interviews were analyzed manually by one graduate student reviewer. This reviewer was trained by an expert in qualitative and mixed methods data analysis when working as a reviewer for a fellow graduate student's thesis. The expert is an associate professor in Clemson University's Public Health Sciences Department. During the training, the team of reviewers were taught the basics of qualitative data analysis, customized a code book to fit the responses collected, and practiced coding responses as a team. In order to create a codebook, the reviewers first went through a process called "open coding." During the open coding process, the reviewer read through

the transcript containing all responses collected from a particular question, and then identified portions of the text as being associated with a particular topic. Each topic was given a code. When a common thread was found between multiple codes, a "theme" was created to define that group of codes. Each question asked during the phone interview was given its own set of themes and codes, developed from the participant's responses during the interview. The themes and codes from all of the questions were gathered together to make up the codebook (Appendix E).

After creating the codebook, the transcript was reviewed again, using the codebook to give final codes to the transcript. The codes assigned to each question were reviewed by a fellow graduate student that was familiar with the study being run. After each question was coded, a table comparing the post-survey and interview questions was created in order to go through a second round of coding with the data side-by-side. The same codebook was used in this round of coding in order to assess if the codes still seemed "true" or appropriate in a different context. Going through the questions that were the same for the post-survey and the phone interview, the reviewer checked to see if the same code would be applied to what participants wrote on the survey. The table was scored based on agreement (coded differently or coded the same) and a percentage of responses coded the same and differently was calculated for each question. This was done in order to see the degree to which interviews led to different results than surveys and to use this information to be able to pick the best questions/methods for future research.

Following this process, axial coding was implemented to be able to move from raw data to themes and is an intensive analysis done on one category at a time. This is where

relationships between themes investigated, such as checking to see what is being said in that family and looking at relationships from one family to the other. This process allowed the reviewer to take another pass at the data sorted by code families to be able to prepare summary statements in order to fill in categories needed to refine theory or explanation.

RESULTS AND DISCUSSION

When participants were asked if there was a compelling reason why they would or would not purchase the product, two major themes emerged from the participants' responses: that the product had a convenience factor and on the contrary, that the product was wasteful. The participants grouped into the convenience factor theme were more likely to report on the follow-up survey that they would purchase the product, whereas the participants grouped in the wasteful theme, found that to be a compelling reason not to purchase the product (Table 4.2). This further highlights the fact that the convenience factor can be a major selling point for this product. The key themes that arose from the phone interviews are presented in Table 4.5.

Table 4.2. Follow-survey responses in relation to themes

Follow-up survey responses to: How likely are you to purchase this flavored breadcrumb-style coating for chicken?		
Theme	Participant ID	Response
Wasteful	2A	Not sure
	11A	Very unlikely
	30A	Somewhat unlikely
	21A	Very unlikely
Convenience factor	6A	Very likely
	25A	Somewhat likely
	35A	Somewhat likely
	4A	Somewhat likely
	19A	Extremely likely
	34A	Very likely

Two minor themes that emerged from this question were price and brand familiarity (n=2). When diving deeper into the data to look at differences in the themes based on gender, it was found that no males mentioned the wasteful nature of the included baking trays as a reason they would not purchase the product. The majority of females that fall within this theme talked about how they would rather use their own pans instead of the included pan in the package. On the other hand, the convenience factor theme was composed of mostly male responses. When branching back out from this theme, it was found that the males value the packaging because of the all-inclusive nature, no dishes and time saving capabilities.

Subsequently, participants were asked to explain why they rated the package either: very appealing, unappealing, mildly unappealing, neutral, mildly appealing, appealing, very appealing. Three major themes emerged from this question: color scheme, clear packaging design, and unclear packaging design. The participants grouped into the clear packaging design theme were more likely to report higher ratings on the follow-up survey (Table 4.3).

Table 4.3. Follow-survey responses in relation to themes

Follow-up survey responses to: Please rate the packaging on this scale from very UNAPPEALING to very APPEALING.		
Theme	Participant ID	Response
Clear packaging design	25A	Appealing
	4A	Appealing
	19A	Very appealing
	34A	Appealing
	11A	Neutral
	6A	Very appealing
Unclear packaging design	2A	Mildly appealing
	26A	Neutral
	19A	Very appealing

Two minor themes that emerged from this question under the umbrella of packaging design were that the package does not stand and the implications of the chicken image. When investigating differences in the data based on gender, no males mentioned that the packaging was unclear. Half of the responses under the clear theme were males. More than half of the comments under the color scheme theme were from men, with the majority of those commenting that the colors were eye catching. When participants were asked how innovative they thought the product was, three major themes emerged from the participants' responses: been done before, convenience factor, and not seen in this category. When looking at the follow-up survey data, it can be assumed that even though the people that found this product to have a high convenience factor they did not necessarily find it to be innovative, with responses ranging from moderately innovative to moderately not innovative (Table 4.4).

Table 4.4. Follow-survey responses in relation to themes

Follow-up survey responses to: How innovative is this product?		
Theme	Participant ID	Response
Been done before	2A	Slightly not innovative
	25A	Slightly innovative
	4A*	Moderately innovative
Not seen in this category	4A*	Moderately innovative
	19A	Extremely innovative
	35A	Slightly innovative
Convenience factor	11A	Neither not innovative or innovative
	30A	Moderately innovative
	21A	Slightly not innovative
	34A	Moderately innovative

*4A's responses were coded into the 'not seen in this category' and 'been before themes because' he mentioned that the tray has not been done but the concept is still similar to Shake N Bake.

Three minor themes that emerged from this question were that the package is a one stop shop, it needs to be redesigned, and typically would not purchase it. When investigating differences in the data based on gender, no males determined the innovation of product based on the convenience factor. For the minor theme of typically would not purchase, all women said this based on the fact that they have their own baking trays.

The question regarding why participants looked at stimuli for relatively long time, but did not purchase it in the end resulted in one major theme: brand familiarity. The implications of this theme can potentially be very important to brand owners and marketers due to the fact that when new products launch to market even though they are attracting the attention of consumers, ultimately they are purchasing the brand that they are familiar with. Participants may also have looked at the stimuli for a long time, however, did not purchase it based on the two minor themes: have baking pans and hypothetical price. When taking a deep dive into the data, it was found that the majority of males based their decision off of brand familiarity and price.

When participants were asked what was going through their mind as they were shopping this category and what made them look at this stimuli, four themes emerged: convenience factor, trying to figure out what it was, have not seen in store; curious what was inside, and peeked interest. When examining the gender breakdown as to why participants looked at this stimuli, it was found that all men comprised of the peeked interest theme. On the contrary, only female's responses were included in the trying to figure out what it was and have not seen in stores; curious about what it was themes.

Results from the question above prove that eye tracking should not be used in isolation. Eye tracking can be easily applied to consumer insights research, as it has the ability to uncover nonconscious consumer actions and product annoyances that might otherwise go unnoticed. However, eye tracking in consumer behavior research has limited value when used in isolation because most studies aim to answer research questions that cannot be addressed solely with eye tracking [18]. Through the use of multiple methods such as surveys, interviews, and eye tracking, researchers can get the full understanding of the consumer experience. Eye tracking can affectively be used to augment more conventional research methods [18]. The relationship between eye tracking findings and other findings is by no means one sided. Eye tracking not only can help researchers better understand what participants do and say, but the opposite is true as well—other data are often needed to interpret and qualify eye tracking findings [18]. A synergetic relationship is thus formed between the quantitative eye tracking data and more qualitative survey data. Qualitative interview data can help interpret eye tracking findings since it typically is not enough to know that people looked at something.

For example, the people that were interviewed in this study were participants that spent the most time looking at the stimuli of interest (0.36 seconds to 6.64 seconds). However, out of those eleven only one person actually bought the stimuli of interest. Thus, the question arises as to why these participants looked at this product at all if they ultimately were not going to buy it? The results described above can help answer this question, whereas eye tracking only tells us that these participants did in fact look at it. It is very powerful information to know that participants looked at the stimuli because they were

trying to figure out what it was and they were curious what it was because they had yet to see it in stores. For this study, eye tracking helped narrow down the participants to a pool that paid the most attention to the stimuli, but in isolation may give misleading results about the impact of this attention. Moreover, the topic of attention correlating to sales will be discussed more thoroughly in another chapter.

The participants were asked if they thought chicken was included upon first glance at the stimuli package. Though this may seem like a trivial question, some confusion did arise about whether or not the packaging was forthcoming about the contents included. The four themes that emerged from the responses to this question were related to the package looking like chicken may be included, chicken not being included based on common food technology knowledge, the package being clear, and the package needing clarity. When segmenting the themes to look into gender differences, for the responses that comprised of the chicken included theme, the majority were women. Likewise, all women said that that package needs clarity. While the majority of participants did in fact know that chicken was not included, based on the fact that a handful of participants thought otherwise, the package design itself is worth investigating in more detail. Upon reviewing the results, the researchers that ran this study suggested to the company to add a tag line "Just add chicken" to avoid any type of confusion about the contents of the package. This is similar to products like Hamburger Helper, where there is a small callout stating "Add Ground Beef."

When participants were asked about what kind of positive message this package was displaying, the key themes were convenience factor and clarity of the package design. When breaking down the convenience factor theme, it was found that one participant said

the convenience had to do with the one stop shop packaging, one participant said it saves time, two participants said the convenience had to do with the all-inclusive packaging, and two participants said convenience had to do with the innovative use of the baking tray. As for the convenience factor theme, all responses from men were coded to fit into this theme, again highlighting the importance of convenience to men.

When participants were asked about what kind of negative message this package is displaying, one major theme emerged: problems with packaging design. When breaking down this theme, it was found that participants said that the package could be more lively, there were issues with the images on the primary display panel, the logo was outdated, looks like chicken may be included, the corrugated box is covering up information, the package should make it clear that it is cutting down preparation time, and the diagram at the bottom is covering the food photo. A minor theme is that this idea has been done before, which comprised of all women. Within the problems with the packaging design theme, two people mentioned that it looked like chicken was included and these responses came from women. This follows suit with the results presented above concerning the presence of chicken in the package and the gender that believed this to be true (women).

Participants were asked to explain anything they thought the packaging was lacking in terms of communicating the benefits of the product. The three themes that emerged from the responses to this question were related to increasing the clarity of packaging design, highlighting time saving benefits, and that the packaging already tells you what you need to know. When breaking down the increasing clarity of packaging design theme, it was found that participants were opinionated about what they thought should be included and

redesigned. Participants commented that “just add chicken” text should be added, there should be text to point out the ease and time saving benefits, reusability and reuse, type of plastic, inclusion of oven bags, and allergens all should be indicated on the package. A minor theme that emerged from this question was to make the package more exciting and eye catching. When looking at the data in terms of males and females it was found that the majority of men said that the packaging tells you what you need to know. For the minor theme, the responses came only from women, as they wanted the package to be more exciting.

The question regarding how convenience played a role in participants’ decision when they are shopping for food at home resulted in two major themes: busy schedules and convenience does not play a role. Within the busy schedules theme, participants mentioned that they have no time to cook, it is hard to plan meals, and they want to feed their children quickly. Males were the majority coded into the busy schedules theme, while the participants that said that convenience does not play a role were mostly females.

Lastly, participants were asked if there was anything else they would like to share about the packaging and how it influence their decision to select (or not select) the product. The major themes were that packaging design had a large role in the decision and that they would not purchase this product. When breaking down the packaging design theme, it was found that participants mentioned the package was clear, needed a new color scheme, had an innovative tray, needed a new chicken image, needed to specify ingredients more clearly, differentiates itself on the shelf, and was eye catching. Within the this is not a product I would purchase theme, the majority of responses were from women.

Along with the major themes elucidated in Table 4.5, throughout the transcript, price came up as a key factor for a handful of people. Surprisingly, price was not mentioned by a larger number of participants, but it was mentioned by the same participants over and over. Out of the three participants that mentioned price, two thirds of them make $50,000 or less annually. One participant specifically mentioned price five different times (note that only five questions had codes concerning price). This participant talked about how he makes most of his decisions based on price and typically the consumer pays more for convenience. This particular participant has a family of four and an income of $50,000.

Overall, a large portion of themes generated from participants' responses circled around packaging design, whether it be positive or negative or a little bit of both. These results highlight the importance of packaging design in the choices that consumer make at the point of sale. Ultimately, packaging is often the the first point of contact for a consumer. Every company wants an attractive package that effectively convey the brand's message while boosting sales and increasing the brands recognition [19]. This study proved that within a crowded retail shelf, products that are unique have a better chance of standing out. However, the results from this study also show that just because the product is unique and catches the interest of the consumer, it does not necessarily always translate to purchasing the product.

Table 4.5 Key themes found within interview responses

Question	**n**	**Key Themes**	**Statement from Transcript**
Is there a compelling reason you would or would not purchase this product? Please tell me more about your reason?	6	Convenience factor	*"I thought the convenience factor of it was extremely valuable."*
	4	Wasteful	*"The main reason I would not purchase it would be the disposable nature of the pan. I think I normally would not have a need for that to avoid you know having extra packaging in the trash."*
Please explain why you rated the package either: very appealing, unappealing, mildly unappealing, neutral, mildly appealing, appealing, very appealing.	5	Color scheme	*"There is a lot of red that jumps out at you, and at the bottom the banner is orange, the other tag is read, and the then the chicken is orange. It is a little but too much."*
	6	Clear packaging design	*"It was very clear to see what was involved, all the relevant information was you know right there on the front."*
	3	Unclear packaging design	*"When you first look at it you think chicken is included."*
How innovative do you think this product this? Please tell me more about your reason.	3	Been done before	*"Well I mean I guess you think there is packaging that you know has done this before."*

	4	Convenience factor	*"The main reason was the convenience factor because usually when you think of weekend dinners you are like, OMG I have a 3 or 4 step preparation."*
	3	Not seen in this category	*"Oh I think it is very innovative! I mean everything else on the shelf done to the dimensions looks the same."*
As you were shopping, you looking at the House-Autry One-Step Baking Tray relatively long, but did not purchase it. Why did you purchase what you did?	7	Brand familiarity	*"I guess I am old fashioned in the sense that I am hesitant to try new things until I kind of her about it, so I went with Shake N Bake since I have done it before."*
You were one of the participants that looked relatively long at the House-Autry One-Step Baking Tray but did not purchase it, what was going through your mind as you were shopping? (as in what made you look at it at all?)	3	Convenience factor	*"You know the convenience factor and just trying something different."*
	2	Trying to figure out what it was	*"I was probably trying to figure out what it was. Like I said I thought chicken was in it."*
	2	Have not seen in stores; curious about what was inside	*"Probably one of the things that caught my eye is that I have not seen in the grocery store."*
	2	Peeked interest	*"Once again it peeked my interest."*
Upon first glance at this package, do you think that chicken is included? Please expand on why or why not.	4	Looked like chicken may be included based on package design	*"I thought chicken was in it so that was really confusing."*

	9	Knew chicken could not be included(not in frozen/refrigerated section and in shelf stable section)	*"I did not! I understand refrigeration purposes."*
	3	Clear package design	*"I do not mean to sound mean but NO! It clearly said mix right on it."*
	4	Need clarity; add "just add chicken" text	*"Well on the front it doesn't say chicken is not included."*
When you look at this package, what kind of positive message comes across?	8	Convenience factor	*"Well the one step, I mean it is convenient, so that is positive."*
	4	Package design; clarity of what was included	"*I mean for me I thought it was very clear…that there was a tray involved and there was seasoning and then you could use the tray to mix the seasoning."*
When you look at this package, what kind of negative message comes across?	7	Problems with packaging design	*"As far as negative I feel that the imagery is could be better and the logo is outdated."*
Please explain anything that you believe this packaging is lacking in terms of communicating the benefits of the product.	8	Increase clarity of packaging design	*"It wasn't very clear that you could wash and reuse the tray."*
	4	Need to highlight benefit of not having to use your own dish/convenience factor/less prep time	*"I would make something more eye catching in terms of is it cutting down preparation time and how is it making it convenient."*
	3	Packaging tells you what you need to know	*"I mean it basically tells you everything on the front, what it includes and everything."*

How does convenience play a role in your decisions when it comes to shopping for food to make at home?	4	Busy schedules; lack of time to cook	*"We are on the go all the time, planning out dinner if not something we have been very successful at. So the easier, more convenient, the quicker we get it done."*
	4	Convenience does not play a role	*"Convenience isn't big for me, I like to cook and that takes time."*
Anything else you would like to share with me about the packaging and how it influenced your decision to select (or not select) this product?	6	Packaging design had large role in decision	*"The packaging drew my eye immediately and it was obvious it was something different on the market."*
	3	Would not be something I would buy	*"It wouldn't necessarily be something I buy, but the packaging is very clear."*

n: number of participants that commented on the theme out of 11

Interview vs. Follow-up Survey

Following the eye tracking portion of the study, participants were asked to take a follow up survey (online Survey Monkey) dealing with additional questions about the product of interest. Participants were asked 16 questions in total which were a mix of open and closed ended questions. In order to compare the depth of the data gathered in the follow-up survey to another form, post process interviews were conducted. Following the analysis of the eye tracking, the eleven the participants that looked at the stimuli of interest the longest were selected to be interviewed over the phone (process explained in

methods section). Participants that paid attention to the stimuli increasingly more than other participants were specifically picked in order to gauge their interest and answer questions that eye tracking cannot do alone. The open ended survey responses were then compared to the interview questions (the same questions were asked deliberately in order to cross compare). Specifically, the survey responses and interview responses for each matched question were coded separately and then compared, and percentages were calculated.

When examining the data across all questions it was found that for all interview questions participants responded much more in depth. Overall, participants wrote/spoke 81% more words on average for the interview than for the survey. The word count for each question and method shown with percent difference is shown in Table 4.6.

Table 4.6. Mean word count values for interview and survey tools

Question	Mean (Std. Dev.) Word Count		Percent difference
	Survey (n=11)	Interview (n=11)	Interview vs. Survey
Please explain why you rated the package either: very appealing, unappealing, mildly unappealing, neutral, mildly appealing, appealing, very appealing.	16.00 (10.39)	78.09 (37.40)	79.51%
Is there a compelling reason you would or would not purchase this product? Please tell me about your reason	16.91(18.03)	86.09 (50.27)	80.35%
How innovative is this product? Please tell me more about your reason.	15.27 (11.12)	82.09 (34.27)	81.40%
Please explain anything that you believe this packaging is lacking in terms of communicating the benefits of the product.	14.54 (13.98)	84.82 (48.96)	82.85%
How does convenience play a role in your decisions when it comes to shopping for food to make at home?	19.36 (14.27)	91.36 (51.92)	78.81%
Combined questions	16.42 (13.56)	84.49 (44.56)	81.00%

Not only did participants respond in more depth for the interview than the survey, but they also responded differently between the two. In order for the question to be considered "coded differently" between the survey and interview they must have at least two different codes and/or explain different themes. Ultimately, these decisions were up to the researcher as some questions required a judgement call, however these decisions were cross checked by a colleague. For the package appeal question, 54% of the responses were coded differently (Table 4.12). An example of questions coded the same and coded differently for this question is shown in Table 4.7. A full report can be seen in Appendix F.

Table 4.7. Excerpt taken from: Please explain why you rated the package either: very appealing, unappealing, mildly unappealing, neutral, mildly appealing, appealing, very appealing

Excerpts		Code		Agreement
Interview	Survey	Interview	Survey	Coded differently
Well I like the little picture with the guy holding the tray, that caught my attention. That lead me to reading what it said above it. Um I like the layout, you know it is a good looking piece of chicken. The colors… the colors are good too… they stand out. No I like the colors. I think you guys were pretty much right on it with the colors. From my point of view.	Describes what is in the package	2.2.2.3 2.2.8 2.2.51 2.2.1.2.1 2.2.1.2	2.2.2.1	
Um there was like brown on the edges or something yeah something brown not as appealing. Yeah yeah I think the picture of the chicken was pretty appetizing…color was the main problem	Brown color on the edge makes it slightly less appealing.	2.2.1.1	2.2.1.1 2.2.5.1	Coded the same

For the excerpt that was coded differently, it is obvious that the participant went into much more detail for the interview compared to the survey. Not only does this excerpt have more detail but the participant was explaining different topics in the interview. In the survey he was only talking about how the package describes the contents, while in the interview the participant talked more about the simple graphics, the layout, and good looking colors and chicken image. For the excerpt that was coded the same, the participant talked briefly about chicken in the interview, but ultimately both responses were centered around the brown color being a problem for him.

When participants were asked if there was a compelling reason that would or would not purchase the product, 54% of the responses were coded differently (Table 4.12). An example of questions coded the same and coded differently for this question is shown in Table 4.8.

Table 4.8. Excerpt taken from: Is there a compelling reason you would or would not purchase this product? Please tell me more about your reason.

Excerpts		Code		Agreement
Interview	Survey	Interview	Survey	Coded differently
Um not a compelling reason why I would not. It… what I do like about the package is it does come with the trays. I like having the disposable trays and not having to use one of my own baking sheets or whatever. And that was a plus for me as far as looking at it. Yeah something I may be interested in trying. And I have used some other products from that company as far as their cornbread and things like that so I was familiar with the company.	Quick and easy	1.4.5 1.3 1.6.2	1.4.3	
Um…typically I would purchase something um probably like Shake N Bake or something. Um a more familiar brand, I am not really familiar with this brand. Yeah and you know it does depend on what is on sale. Price is the bigger factor	I would probably go with something else like a brand I typically use, for example Kraft. Really depends on the price point though. I do like the idea of using one tray.	1.6 1.7 1.7.1	1.6 1.7	Coded the same

When looking at the passage that was coded differently, similar to the previous question, the participant went into much more detail for the interview compared to the survey. Not only does this excerpt have more detail but the participant was explaining different topics in the interview. In the survey he was just talking about a quick and easy meal, but in the interview he expanded on the fact that he likes the disposable trays and

the idea of not having to use his own baking trays. He also talked about how is familiar with the company and how he would like to try this product. For the excerpt that was coded the same, the participant talked about going with the familiar brand and the how price is a big factor for both the survey and the interview. No new concepts were introduced in the survey that was not already said in the interview.

Contrasting with the previous two question, when participants were asked about the innovation of the product, only 36% were coded differently (Table 4.12). An example of questions coded the same and coded differently for this question is shown in Table 4.9.

Table 4.9. Excerpt taken from: How innovative is this product? Please tell me more about your reason.

Excerpts		Code		Agreement
Interview	Survey	Interview	Survey	Coded differently
Um…I mean I think is is pretty clever, I like the idea of it um I just think it needs to be I don't know designed and advertised a little better. Um so like I guess it needs to be… like it has the chicken on it but it's not really about chicken… it's supposed to be about seasoning. Because you know the chicken does not come with it. Ha yeah [laughing] so I feel like I don't know they could explain better on the package what is included and uh how it works and the fact that it is reusable and supposed to save you time.	I like the idea of being able to use just one tray for my prep and cooking.	3.4 3.6 3.6.1 3.6.1.1	3.5.1	
Oh I think it is very innovative! I mean everything else on the shelf almost down to the dimensions looks the same. Where the display is of the picture, pictures of what the product does and the meat… every brand in that category looks the same.	There is nothing like this in this sector of product, I love the idea!	3.5.2	3.5.2	Coded the same

When comparing the passage that was coded differently, the participant talked about completely different things in her interview. The interview talked about even though she thinks that the idea is clever, she still thought it needed to be redesigned to explain better what is included in the package. In the survey she only talked about the tray and being able to use it for all her cooking needs. As for the passage that was coded the same, the participant talked about how the product differentiates itself on the shelf compared to other products in the category for both the survey and the interview. Even though she expanded slightly more in the interview, she was still saying the same thing for both.

When participants were asked about to explain anything that they believe the packaging is lacking in terms of communicating the benefits of the product, 64% were coded differently (Table 4.12). An example of questions coded the same and coded differently for this question is shown in Table 4.10.

Table 4.10. Excerpt taken from: Please explain anything that you believe this packaging is lacking in terms of communicating the benefits of the product.

Excerpts		Code		Agreement
Interview	Survey	Interview	Survey	Coded differently
I actually liked the packaging uh like I said if it could just make something more eye catching in terms of like I said, it is cutting down preparation time and how it is making it convenient. Like something that catches your eye… that would probably help sell the product. Yeah or just like something like a 1-2-3… it is so simple it's just like 1-2-3. Just put it in…put it in the oven and then you are done kind of thing	None	7.2.6.1 7.3	7.4	
Um not for me, expect for what you told me about the other people about chicken not included.	Nothing	7.4	7.4	Coded the same

When comparing the passage that was coded differently, the participant goes from saying nothing in the survey to having a detailed response in the interview. The interview went on to talk about how the package should be more eye catching. She then went into detail about how she thought this could be done. As for the passage that was coded the same, in both the interview and survey the participant talked about how there was nothing to add. Even though he mentioned what other people said in the interview, he was still saying for himself that there was nothing to add.

When participants were asked about how convenience plays a role when it comes to shopping for food to make at home, only 36% were coded differently (Table 4.12). An example of questions coded the same and coded differently for this question is shown in Table 11.

Table 4.11. Excerpt taken from: How does convenience play a role in your decisions when it comes to shopping for food to make at home?

Excerpts		Code		Agreement
Interview	Survey	Interview	Survey	Coded differently
Uh…typically convenience would be in the form of ready to eat, heat and eat kind of thing. The tray part is innovative yes like if you like buy it once and keep it [laughing]. The tray is more innovative but not convenient.	Yes, because there is other stuff to do than cook	8.3.2.1 8.3.3	8.2	
Convenience is really important to me. Um I live by myself so um I want something that is quick and also want something that is not going to leave me with a lot of leftovers. Yeah because I just won't eat it and a lot of food goes to waste because it's made for a family of four.	Convenience. Anything that saves me time is a plus. I also like things that don't make large quantities of food because it cuts down on waste.	8.2.1 8.4.2	8.2.1 8.4.2	Coded the same

When comparing the passage that was coded differently, the participant talked about two completely different topics in the interview and survey. In the survey he talked about how there are things do other than cook, while in the interview his response takes a 180 turn and he talked about his definition of a convenient meal and how the tray is more innovative as a whole then convenient. When comparing the passage that was coded the same, in both the interview and survey the participant talked about how important convenience and having less leftovers is to her. Overall, table 4.12 showcases the percentages calculated for each question.

Table 4.12. Percentage of responses coded the same and differently between the survey and interview questions

Question	Coded the same	Coded differently
Please explain why you rated the package either: very appealing, unappealing, mildly unappealing, neutral, mildly appealing, appealing, very appealing	45%	54%
Is there a compelling reason you would or would not purchase this product? Please tell me about your reason	45%	54%
How innovative is this product? Please tell me more about your reason.	64%	36%
Please explain anything that you believe this packaging is lacking in terms of communicating the benefits of the product	36%	64%
How does convenience play a role in your decisions when it comes to shopping for food to make at home?	64%	36%

When comparing the five matched questions for the survey and the interview for all participants, it was found that only one participant had the same responses across the board for both the survey and the interview (Table 4.13). These results show that only 9% of the participants' responses could be coded the same for all five questions,

indicating that participants will mention different comments when asked over the phone with human interaction than on a computer survey.

Table 4.13. Questions coded the same (yes) and differently (no) for the survey and interview

Participant ID	Question 1	Question 2	Question 3	Question 4	Question 5
2A	No	Yes	Yes	No	No
6A	No	No	Yes	Yes	Yes
11A	No	Yes	No	No	Yes
35A	Yes	No	Yes	No	No
26A	Yes	Yes	No	No	Yes
25A	Yes	Yes	Yes	Yes	Yes
30A	No	Yes	No	No	No
4A	No	No	Yes	Yes	Yes
19A	No	Yes	Yes	Yes	Yes
21A	Yes	No	No	No	Yes
34A	Yes	No	Yes	No	No

Overall, 49% of questions were coded differently. The questions that were coded differently based on majority, were those that asked more broad open ended questions such as, “Please explain anything that you believe this packaging is lacking in terms of communicating the benefits of the product.” This question had the highest percentage at 64%. The questions that were coded the same based on majority were more direct and to the point such as, “How innovative is this product? Please tell me more about your reason.” This question had the highest percentage at 64%. These results can be very helpful in understanding what type of questions to use for what tool. Since phone interviews allow a researcher to zero in on the participants and gain an in-depth understanding of their attitudes, plans, and reactions, it is best to ask questions that more broad questions during an interview because the interviewer has the chance to probe and ask follow-up questions. When asking questions that are more direct, it is best to include

these types of questions on an online survey with the option for an open-ended response, since participants can answer these easily with less of a need for probing and follow-up questions.

When conducting an eye tracking study with a qualitative portion, the decisions a researcher makes early on in the experimental design can have have ripple effect down the line [3]. A key decision in this process is determining whether to collect data through an online survey, phone interview, or a combination of both. Online surveys, which are used often as a tool in eye tracking research, have many benefits such as cost effectiveness, time saving capabilities, and the ability to capture a representative sample from a larger population [3]. However, there are also some disadvantages to online surveys such as the need for incentives, non-completion, and the fact that it is harder to get detailed explanations [3]. As seen in this work, non-completion was a minor issue, with four participants not answering various questions on the survey. The issue of getting participants to go into more detail on the survey was seen to a great extent in this research. 49% of the total responses were coded differently when comparing the survey and interview answers for five questions. These responses not only said different things, but also talked in much greater detail when asked over the phone during the interview. Table 4.6 further explains this point, by comparing the mean word count values for the survey and interview tools. It was found that participants as a unit wrote/spoke 81% more words on average for the interview than for the survey. This increased percentage of verbiage may be due to the fact that respondents are less willing to type out detailed explanative responses on a survey [20]. To mitigate this problem, these types of open

ended questions could become closed need “select all that apply” questions with preset categorical responses [20]. Even if these types of questions aid in preventing a high drop-off rate, they don’t allow for respondents to use their natural language in answering the question [20]. Interviews unlike online surveys have the ability to probe respondents, have candid conversations, and ask more questions. Interviews also have a higher response rate when persistent in scheduling [20]. However, interviews also have drawbacks, such as the need for an experienced interviewer and limitations of sample sizes [20].

CONCLUSIONS

Based on the results herein, it would be recommended to use a combination of survey and interview as a follow-up tool after an eye-tracking study. The online survey could consist of closed-ended questions and more direct open ended questions for the entire group of participants. The interview could be in two forms: sampled from approximately 5-10 participants directly after the eye tracking study or sampled from approximately 5-10 after analyzing the data (done in this study). The latter was used in this study because researchers were specifically looking for a group of participants that paid the most attention to the stimuli of interest. However, if researchers are looking to target a specific demographic, say for example women over 40, sampling participants that fall into this category can be done directly after the eye tracking study with questions made prior to the start of the study. If researchers want questions to be tailored to analyzed results it is best to commence the interview process post data analysis.

Limitations in this study include a small sample size for the phone interviews, which does not allow the findings to be universally generalized. However, data saturation was reached by the completion of this study. The sample size chosen herein was one that had the best opportunity for the researcher to reach data saturation. With this being said, a large sample size does not guarantee data saturation, nor does a small sample size—rather, it is what constitutes the sample size. Due to the fact that the phone interviews were conducted post analysis of the eye tracking data and thus took place a week later, it may have affected the participant's memory of what the products and study was about. However, images of the product tested were provided to each of the interviewees selected, to help address this issue. Qualitative research is often criticized as biased, small scale, anecdotal, and/or lacking rigor; however, when it is carried out properly it is unbiased, in depth, valid, reliable, credible, and rigorous. However, in this study, triangulation was used to substantiate the findings. Future research could include implementing this work in conjunction with every eye tracking study to build a database of findings that would help researchers in this field during experimental design to understand what questions to ask and what qualitative technique to use. Overall, the findings presented herein provide valuable insight to professionals and researchers in aiding their understanding of why consumers do one thing and say another, as well as what kinds of questions to ask for each type of qualitative technique.

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CHAPTER FIVE

INFLUENCE OF VISUAL ATTENTION ON THE LIKELIHOOD OF CHOICE THROUGH REGRESSION ANALYSIS

ABSTRACT

Eye tracking technology allows for a relatively direct and continuous measurement of unconcealed visual attention. In the consumer goods market today, it is important for companies to make their brand or product stand out within the vast competitive array. Even though it is highly unlikely that a product would be purchased without having been noticed (unseen is unsold), it is important to investigate if products that garner high attention are in fact purchased in the marketplace, and if a correlation exists between the two metrics. Utilizing real consumers in an immersive consumer retail experience laboratory, an eye tracking study on seasoned breading mix was conducted to test the correlation between attention and sales data. Data captured from 37 study participants were used to create a regression model by utilizing the Fit Y by X function in the statistical program JMP Pro 12. Statistical analysis indicated that including attention metrics in the prediction model significantly improves the ability to predict average sales. Overall, eye tracking is a viable option to foreshadow sales and attention performance within this category.

INTRODUCTION

When shopping for products within the proverbial zoo of a grocery store, packaging can help act as a spokesperson for a specific brand and serve as the first moment of truth in the store [1]. Packaging as a whole is a crucial part to the consumer experience and can be very impactful on both satisfaction as well as usage frequency [1]. This aspect of the product is the epitome of the brand, and is effectively featured in nearly all forms of marketing [1]. Due to the fragmentation of mass media, fewer people are viewing TV ads, which is leading to more in-store decision-making, so there is a strong argument to be made that packaging is more important than ever [1]. Although these ideas are seemingly a reality, the direct correlation of packaging to in-store decision making, is fairly objective. With that being said, in order to fully persuade, these ideas need to be brought to life and quantified, and that is where eye tracking comes in [1]. To date, eye tracking is the only method in human behavior research rendering the possibility to objectively measure and quantify eye movements.

Eye tracking is being more widely used in disciplines such as neuro-marketing because it seeks to associate visual attention with the cognitive and emotional responses of consumers [2]. As a research tool, eye tracking is subtler than traditional methods as it requires little to no interaction between the researchers and their participants, leading to a potentially more honest tool in regards to the experience of the consumer. Because eye tracking measures visibility and engagement, it is typically most relevant in situations where the marketer is buying “space” (such as a package on the shelf) and attempting to capture the time and attention of a viewer [1]. When shopping for a package on the shelf,

the shopper is in control, such that they can spend as much or as little time as desired, start where they wish and control the viewing sequence, and "check out" at any time [1]. Different shoppers react differently to each situation, whereas some may focus all of their attention on a compelling visual and never notice the branding nor engage with the claims on the package.

Eye tracking can be easily applied to consumer insights' research, as it has the ability to uncover nonconscious consumer actions and product concerns that might otherwise go unnoticed. However, eye tracking in consumer behavior research has limited value when used in isolation because most studies aim to answer research questions that cannot be addressed solely with eye tracking, as the cognitive response of the consumer is also valued [1]. Through the use of multiple methods such as surveys, interviews, model building, in combination with eye tracking, researchers can get a full understanding of the consumer experience. Moreover, eye tracking is an effective tool to augment more conventional research methods [1].

Eye tracking is a technology to test package design appeal and to see what grasps the attention of consumers, however it does not provide an all-encompassing view of how the product may perform once it hits the shelf. For example, an eye tracking study statistically showed that a new design for granola bars performed better than the old design, but this does not help to shed light on how well the granola bars will perform in the actual market [1]. Interestingly, in support of the results of various eye tracking studies, researchers have confirmed that increased visual attention will increase the likelihood of choice [3]. Following suit, it has been found that individuals increasingly

focus on the option they prefer over the course of a decision [4], attend more to outcomes that are subjectively more important for them [5], and attend more probable outcomes in risky decisions [6][7]. Manipulations of attention have also been shown to shift preferences, with objects that receive more attention being preferred [4], [8], [9]. Overall, there is ample evidence that attention plays a crucial role in the underlying process of preference construction.

To do this type of work, drift-diffusion models (DDMs) are often used to capture the relationship between attention and decision making. DDMs suggest that, in a decision between two or more options, information about each option is sampled according to a randomly distributed process [10]. Along with DDMs, decision field theory (DFT) and sequential value matching model (SVM) are also used to show how attention is distributed over options during preference construction [10]. An example of this work comes from a study done at the Max Planck Institute for Research on Collective Goods, in which the purpose of this work was to test if the frequency of a given rating being provided will guide attention to that rating, with higher frequency ratings garnering a greater proportion of allocated attention [10]. In this study, 27 participants were asked to observe 40 common consumer products (i.e. computer mouse, USB drive, umbrella) selected from the Amazon.de marketplace using screen based eye tracking (LC Technologies). Once calibrated to the system, each participant read instructions informing them that they would be presented with a series of products and the ratings each product had received on Amazon.de, and that their task was to assign a monetary value to each [10]. Participants were informed that they would see both the average high

and low rating as well as the percentage of previous customers who had provided such ratings and then would indicate what they felt the product was worth [10]. Valuations were indicated by pushing (sliding) a computer mouse up (down) which changed the valuation in 0.01 Euro increments, up to a maximum of 30 Euros, and clicking the left mouse button to confirm; the initial value displayed was always 0.00 Euro [10]. It was found that as the frequency of customers giving a low rating increases as does the proportion of attention directed at it. Thus, as predicted by DFT and the SVM model, the underlying relative frequency of ratings appears to predict where attention is allocated to some degree [10].

Another study tested the theory that increased attention does in fact drive choice, by testing how simple value-based binary choices are made and the role of visual fixations in the comparison of values [3]. Implementing DDM, researchers utilized qualitative and quantitative data to predict the relationship between fixation patterns and choice using eye tracking technology [3]. In this study, participants were shown high-resolution pictures of two food items and asked to indicate their choice with the press of a button [3]. Results from this study indicated that a simple extension of the DDM in which fixations are involved in the value integration process could provide a solid quantitative account of various relationships between the fixation and choice data.

Though much research has been done in the area linking attention to choice, most studies completed are using screen based eye tracking. While eye tracking as a technology can be very useful concerning consumer perception and attention, researchers first have to decide which eye tracking system to implement, with pros and cons for both.

Mobile eye tracking technology using physical stimuli can be used to offer research studies the most realistic and immersive experience for consumers. However, this type of technology requires physical products or prototypes, which can be pricy to obtain, organize, and store [11]. Screen based eye tracking does not offer the participants as an immersive of an experience, though these studies are typically less expensive to run [11]. Conversely, a plethora of research has discussed how mobile eye tracking offers context to studies, while screen based studies give the impression of a test participant in a cold room, not an actual shopper [1]. While previous research has shown the ability to correlate attention to sales, it has only done so with screen based eye tracking, offering participants less of an immersive experience, which also adds a novel aspect to the work described herein. The current review of research in this area is also solely using participant ranking systems for value to complement and correlate to the eye tracking data. Participants are often asked to indicate what they felt the product was worth, but this approach is flawed because it relies on participants to describe their own cognitive processes leading to objectivity. The overwhelming amount of products on store shelves has turned shopping from a rational exercise into an emotional one [1]. Since shoppers do not typically have the time to actively compare all of their options, the experience is driven largely by what shoppers end up seeing in the aisle [1]. Because of this, shoppers may talk about their experiences differently than how they actually behaved in the store. For this reason, to bridge the literature gap, researchers herein believe that mobile eye tracking, as well as actual sales data, should be used to build a correlation analysis between attention and choice. The type of retail sales data used in this study differs from

more traditional consumer insight resources because it reflects on actual purchase behavior [12]. Instead of measuring what people think or feel post hoc, this type of insight indicates what was purchased at a particular moment in a particular store under a particular set of market and competitive conditions, allowing for "live" results leading to increased insights [12]. The goal of this study was to validate the claims that "increased visual attention will increase the likelihood of choice," by using mobile eye tracking and syndicated sales data, which has not been done to date.

MATERIALS AND METHODS

Location and Participants

The study took place in CUshop™, a consumer experience laboratory at Clemson University's Sonoco Institute of Packaging Design and Graphics (Figure 5.1). CUshop™ is a realistic shopping environment featuring three 12-foot shopping aisles, a frozen food section, produce area, and simulated open refrigeration. Being human subjects research, this study was approved by the Institutional Review Board (IRB). All participants were required to complete and sign an approved IRB consent form to ensure the confidentiality of each participant. 37 consenting participants, (68% female, 32% male) took part in the study. Participants were enlisted through a mailing list of consumers residing in the upstate of South Carolina, positioned between Atlanta, GA and Charlotte, NC. Participants ranged in age from 22 to 65 with approximately 56% being between 22-39 years of age. The income range distribution of the participants was diverse, ranging from less than $20,000 to over $200,000 annually. All participants were incentivized for their participation.

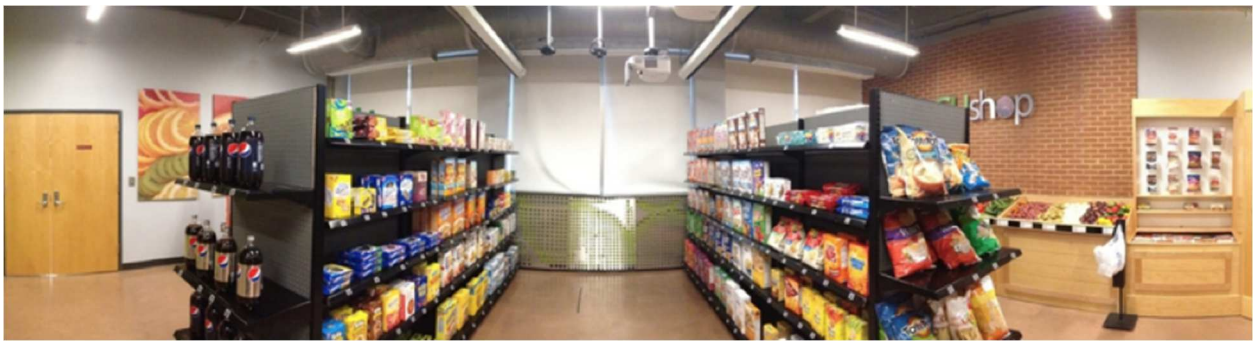

Figure 5.1. CUshop™ consumer experience laboratory

Stimuli

Eleven brands from the breadcrumbs and seasoned coating categories were tested in this study. Along with varying brands, 42 stock keeping units (SKUs) were tested to determine consumer interest within the competitive array in this section of grocery. Ten SKUs that fit with the sales data were used in analysis. A total of five shelves made up this planogram, which was modeled after Walmart Neighborhood Market and Ingles, two grocery stores located in Clemson, SC. A non-disclosure agreement (NDA) with the client prohibits the specific brand names of the products to be released.

Apparatus

The participants eye movements were tracked using Tobii™ Pro Glasses 2 eye tracking glasses (Figure 5.2). These glasses are equipped with two cameras for each eye that use Tobii's™ 3D eye model [13]. These unique eye tracking glasses are ultra-lightweight with a user-centric design that encourages natural viewing patterns [13]. They operate at a sampling rate of 50 Hz and are combatable with all eye types to provide persistent calibration and minimal data loss during projects that allow a researcher to track a wide cross-section of the population to ensure superior data quality [13]. A Tobii™ head

unit captures what the participant sees, as well as the sound, and saves gaze data onto an SD card for data input and analysis. The controller software allows for researchers to take this technology out into the field, and offers a live-view component allowing the researcher to see exactly what the person is looking at in real time [13].

Figure 5.2. Tobii™ Pro Glasses 2 used to capture gaze data [13].

Experimental Design and Procedure

The experiment was designed as an easily repeatable shopping task. Participants were provided a shopping list with several categories of items, including chocolate chip cookies, olive oil, seasoned breading mix, and dish soap and were subsequently instructed to enter the store as they would during a normal shopping trip. However, in this instance, they were asked to write down their selection for each item on the list. The study was carried out over one day due to it being a baseline study of a known planogram. The products within the category of interest, seasoned breading mix, were placed on a 4ft x6ft shelving unit filled with competitive products modeled after local grocery stores that sell this category. The analysis compared the SKUs within the baseline competitive array using the Total Fixation Duration (TFD) metric or attention metric as the key metric used in the regression analysis.

Prior to the study, each participant was given an "ID code" to ensure confidentiality and informed to shop for items indicated on a shopping list. Once a participant has provided informed consent, the eye tracking glasses were mounted and the participant was calibrated to the device by looking at a circle printed by the manufacturer in a simple one step process. Following the one-point calibration, participants were handed a shopping list with the stimuli and other decoy items listed on it and asked to shop for the items on the list. After selecting a product for each item on the shopping list and exiting the shop, participants were guided to a debriefing area where they completed a short post-experiment questionnaire that collected qualitative information regarding the packages they saw and demographic information.

Eye Tracking Metrics and Sales Data

Areas of Interest (AOI's) were designated for seasoned breading SKUs and used to determine three measurements metrics of eye movement: Time to First Fixation (TTFF), Total Fixation Duration (TFD), and Fixation Count (FC). These AOIs framed each individual SKU. TFD was primarily used in this regression analysis, but all metrics are described as they were also collected and analyzed in this study. The time in seconds from when a product first enters a participant's field of view until they fixate on it is defined as the TTFF. The lower the number, the better the package performed in this instance. TTFF starts when the eye hits the defined Area of Analysis (AOA), so run order was not an issue. TFD, is the time, in seconds, spent on average by participants fixating on this item. The higher the number, the better the package performed. This metric measures the sum of the duration of all fixations within an Area of Interest (AOI). FC is

the total number of times a participant's scan of the planogram crossed into a particular area of interest. The Tobii I-VT Attention filter was used to export metrics for analysis due to the fact that it makes more "true fixations." Using this filter is the default setting and preferred for mobile eye tracking studies because when using raw data each dot is a fixation, and that is not true because most, if not all, fixations are longer than 20 ms.

Sales data was obtained from a sponsor company, where it's corresponding brand and ownership are not disclosed. Though it is common practice to run consumer surveys to complement an eye tracking study, retail sales data provides insights not available through more traditional market research methods. Consumer packaged goods companies (CPGs) use survey research to gather valuable data, especially by segmenting buyers into different groups based on behavior, investigating specific product feature preferences, and testing to their responses to different elements of the packaging (i.e. graphics, font, placement) [12]. However, this type of retail sales data is different from more traditional consumer insight resources because it reflects on actual purchase behavior instead of measuring what people think or feel post hoc. Thus, this type of insight is powerful as it indicates what was purchased at a particular moment in a particular store under a particular set of market and competitive conditions [12].

Data Analysis

Tobii Pro Lab was used to collect raw eye tracking data and run descriptive statistical analysis. This software is powerful, versatile, and comprehensive system that is used to support the entire research workflow for eye trackers from Tobii Pro. After all the participants have completed an eye tracking study, the data was ready to be analyzed

(it is good practice to import video after each five participants to make sure all data is intact). The SD card in the Tobii head unit was inserted directly in the computer with the installed Tobii Pro Lab software. After the recordings have been uploaded, the coding process can begin. Coding in this sense, refers to "mapping" gaze data from recordings on a still image to gather insight on how participants reacted in the planogram individually or in aggregate. In order to code efficiently and precisely, a high resolution image of the seasoned beading planogram was uploaded into the software through a snapshots tab. The high resolution image was then placed next to a video recording of a participant (Figure 3). Please note that this process has to be done for every participant in the study.

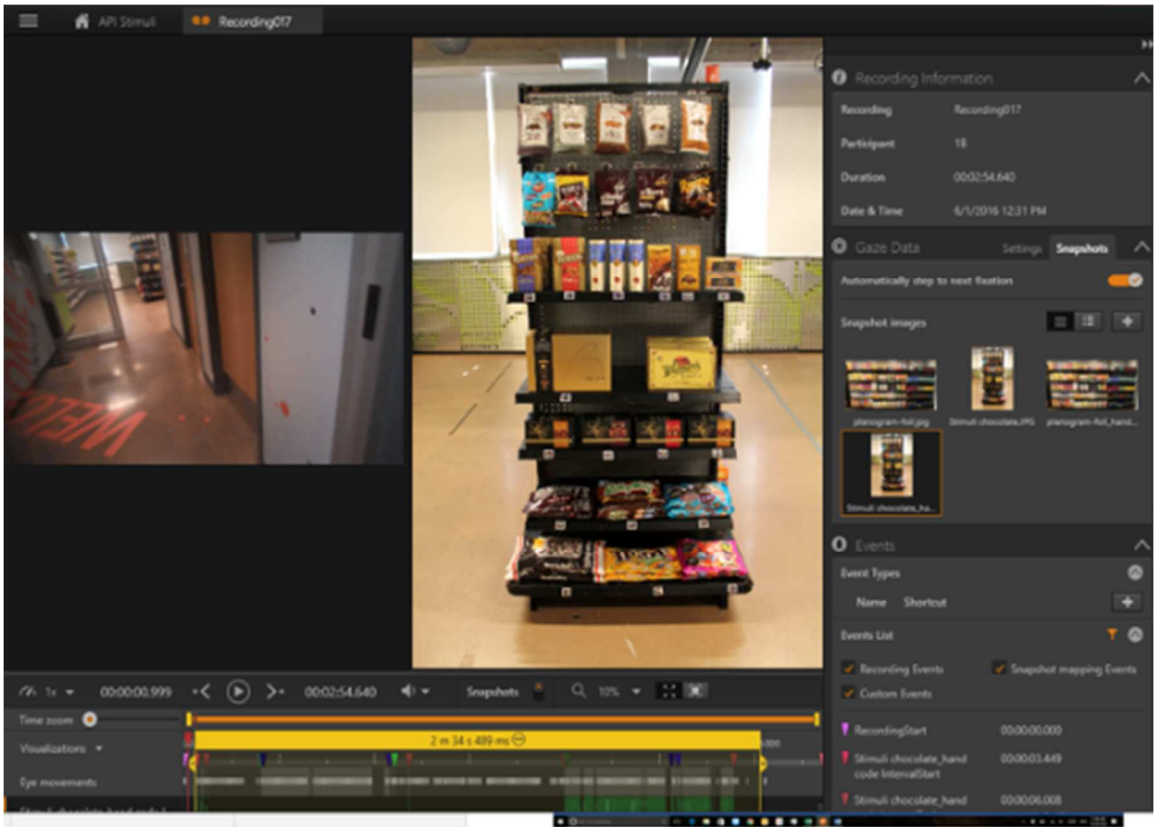

Figure 5.3. Coding process using a high resolution image of the defined planogram.

The coding began by spanning the yellow bar the length of the video that want to map onto the image (refer to Figure 5.3). For example, if you only want to code 30 seconds of the participant looking at the planogram, the video can be watched, scrolled to the time they looked at that section, and then have the yellow bar span that section. Next right click the circular button next to the time duration of the video (i.e. 2m 34s 489ms) and right click to bring up a list of options: run automatic mapping, export video clip, delete automatically mapped points, delete manually mapped points, and clear selection. For this purpose, "run automatic mapping" was chosen to code the data points of attention onto the image to generate heat maps and actionable metrics for analysis. This process typically takes from one to five minutes depending on the length of the video.

Once the 37 participants were coded, areas of interest (AOIs) or user-defined sub regions of a displayed stimulus were plotted. AOIs can simply be drawn using the drawing tools within the AOI editor tab. For this particular planogram, AOIs were drawn around the SKUs within the planogram. Following building these AOIs, the data was exported via the metrics tab within the software. Three metrics are typically downloaded for eye tracking studies: TTFF, TFD, and FC, with the metric of importance for this regression analysis being the TFD metric. This metric quantifies the amount of time that respondents have spent on an AOI. Since respondents have to blend out other stimuli in the visual periphery that could be equally interesting, time spent often indexes motivation and conscious attention [2]. With that being said, long prevalence at a certain region clearly point to a high level of interest and shorter prevalence times indicate that other areas on screen or in environment might be more eye catching [2].

In order to run regression analysis comparing attention (TFD) to retail sales data, the statistical program JMP Pro 12 was used. In order to visualize the relationship between the two variables, a scatter plot using the graph builder function within the program was plotted. Once the relationship was visualized, the data was analyzed to describe the relationships numerically. This numerical description of the relationship between variables is called a regression model which is able to predict the average value of one variable (Y) from the value of another variable (X) [14]. Utilizing the TFD metric for the SKUs within the seasoned breading mix category and the retail sales data averaged over four years (04/26/14-03/25/17), the Fix X by Y platform was used to create regression models. In order to create a regression model, the data for X must match the data for Y, such that the retail sales data had to match with each complementary SKU. Along with building a regression model with the aggregate TFD values over 37 participants for each SKU and the retail sales data, demographics such as gender, education, and income were analyzed to get a more complete picture of what type of demographic led to a positive or negative correlation for this grocery sector. This can help sales teams and research firms market their products to the applicable demographic based on this system.

RESULTS AND DISCUSSION

A baseline eye tracking study was carried out in order to investigate to what extent the regression model outlined here was able to capture key patterns of the relationship between sales and attention (TFD). Using the Fit Y by X platform within JMP Pro 12, a regression model was created with two continuous values (TFD and average sales) and one

predictor value (TFD). This model was run in attempt to find a correlation between real life sales data and attention data captured for over 37 participants during an eye tracking study. Data was collected for each participant for each SKU and averaged to get one TFD value for each SKU to directly test in accordance with the average sales for those same SKUS averaged over four years. Using the linear fit function within this software, a positive correlation was found between average sales and the TFD metric (Figure 5.4).

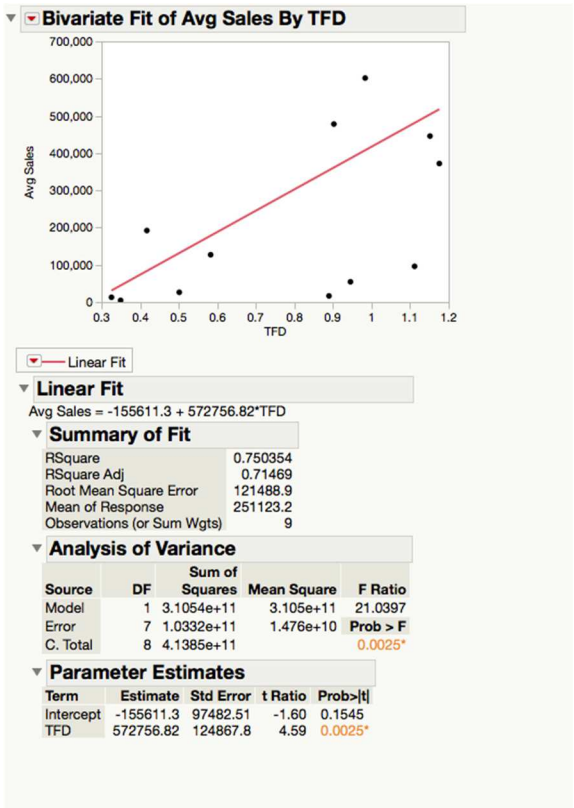

Figure 5.4. Average sales vs. TFD regression model

Investigating further into this regression model, it is critical to note the regression line, predication equation (under the linear fit section), RSquare value, and p-value. For these results, the p-value was less than the significance level of 0.05 (p=0.0025). Since the p-value is less than the significance level, it can be concluded that including the TFD values

in the prediction model significantly improves the ability to predict average sales. Since the RSquare value was large, which shows the strength of a relationship between variables (i.e. correlation) where 1 indicates a perfect linear relationship, it was confirmed that the predication model based on the TFD can predict sales revenue [14]. This model can also be used to predict the average sales expected for this product category, which is dependent on how long consumers looked at the products. The prediction equation for the model was included in this output: -155611.3+572756.82*TFD. For example, if the TFD value for a SKU is 1.75 seconds, plugging this value in for TFD would predict the average sales for this product category to be $846,713.135 averaged over four years.

This model can also be built for any period within the four-year span tested, with each period representing four weeks. For example, Period 8 was investigated (Figure 5.5). Investigating a specific period, allows researchers to delve further into the data of interest during that time span, rather than being used in aggregate. Similar to Figure 5.4, a positive correlation was found between Period 8 sales and the TFD metric. For these results, the p-value was less than the significance level of 0.05 (p=0.0019). Since the p-value is less than the significance level, it can be concluded that including the TFD values in the prediction model significantly improves the ability to predict sales for Period 8. Since the RSquare value was large, this confirmed the predication model based on the TFD can predict sales revenue for this period. The prediction equation for the model was included in this output: -175950+625915.31*TFD. For example, if the TFD value for a SKU is 1.75 seconds, plugging this value in for TFD would predict the average sales for this product category to be $919,401for this period.

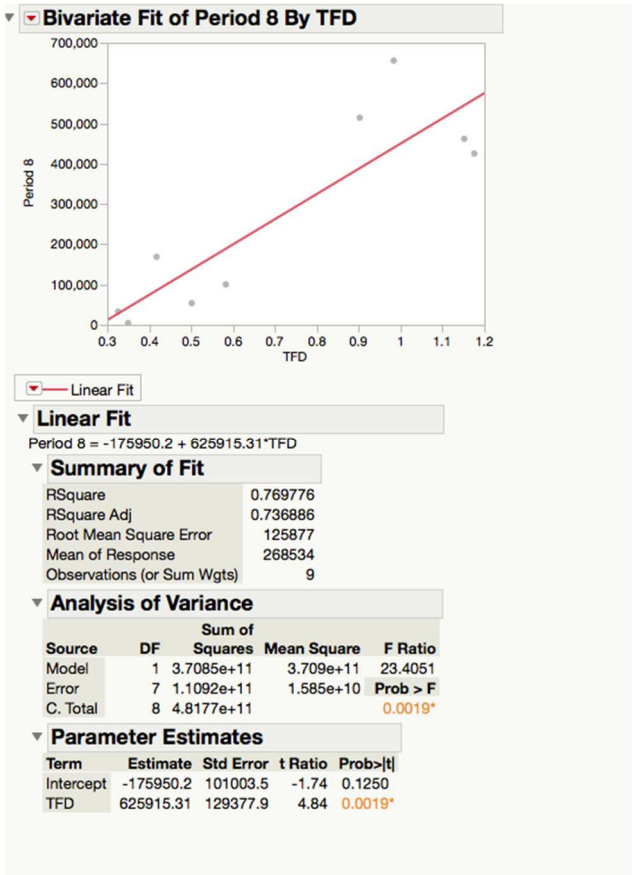

Figure 5.5. Period 8 sales vs. TFD regression model.

Demographics such as gender, age, relationship status, education, employment, shopping habits were also investigated to take a closer look at the trends of individual participants when segmenting various demographics out and attempting to correlate those with sales. The demographics were collected before the eye tracking study through a pre-survey. The identities of the participants were not recorded, but instead each was given a unique ID code (1A, 2A, etc.) to be able to link the eye tracking data with their demographic profiles. Instead of taking the aggregate of the 37 participants for each SKU of interest, in this instance, the TFD values for SKU per each participant were recorded within the software. When segmenting different demographics and overlaying that

specific demographic within the graph builder function, different correlations were seen when comparing average sales and the TFD for each group. For example, income was used as an overlay to see how this group effects the trend (Figure 5.6).

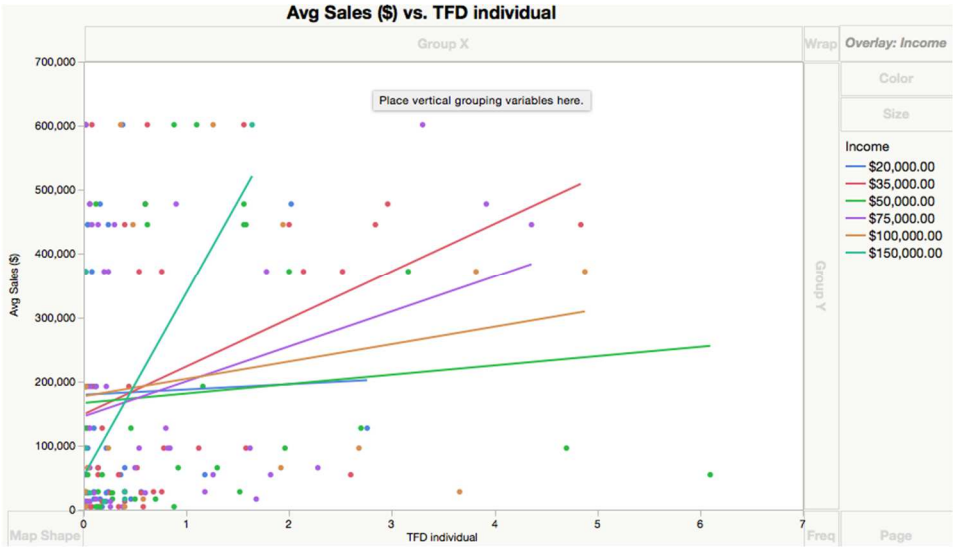

Figure 5.6. Graph builder for average sales vs. TFD with an income overlay.

The income overlaid results indicated a strong correlation for the group of participants that make $150,000. This information can be used in a wide range of market research to help teams market their products to applicable groups. The data within this figure could be interpreted in a multitude of ways. These results are indicative that participants that make over $150,000 do in fact look at items for a longer duration and do purchase them. This may be due their higher income, which would in turn cause price to have less of an influence on their purchasing decisions. Higher incomes may also relate to individuals with higher education and higher levels of intelligence which may lend to the ability to closer attention to detail when

shopping. The age overlaid results indicate a strong correlation for the group of participants that are within 30-39 years (Figure 5.7).

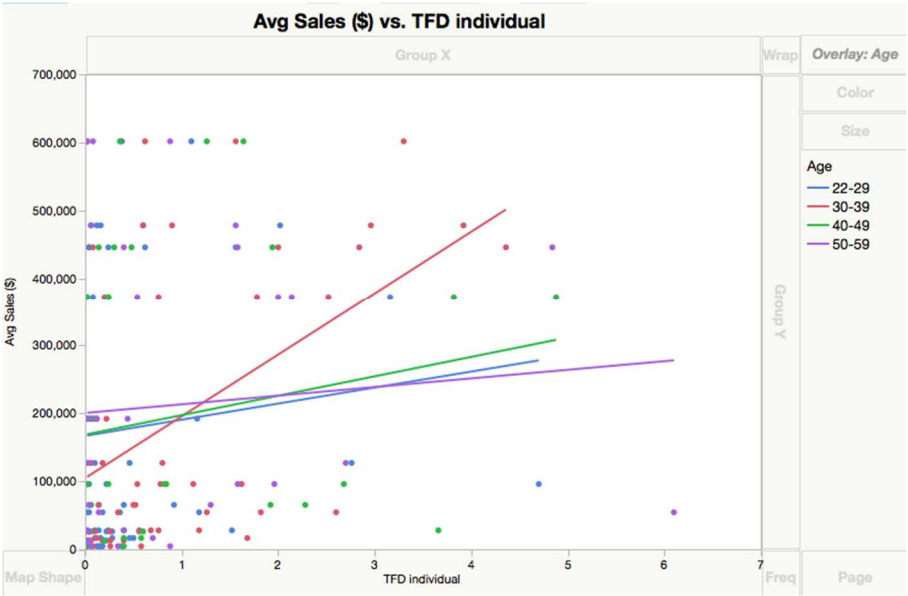

Figure 5.7. Graph builder for average sales vs. TFD with an age overlay.

The trend of these results prove that participants that are between 30-39 years of age have a stronger correlation between attention and sales. Due to this fact, it would be appropriate to focus marketing campaigns, packaging design, promotions to this group as data reveal that more attention is spent on these products and ultimately a purchase is made. On the other hand, it may be useful to market to the other age groups (22-29, 44-49, 50-59) as they are not showing as strong of a correlation between their TFD measurements and retail sales. The relationship status overlaid results indicate a strong correlation for the group of participants that are single, never married and separated (Figure 5.8).

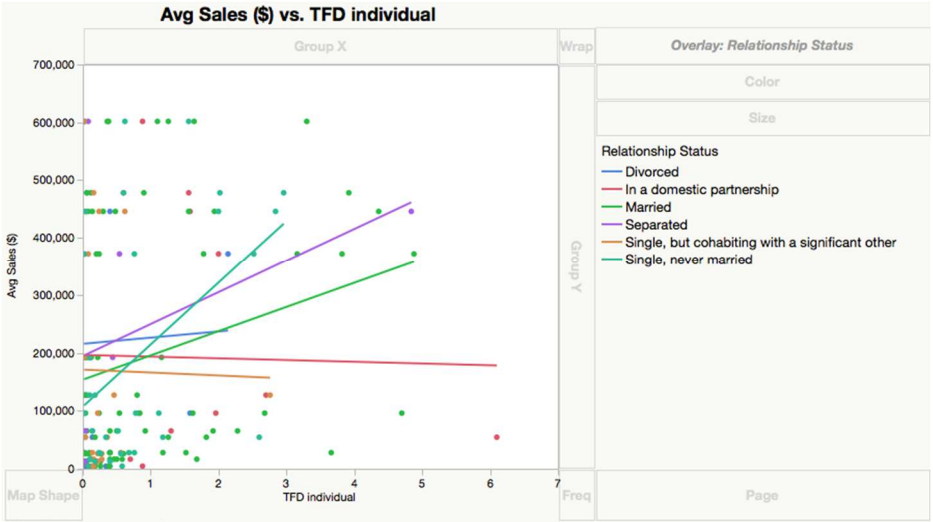

Figure 5.8. Graph builder for average sales vs. TFD with relationship status overlay.

The trend of these results show that participants that are single, never married and separated have a stronger correlation between attention and sales. Due to this fact, it would be appropriate to focus marketing campaigns, packaging design, promotions to this group as it is showing that they spend the most attention on these products and ultimately purchase them. On the other hand, it may be useful to market to the other age groups within this demographic as they are not showing as strong of a correlation (even a negative correlation) between their TFD measurements and retail sales. The gender overlaid results indicate a strong correlation for both groups of participants (Figure 5.9).

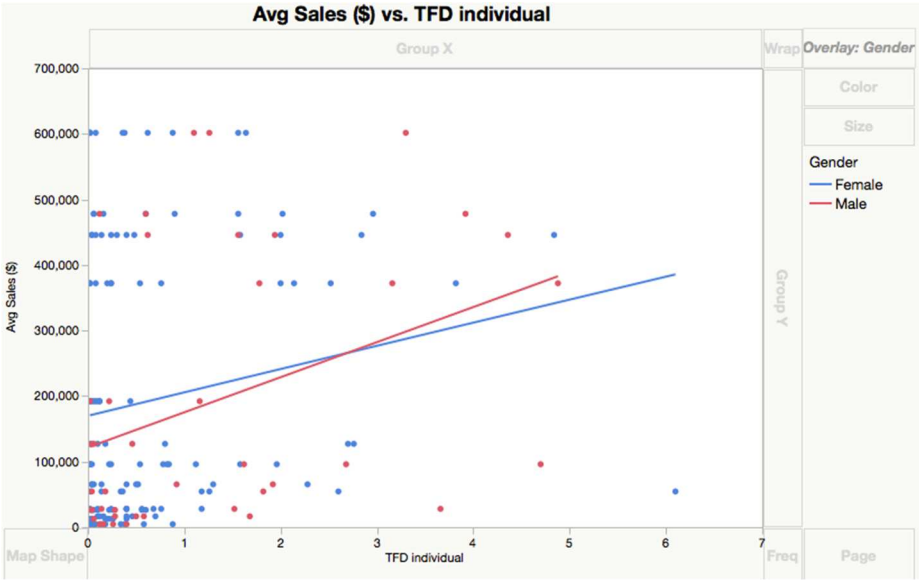

Figure 5.9. Graph builder for average sales vs. TFD with a gender overlay.

The results displayed in Figure 5.9 illustrate that both males and females have a positive correlation, indicating that there is little difference between males and females for this category and attention and sales. Ultimately, segmenting demographics through graph builder within this software allows researchers to hide and exclude any influential group effecting the trend. For example, in Figure 5.8, it may be worth excluding in a domestic partnership and single, but cohabiting with a significant other to see how the model changes without these influential, negatively correlating groups. The demographic segmentation work seen herein can be very useful for companies to understand their ideal consumer. Since every business has an ideal consumer profile, this work helps understand what target groups stand out and which ones do not, while also proving clarity to marketing campaigns, and in turn, lowering costs. Marketing can be very expensive, with mediums being one key factor that effect the marketing budget [15]. For example, if company X knows their target demographics, they can build appropriate marketing

campaigns. By using segmentation in regression analysis, new opportunities for growth can be identified. Demographics not only help define and find the ideal consumer, but they can also help identify gaps in marketing strategies, thus saving the company time and money [15]. Overall, demographic segmentation should be used to understand the consumers more completely and increase sales.

CONCLUSIONS

Regression models were examined to determine if including TFD values in a regression model can predict average retail sales. Utilizing TFD results from an eye tracking study completed on a specific category and retail sales data obtained for that same category, a regression model was built to determine a correlation between the two variables. Demographics were also segmented out to determine what role specific groups played in the regression model trends.

Previous research studies have been able to provide a correlation between fixation data and choice, but on screen eye tracking and "purchase" data collected from the participants in an unrealistic setting was used. This research utilized mobile eye tracking in an immersive shopping environment and retail sales data that reflected actual purchase behavior in the retail environment. Results from this work illustrated a correlation between average sales and attention (TFD). The low p-value ($p<0.05$) and high squared value indicated that including the TFD values in the prediction model significantly improves the ability to predict average sales. Thus, a regression model can be used to predict average sales a company may expect for a product depending on their attention for those said products. Previous studies in this area also did not include a demographic

segmentation, which helps pinpoint both groups to market well as ones to exclude in the regression model.

Though results indicated a positive correlations and significance, due to confounding variables and the natural limitations of the regression approach applied in this research, any interpretations of attention having a causal impact on retail sales cannot convincingly be made. Along with this point, whenever a model is fit to a group of data, the range of the data should be carefully observed. Extrapolation may occur when using regression to predict values outside of the range of participants tested. However, this work is extremely noteworthy in the field of eye tracking CPGs, because it creates a platform for researchers to incorporate into their data analysis and add to a greater body of work.

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CHAPTER SIX

RESEARCH CONCLUSIONS AND RECOMMENDATION

Research Conclusions

Research Objective 1: Eye Tracking Benchmark of Retail Grocery Packaging

Overall this research examined the major eye tracking metrics, total fixation duration, time to first fixation, and fixation count over 28 CPG categories. These categories were examined in a top level manner to understand how product categories behave in their entirety. This work is founded in the belief that doing a single A/B study is not sufficient in order to gain optimal insight when running an eye tracking study. This research aims to provide a comprehensive analysis for various categories in the CPG arena in order fill the current void in literature in area of benchmarking aggregate data for common retail grocery categories.

The work herein, though analyzed to completeness, was not meant to showcase 28 one-off studies done in an immersive retail space. Rather, this work aimed to provide a supplemental guide to those who run eye tracking studies in the CPG sector. By creating data models that showcase "norms" for each category, researchers in the future can use this as a resource to prevent excessive time and capital on creating a comprehensive control dataset themselves. For example, say that research group has a new project on coffee, specifically K-Cups. This work outlined herein, allows the researcher to already have an idea about the category without having spent anytime themselves completing an entire eye tracking study.

Using these results, researchers can then test their own products (design iterations, font changes, graphic adjustments) to see how they perform against the category norms that were already created. Analyzing eye tracking in this manner helps add context to every study, by not only extrapolating on how much better design A did than design B, but also comparing how both designs performed against the category as a whole. This work allows for researchers to use this categorical data to compare single studies against, thus not needing to compete an A/B study to compare fresh data.

Research Objective 2: A Mixed Methods Approach to Consumer Behavior Research Through Eye Tracking and Interview Analysis

The study herein sought to combine eye tracking, surveys, and interviews to be able to better understand the consumer than either approach could do alone. Based on the results herein, it would be recommended to use a combination of survey and interview for a follow-up tool after an eye tracking study. The online survey could consist of closed-ended questions and more direct open ended questions for the entire group of participants. The interview could be in two forms: sampled from approximately 5-10 participants directly after the eye tracking study or sampled from approximately 5-10 after analyzing the data (done in this study). The latter was used in this study because researchers were specifically looking for a group of participants that paid the most attention to the stimuli of interest. However, if researchers are looking to target a specific demographic, say for example women over 40, sampling participants that fall into this category can be done directly after the eye tracking study with questions made prior to

the start of the study. If researcher want questions to be tailored to analyzed results it is best to commence the interview process post data analysis.

Limitations in this study include a small sample size for the phone interviews, which does not allow the findings to be universally generalized. Due to the fact that the phone interviews were conducted post analysis of the eye tracking data and thus took place a week later, it may have affected the participant's memory of what the products and study was about. However, images of the product tested were provided to each of the interviewees selected, to help address this issue. Future research could include implementing this work in conjunction with every eye tracking study to build a database of findings that would help researchers in this field during experimental design to understand what questions to ask and what qualitative technique to use. Overall, the findings presented herein provide valuable insight to consumer insights professionals and researchers in aiding their understanding of why consumers do one thing and say another, as well as what kinds of questions to ask for each type of qualitative technique.

Research Objective 3: Influence of Visual Attention on the Likelihood of Choice Through Regression Analysis

Regression models were examined to determine if including TFD values in a regression model can predict average retail sales. Utilizing TFD results from an eye tracking study completed on a specific category and retail sales data obtained for that same category, a regression model was built to determine a correlation between the two

variables. Demographics were also segmented out to determine what role specific groups played in the regression model trends.

Previous research studies have been able to provide a correlation between fixation data and choice, but on screen eye tracking and "purchase" data collected from the participants in an unrealistic setting was used. This research project utilized mobile eye tracking in an immersive shopping environment and retail sales data that reflected actual purchase behavior in the retail environment. Results from this work illustrated a correlation between average sales and attention (TFD). The low p-value ($p<0.05$) and high squared value indicated that including the TFD values in the prediction model significantly improves the ability to predict average sales. Thus, a regression model can be used to predict average sales a company may expect for a product depending on their attention for those said products. Previous studies in this area also did not include a demographic segmentation, which helps pinpoint both groups to market well as ones to exclude in the regression model.

Though results indicated a positive correlations and significance, due to confounding variables and the natural limitations of the regression approach applied in this research, any interpretations of attention having a causal impact on retail sales cannot convincingly be made. Along with this point, whenever a model is fit to a group of data, the range of the data should be carefully observed. Extrapolation may occur when using regression to predict values outside of the range of participants tested. However, this work is extremely noteworthy in the field of eye tracking CPGs, because it creates a

platform for researchers to incorporate into their data analysis and add to a greater body of work.

Recommendations for Future Research

One obvious source of variation for any eye tracking study done in an immersive retail space is the planogram set-up and product selection. What might be an exact replicate of a category from a market in one region may appear completely different in another region. With this being said, planograms utilized in this work are based off of stores located in upstate South Carolina and are not representative of retail grocery stores worldwide. Even with positions of various products being strict in the benchmark presented herein, this work offers a good place to start when testing the same product or a similar one. The demographics used in these studies, were accordingly homogenous throughout, with the majority of participants being Caucasian, educated, married, and employed. This information can in turn be used to correspond such data with another demographic that may or may not be equal. Another limitation that presents itself in human subjects research, more specifically eye tracking research, is sample size. Though studies that embody this work have at a minimum 30 participants, a larger sample size would increase the power and statistical significance of the studies. To mitigate this problem, a database management system (DBS) is currently being built by a fellow graduate student along with my assistance, that includes a web portal designed and created to aggregate, store, access, share, and analyze eye tracking data based on studies in a simulated retail environment. This will allow studies to be combined and aggregated, which will in turn help with the issue of sample size.

The following recommendations for further investigation of the relationship between utilizing quantitative and qualitative means in eye tracking studies are made in an effort to continue the advancement of understanding and overall improvement of this technology in the CPG industry:

1. Continued research with a wider array of CPG categories to be able to build a more robust benchmark that eventually covers every sector available.
2. Additional research testing both surveys and interviews as a follow-up method to eye tracking analysis in order to gain valuable insights on what quantitative data cannot tell researchers alone.
3. Further research analyzing the relationship between attention and sales needs to be investigated. It is recommended that every eye tracking study be paired with a regression analysis in order to build sound correlations in this understudied field.

APPENDICES

Appendix A

TFD Significant Differences Full Report by Category

Product Category Pairwise Comparisons

Level	Level	Difference	Std Err Dif	Lower CL	Upper CL	p-Value
Sunscreen	Coffee	3.16	0.26	2.65	3.68	<.0001
Sunscreen	Snack bars	3.12	0.26	2.61	3.63	<.0001
Organic Cereal	Coffee	3.07	0.26	2.56	3.59	<.0001
Sunscreen	Cookies	3.05	0.29	2.49	3.61	<.0001
Organic Cereal	Snack bars	3.03	0.26	2.52	3.53	<.0001
Organic Cereal	Cookies	2.96	0.29	2.39	3.52	<.0001
Sunscreen	Snack Cakes	2.94	0.27	2.41	3.47	<.0001
Sunscreen	Tissues	2.89	0.27	2.36	3.42	<.0001
Sunscreen	Canned Beans	2.88	0.26	2.37	3.40	<.0001
Sunscreen	Seasoned breading	2.86	0.26	2.34	3.37	<.0001
Sunscreen	Baby wipes	2.86	0.26	2.34	3.37	<.0001
Sunscreen	Cold brew	2.86	0.28	2.31	3.40	<.0001
Organic Cereal	Snack Cakes	2.85	0.27	2.32	3.38	<.0001
Sunscreen	Chocolate	2.83	0.27	2.31	3.35	<.0001
Sunscreen	Olive oil	2.81	0.28	2.26	3.35	<.0001
Sunscreen	Spaghetti Sauce	2.80	0.27	2.28	3.32	<.0001
Organic Cereal	Tissues	2.80	0.27	2.26	3.33	<.0001
Organic Cereal	Canned Beans	2.79	0.26	2.28	3.30	<.0001
Organic Cereal	Seasoned breading	2.77	0.26	2.25	3.28	<.0001
Organic Cereal	Baby wipes	2.77	0.26	2.25	3.28	<.0001
Organic Cereal	Cold brew	2.76	0.28	2.22	3.31	<.0001
Organic Cereal	Chocolate	2.74	0.27	2.22	3.26	<.0001
Organic Cereal	Olive oil	2.72	0.28	2.17	3.26	<.0001
Organic Cereal	Spaghetti Sauce	2.71	0.27	2.19	3.23	<.0001
Sunscreen	RTE Pasta	2.71	0.26	2.19	3.22	<.0001
Sunscreen	Sour cream	2.66	0.30	2.07	3.25	<.0001
Sunscreen	Frozen sausage	2.65	0.27	2.13	3.17	<.0001
Organic Cereal	RTE Pasta	2.61	0.26	2.10	3.13	<.0001
Sunscreen	Batteries	2.61	0.27	2.08	3.14	<.0001
Organic Cereal	Sour cream	2.57	0.30	1.98	3.16	<.0001
Organic Cereal	Frozen sausage	2.56	0.27	2.04	3.08	<.0001
Sunscreen	Dish soap	2.56	0.32	1.93	3.18	<.0001
Sunscreen	Tuna	2.54	0.26	2.02	3.06	<.0001
Organic Cereal	Batteries	2.52	0.27	1.99	3.04	<.0001
Sunscreen	Baby Food	2.49	0.26	1.98	3.01	<.0001
Sunscreen	Rice	2.48	0.27	1.95	3.01	<.0001
Organic Cereal	Dish soap	2.47	0.32	1.84	3.09	<.0001
Organic Cereal	Tuna	2.45	0.26	1.93	2.97	<.0001
Sunscreen	Detergent	2.45	0.29	1.87	3.02	<.0001
Sunscreen	Hot Sauce	2.45	0.27	1.92	2.97	<.0001
Sunscreen	Natural Fruit Drinks	2.41	0.27	1.87	2.94	<.0001

Organic Cereal	Baby Food	2.40	0.26	1.89	2.92	<.0001
Organic Cereal	Rice	2.39	0.27	1.86	2.92	<.0001
Organic Cereal	Detergent	2.35	0.29	1.78	2.93	<.0001
Organic Cereal	Hot Sauce	2.35	0.27	1.82	2.88	<.0001
Sunscreen	Frozen Treats	2.35	0.29	1.78	2.93	<.0001
Organic Cereal	Natural Fruit Drinks	2.32	0.27	1.78	2.85	<.0001
Organic Cereal	Frozen Treats	2.26	0.29	1.68	2.84	<.0001
Muesli	Coffee	2.24	0.23	1.79	2.69	<.0001
Muesli	Snack bars	2.19	0.23	1.75	2.64	<.0001
Muesli	Cookies	2.12	0.26	1.62	2.63	<.0001
Muesli	Snack Cakes	2.02	0.24	1.55	2.49	<.0001
Sunscreen	Vegetables	1.97	0.35	1.28	2.67	<.0001
Muesli	Tissues	1.97	0.24	1.49	2.44	<.0001
Muesli	Canned Beans	1.96	0.23	1.51	2.41	<.0001
Muesli	Seasoned breading	1.93	0.23	1.48	2.39	<.0001
Muesli	Baby wipes	1.93	0.23	1.48	2.39	<.0001
Muesli	Cold brew	1.93	0.25	1.45	2.41	<.0001
Muesli	Chocolate	1.90	0.23	1.45	2.36	<.0001
Muesli	Olive oil	1.88	0.25	1.40	2.37	<.0001
Organic Cereal	Vegetables	1.88	0.35	1.19	2.58	<.0001
Muesli	Spaghetti Sauce	1.88	0.23	1.42	2.34	<.0001
Muesli	RTE Pasta	1.78	0.23	1.33	2.23	<.0001
Muesli	Sour cream	1.73	0.27	1.20	2.27	<.0001
Muesli	Frozen sausage	1.73	0.23	1.27	2.19	<.0001
Muesli	Batteries	1.68	0.24	1.22	2.15	<.0001
Muesli	Dish soap	1.63	0.29	1.06	2.20	<.0001
Muesli	Tuna	1.62	0.23	1.16	2.07	<.0001
Muesli	Baby Food	1.57	0.23	1.12	2.02	<.0001
Muesli	Rice	1.56	0.24	1.09	2.03	<.0001
Muesli	Detergent	1.52	0.27	1.00	2.04	<.0001
Muesli	Hot Sauce	1.52	0.24	1.05	1.99	<.0001
Muesli	Natural Fruit Drinks	1.48	0.24	1.00	1.96	<.0001
Muesli	Frozen Treats	1.43	0.27	0.91	1.95	<.0001
Vegetables	Coffee	1.19	0.26	0.68	1.70	<.0001
Vegetables	Snack bars	1.14	0.26	0.64	1.65	<.0001
Vegetables	Cookies	1.07	0.29	0.51	1.63	0.0002
Muesli	Vegetables	1.05	0.33	0.40	1.70	0.0017
Vegetables	Snack Cakes	0.97	0.27	0.44	1.50	0.0004
Sunscreen	Muesli	0.92	0.33	0.27	1.58	0.0055
Vegetables	Tissues	0.92	0.27	0.38	1.45	0.0008
Vegetables	Canned Beans	0.91	0.26	0.40	1.42	0.0005
Vegetables	Seasoned breading	0.89	0.26	0.37	1.40	0.0008

Vegetables	Baby wipes	0.88	0.26	0.37	1.40	0.0008
Vegetables	Cold brew	0.88	0.28	0.34	1.42	0.0015
Vegetables	Chocolate	0.86	0.27	0.33	1.38	0.0013
Vegetables	Olive oil	0.83	0.28	0.29	1.38	0.0028
Organic Cereal	Muesli	0.83	0.33	0.18	1.49	0.0122
Vegetables	Spaghetti Sauce	0.83	0.27	0.31	1.35	0.0019
Frozen Treats	Coffee	0.81	0.17	0.47	1.15	<.0001
Frozen Treats	Snack bars	0.76	0.17	0.44	1.09	<.0001
Natural Fruit Drinks	Coffee	0.76	0.13	0.50	1.02	<.0001
Vegetables	RTE Pasta	0.73	0.26	0.21	1.25	0.0056
Hot Sauce	Coffee	0.72	0.12	0.47	0.96	<.0001
Detergent	Coffee	0.72	0.17	0.38	1.05	<.0001
Natural Fruit Drinks	Snack bars	0.71	0.13	0.46	0.96	<.0001
Frozen Treats	Cookies	0.69	0.21	0.29	1.10	0.0008
Vegetables	Sour cream	0.68	0.30	0.10	1.27	0.0227
Rice	Coffee	0.68	0.13	0.43	0.93	<.0001
Vegetables	Frozen sausage	0.68	0.27	0.16	1.20	0.011
Hot Sauce	Snack bars	0.67	0.12	0.44	0.90	<.0001
Detergent	Snack bars	0.67	0.17	0.35	1.00	<.0001
Baby Food	Coffee	0.67	0.11	0.46	0.88	<.0001
Natural Fruit Drinks	Cookies	0.64	0.17	0.30	0.98	0.0003
Vegetables	Batteries	0.64	0.27	0.11	1.16	0.0181
Rice	Snack bars	0.63	0.12	0.40	0.87	<.0001
Baby Food	Snack bars	0.62	0.10	0.43	0.82	<.0001
Tuna	Coffee	0.62	0.11	0.40	0.84	<.0001
Dish soap	Coffee	0.61	0.21	0.20	1.02	0.0038
Hot Sauce	Cookies	0.60	0.17	0.27	0.93	0.0004
Detergent	Cookies	0.60	0.21	0.20	1.01	0.0037
Frozen Treats	Snack Cakes	0.59	0.18	0.23	0.95	0.0013
Tuna	Snack bars	0.58	0.10	0.37	0.78	<.0001
Vegetables	Tuna	0.57	0.26	0.05	1.08	0.0321
Rice	Cookies	0.56	0.17	0.23	0.90	0.0011
Dish soap	Snack bars	0.56	0.20	0.16	0.96	0.0063
Batteries	Coffee	0.55	0.12	0.32	0.79	<.0001
Baby Food	Cookies	0.55	0.16	0.25	0.86	0.0004
Frozen Treats	Tissues	0.54	0.19	0.17	0.90	0.004
Natural Fruit Drinks	Snack Cakes	0.54	0.15	0.25	0.83	0.0003
Frozen Treats	Canned Beans	0.53	0.17	0.20	0.86	0.0018
Vegetables	Baby Food	0.52	0.26	0.00	1.03	0.0479
Frozen sausage	Coffee	0.51	0.12	0.28	0.74	<.0001
Batteries	Snack bars	0.51	0.11	0.28	0.73	<.0001
Frozen Treats	Seasoned breading	0.51	0.17	0.17	0.84	0.0033

Tuna	Cookies	0.51	0.16	0.19	0.82	0.0016
Sour cream	Coffee	0.51	0.18	0.15	0.86	0.0053
Frozen Treats	Baby wipes	0.50	0.17	0.16	0.84	0.0037
Frozen Treats	Cold brew	0.50	0.19	0.13	0.88	0.0091
Hot Sauce	Snack Cakes	0.50	0.14	0.22	0.77	0.0004
Detergent	Snack Cakes	0.50	0.18	0.14	0.86	0.0068
Dish soap	Cookies	0.49	0.24	0.02	0.96	0.0401
Natural Fruit Drinks	Tissues	0.48	0.15	0.19	0.78	0.0015
Natural Fruit Drinks	Canned Beans	0.48	0.13	0.22	0.73	0.0003
Frozen Treats	Chocolate	0.48	0.18	0.13	0.82	0.0071
Frozen sausage	Snack bars	0.47	0.11	0.25	0.68	<.0001
Rice	Snack Cakes	0.46	0.14	0.18	0.74	0.0014
Sour cream	Snack bars	0.46	0.18	0.11	0.80	0.0093
RTE Pasta	Coffee	0.46	0.11	0.24	0.67	<.0001
Frozen Treats	Olive oil	0.46	0.20	0.07	0.84	0.02
Natural Fruit Drinks	Seasoned breading	0.45	0.13	0.19	0.71	0.0007
Baby Food	Snack Cakes	0.45	0.12	0.20	0.70	0.0003
Natural Fruit Drinks	Baby wipes	0.45	0.13	0.19	0.71	0.0009
Frozen Treats	Spaghetti Sauce	0.45	0.18	0.10	0.80	0.011
Natural Fruit Drinks	Cold brew	0.45	0.16	0.14	0.76	0.0048
Hot Sauce	Tissues	0.45	0.14	0.16	0.73	0.0022
Detergent	Tissues	0.44	0.19	0.08	0.81	0.0172
Hot Sauce	Canned Beans	0.44	0.12	0.20	0.68	0.0004
Detergent	Canned Beans	0.44	0.17	0.11	0.77	0.0099
Batteries	Cookies	0.44	0.17	0.11	0.76	0.009
Natural Fruit Drinks	Chocolate	0.42	0.14	0.15	0.70	0.0025
Hot Sauce	Seasoned breading	0.41	0.13	0.17	0.66	0.001
Detergent	Seasoned breading	0.41	0.17	0.08	0.75	0.0161
RTE Pasta	Snack bars	0.41	0.10	0.21	0.61	<.0001
Hot Sauce	Baby wipes	0.41	0.13	0.16	0.66	0.0013
Hot Sauce	Cold brew	0.41	0.15	0.11	0.71	0.0074
Detergent	Baby wipes	0.41	0.17	0.07	0.75	0.0177
Detergent	Cold brew	0.41	0.19	0.03	0.79	0.0332
Rice	Tissues	0.41	0.15	0.12	0.70	0.0058
Tuna	Snack Cakes	0.40	0.13	0.15	0.66	0.0019
Natural Fruit Drinks	Olive oil	0.40	0.16	0.08	0.72	0.0136
Rice	Canned Beans	0.40	0.12	0.16	0.65	0.0014
Baby Food	Tissues	0.40	0.13	0.14	0.65	0.0023
Natural Fruit Drinks	Spaghetti Sauce	0.40	0.14	0.12	0.67	0.0045
Frozen sausage	Cookies	0.39	0.16	0.07	0.71	0.0162
Baby Food	Canned Beans	0.39	0.10	0.19	0.60	0.0002

Hot Sauce	Chocolate	0.38	0.13	0.12	0.64	0.0038
Detergent	Chocolate	0.38	0.18	0.04	0.73	0.03
Rice	Seasoned breading	0.38	0.13	0.13	0.63	0.0034
Rice	Baby wipes	0.37	0.13	0.12	0.63	0.0041
Rice	Cold brew	0.37	0.15	0.07	0.68	0.0162
Baby Food	Seasoned breading	0.37	0.11	0.16	0.58	0.0007
Baby Food	Baby wipes	0.36	0.11	0.15	0.58	0.001
Baby Food	Cold brew	0.36	0.14	0.09	0.64	0.0089
Hot Sauce	Olive oil	0.36	0.16	0.06	0.67	0.0206
Spaghetti Sauce	Coffee	0.36	0.12	0.13	0.59	0.0018
Hot Sauce	Spaghetti Sauce	0.36	0.13	0.10	0.62	0.007
Detergent	Spaghetti Sauce	0.36	0.18	0.01	0.70	0.0433
Olive oil	Coffee	0.36	0.14	0.08	0.63	0.0126
Frozen Treats	RTE Pasta	0.35	0.17	0.01	0.69	0.0419
Tuna	Tissues	0.35	0.13	0.09	0.61	0.009
Rice	Chocolate	0.35	0.13	0.08	0.61	0.0101
Tuna	Canned Beans	0.34	0.11	0.13	0.56	0.0017
RTE Pasta	Cookies	0.34	0.16	0.03	0.65	0.0317
Baby Food	Chocolate	0.34	0.12	0.11	0.56	0.0036
Chocolate	Coffee	0.33	0.12	0.11	0.56	0.0038
Batteries	Snack Cakes	0.33	0.14	0.06	0.60	0.0155
Rice	Olive oil	0.32	0.16	0.01	0.64	0.0402
Rice	Spaghetti Sauce	0.32	0.13	0.06	0.58	0.0176
Tuna	Seasoned breading	0.32	0.11	0.10	0.54	0.0047
Tuna	Baby wipes	0.32	0.11	0.09	0.54	0.0058
Tuna	Cold brew	0.32	0.14	0.04	0.59	0.0267
Baby Food	Olive oil	0.32	0.14	0.04	0.59	0.0271
Spaghetti Sauce	Snack bars	0.31	0.11	0.10	0.53	0.0035
Baby Food	Spaghetti Sauce	0.31	0.12	0.08	0.54	0.0073
Olive oil	Snack bars	0.31	0.14	0.04	0.58	0.0232
Cold brew	Coffee	0.31	0.14	0.04	0.58	0.0268
Baby wipes	Coffee	0.31	0.11	0.09	0.52	0.0052
Seasoned breading	Coffee	0.30	0.11	0.09	0.52	0.005
Natural Fruit Drinks	RTE Pasta	0.30	0.13	0.03	0.56	0.0267
Frozen sausage	Snack Cakes	0.29	0.13	0.03	0.55	0.0298
Tuna	Chocolate	0.29	0.12	0.05	0.52	0.0159
Chocolate	Snack bars	0.29	0.11	0.08	0.50	0.0075
Batteries	Tissues	0.28	0.14	0.00	0.56	0.0479
Canned Beans	Coffee	0.28	0.10	0.08	0.48	0.0074
Batteries	Canned Beans	0.27	0.12	0.04	0.51	0.0209
Tissues	Coffee	0.27	0.13	0.02	0.53	0.0353
Baby wipes	Snack bars	0.26	0.10	0.06	0.46	0.0103
Hot Sauce	RTE Pasta	0.26	0.13	0.01	0.51	0.0416
Batteries	Seasoned breading	0.25	0.12	0.01	0.49	0.0404
Batteries	Baby wipes	0.25	0.12	0.00	0.49	0.0459
Canned Beans	Snack bars	0.23	0.10	0.05	0.42	0.0147
Frozen sausage	Canned Beans	0.23	0.11	0.01	0.45	0.0425
Tuna	Spaghetti Sauce	0.26	0.12	0.03	0.50	0.0286
Cold brew	Snack bars	0.26	0.13	0.00	0.52	0.0485
Seasoned breading	Snack bars	0.26	0.10	0.06	0.45	0.0098

Baby Food Pairwise Comparisons

Level	Level	Difference	Std Err Dif	Lower CL	Upper CL	p-Value
Beech Nut Pear Jar	Beech Nut Green Beans Jar	1.62	0.56	0.52	2.72	0.004
Beech Nut Banana, Apple, Strawberry Puree	Beech Nut Green Beans Jar	1.58	0.50	0.60	2.57	0.002
Beech Nut Pear Jar	Parent's Choice Banana, Apple, and Blueberry	1.46	0.47	0.54	2.38	0.002
Beech Nut Pear Jar	Beech Nut Apple, Mango, Kiwi Jar	1.45	0.56	0.35	2.56	0.010
Beech Nut Banana, Apple, Strawberry Puree	Parent's Choice Banana, Apple, and Blueberry	1.43	0.39	0.66	2.19	0.000
Beech Nut Banana, Apple, Strawberry Puree	Beech Nut Apple, Mango, Kiwi Jar	1.42	0.50	0.43	2.40	0.005
Beech Nut Pear Jar	Beech Nut Squash Jar	1.41	0.52	0.38	2.43	0.007
Beech Nut Pear Jar	Gerber Macaroni and Cheese with Vegetables	1.40	0.52	0.37	2.42	0.008
Beech Nut Banana, Apple, Strawberry Puree	Beech Nut Squash Jar	1.37	0.46	0.48	2.26	0.003
Gerber Orchard Fruit Medley	Beech Nut Green Beans Jar	1.37	0.49	0.40	2.33	0.006
Beech Nut Banana, Apple, Strawberry Puree	Gerber Macaroni and Cheese with Vegetables	1.36	0.46	0.47	2.26	0.003
Beech Nut Pear Jar	Beech Nut Mango Jar	1.36	0.61	0.15	2.57	0.028
Beech Nut Pear Jar	Parent's Choice Mango and Pumpkin	1.36	0.47	0.44	2.28	0.004
Beech Nut Pear Jar	Gerber Pear, Zuccini, Corn	1.33	0.56	0.23	2.44	0.018
Beech Nut Banana, Apple, Strawberry Puree	Beech Nut Mango Jar	1.32	0.56	0.22	2.42	0.018
Beech Nut Banana, Apple, Strawberry Puree	Parent's Choice Mango and Pumpkin	1.32	0.39	0.55	2.09	0.001
Beech Nut Pear Jar	Plum Apple and Broccoli	1.32	0.54	0.26	2.38	0.015
Parent's Choice Mango, Banana, and Kale	Beech Nut Green Beans Jar	1.32	0.49	0.36	2.27	0.007
Beech Nut Banana, Apple, Strawberry Puree	Gerber Pear, Zuccini, Corn	1.30	0.50	0.31	2.28	0.010
Beech Nut Pear Jar	Beech Nut Sweet Carrots Jar	1.29	0.56	0.19	2.40	0.022
Beech Nut Banana, Apple, Strawberry Puree	Plum Apple and Broccoli	1.28	0.48	0.35	2.22	0.007
Beech Nut Banana, Apple, Strawberry Puree	Beech Nut Sweet Carrots Jar	1.26	0.50	0.27	2.24	0.013
Beech Nut Pear Jar	Beech Nut Pear, Mango, Squash Puree	1.22	0.47	0.29	2.15	0.010
Beech Nut Pear Jar	Beech Nut Apple and Blueberry Jar	1.21	0.50	0.22	2.19	0.016
Gerber Orchard Fruit Medley	Parent's Choice Banana, Apple, and Blueberry	1.21	0.38	0.46	1.95	0.002
Beech Nut Pear Jar	Beech Nut Banana, Pear, Sweet Potato Puree	1.21	0.54	0.15	2.26	0.026
Gerber Orchard Fruit Medley	Beech Nut Apple, Mango, Kiwi Jar	1.20	0.49	0.24	2.16	0.015
Beech Nut Banana, Apple, Strawberry Puree	Beech Nut Pear, Mango, Squash Puree	1.18	0.40	0.40	1.97	0.003
Beech Nut Banana, Apple, Strawberry Puree	Beech Nut Apple and Blueberry Jar	1.17	0.43	0.32	2.02	0.007
Beech Nut Banana, Apple, Strawberry Puree	Beech Nut Banana, Pear, Sweet Potato Puree	1.17	0.48	0.24	2.10	0.014
Parent's Choice Mango, Banana, and Kale	Parent's Choice Banana, Apple, and Blueberry	1.16	0.37	0.42	1.89	0.002
Gerber Orchard Fruit Medley	Beech Nut Squash Jar	1.15	0.44	0.28	2.02	0.010
Parent's Choice Mango, Banana, and Kale	Beech Nut Apple, Mango, Kiwi Jar	1.15	0.49	0.19	2.11	0.019
Gerber Orchard Fruit Medley	Gerber Macaroni and Cheese with Vegetables	1.14	0.44	0.27	2.01	0.010
Beech Nut Pear Jar	Plum Prunes	1.14	0.54	0.08	2.20	0.035
Beech Nut Pear Jar	Gerber Chicken Noodle	1.13	0.51	0.14	2.13	0.026
Beech Nut Banana, Apple, Strawberry Puree	Plum Prunes	1.10	0.48	0.17	2.04	0.021
Gerber Orchard Fruit Medley	Beech Nut Mango Jar	1.10	0.55	0.02	2.18	0.045
Gerber Orchard Fruit Medley	Parent's Choice Mango and Pumpkin	1.10	0.38	0.36	1.85	0.004
Parent's Choice Mango, Banana, and Kale	Beech Nut Squash Jar	1.10	0.44	0.24	1.96	0.013

Beech Nut Banana, Apple, Strawberry Puree	Gerber Chicken Noodle	1.10	0.44	0.24	1.96	0.013
Beech Nut Pear Jar	Gerber Vegetable Chicken	1.10	0.48	0.16	2.03	0.022
Parent's Choice Mango, Banana, and Kale	Gerber Macaroni and Cheese with Vegetables	1.09	0.44	0.23	1.96	0.013
Beech Nut Pear Jar	Plum Apple and Carrot	1.08	0.55	0.00	2.16	0.050
Gerber Orchard Fruit Medley	Gerber Pear, Zuccini, Corn	1.08	0.49	0.11	2.04	0.029
Beech Nut Pear Jar	Plum Banana and Pumpkin	1.07	0.52	0.04	2.09	0.041
Gerber Orchard Fruit Medley	Plum Apple and Broccoli	1.07	0.46	0.15	1.98	0.022
Beech Nut Banana, Apple, Strawberry Puree	Gerber Vegetable Chicken	1.06	0.40	0.27	1.85	0.009
Parent's Choice Mango, Banana, and Kale	Parent's Choice Mango and Pumpkin	1.05	0.37	0.32	1.79	0.005
Beech Nut Banana, Apple, Strawberry Puree	Plum Apple and Carrot	1.05	0.49	0.09	2.00	0.032
Gerber Orchard Fruit Medley	Beech Nut Sweet Carrots Jar	1.04	0.49	0.07	2.00	0.035
Beech Nut Pear, Banana, Rasberry Puree	Beech Nut Green Beans Jar	1.03	0.49	0.07	1.99	0.036
Beech Nut Banana, Apple, Strawberry Puree	Plum Banana and Pumpkin	1.03	0.46	0.14	1.93	0.024
Parent's Choice Mango, Banana, and Kale	Gerber Pear, Zuccini, Corn	1.03	0.49	0.07	1.98	0.036
Parent's Choice Mango, Banana, and Kale	Plum Apple and Broccoli	1.02	0.46	0.11	1.92	0.028
Parent's Choice Pear, Apple, Strawberry, and Pineapple	Beech Nut Green Beans Jar	1.01	0.47	0.08	1.94	0.033
Parent's Choice Mango, Banana, and Kale	Beech Nut Sweet Carrots Jar	0.99	0.49	0.03	1.94	0.043
Beech Nut Pear Jar	Gerber Vegetable Beef	0.98	0.48	0.04	1.92	0.041
Beech Nut Banana, Apple, Strawberry Puree	Plum Peach, Banana, and Apricot	0.97	0.48	0.03	1.90	0.042
Gerber Orchard Fruit Medley	Beech Nut Pear, Mango, Squash Puree	0.97	0.38	0.21	1.72	0.012
Beech Nut Banana, Apple, Strawberry Puree	Gerber Pear, Apple, and Berry	0.97	0.45	0.09	1.84	0.031
Gerber Orchard Fruit Medley	Beech Nut Apple and Blueberry Jar	0.95	0.42	0.13	1.78	0.023
Gerber Orchard Fruit Medley	Beech Nut Banana, Pear, Sweet Potato Puree	0.95	0.46	0.04	1.86	0.041
Beech Nut Pear Jar	Parent's Choice Strawberry, Banana, and Yogurt	0.95	0.45	0.06	1.84	0.038
Beech Nut Banana, Apple, Strawberry Puree	Gerber Vegetable Beef	0.94	0.41	0.15	1.74	0.021
Parent's Choice Mango, Banana, and Kale	Beech Nut Pear, Mango, Squash Puree	0.92	0.38	0.17	1.66	0.017
Beech Nut Banana, Apple, Strawberry Puree	Parent's Choice Strawberry, Banana, and Yogurt	0.91	0.38	0.17	1.65	0.016
Parent's Choice Mango, Banana, and Kale	Beech Nut Apple and Blueberry Jar	0.90	0.42	0.09	1.72	0.030
Gerber Orchard Fruit Medley	Gerber Chicken Noodle	0.88	0.43	0.04	1.72	0.040
Beech Nut Pear, Banana, Rasberry Puree	Parent's Choice Banana, Apple, and Blueberry	0.87	0.38	0.13	1.61	0.021
Parent's Choice Pear, Apple, Strawberry, and Pineapple	Parent's Choice Banana, Apple, and Blueberry	0.85	0.35	0.15	1.55	0.017
Gerber Orchard Fruit Medley	Gerber Vegetable Chicken	0.84	0.39	0.08	1.61	0.031
Parent's Choice Mango, Banana, and Kale	Gerber Vegetable Chicken	0.79	0.38	0.04	1.55	0.040
Beech Nut Banana, Apple, Strawberry Puree	Beech Nut Peach, Apple, Banana Puree	0.79	0.38	0.04	1.54	0.039
Parent's Choice Mango, Banana, and Kale	Gerber Vegetable Chicken	0.79	0.38	0.04	1.55	0.040
Beech Nut Banana, Apple, Strawberry Puree	Beech Nut Peach, Apple, Banana Puree	0.79	0.38	0.04	1.54	0.039

Baby Wipe Pairwise Comparisons

Level	Level	Difference	Std Err Dif	Lower CL	Upper CL	p-Value
Water Wipes Soft Pack	Huggies Natural Care Wipes (3 pk)	1.62	0.41	0.81	2.43	<0.0001
Water Wipes Soft Pack	Parent's Choice Fresh Scent Wipes (Soft Pack)	1.59	0.45	0.71	2.47	0.0004
Water Wipes Soft Pack	Parent's Choice Sensitive Wipes (3 pk)	1.59	0.48	0.64	2.54	0.0010
Water Wipes Soft Pack	Huggies Natural Care Wipes (Case)	1.57	0.52	0.54	2.59	0.0027
Water Wipes Soft Pack	Parent's Choice Fragrance Free Wipes (500 ct Case)	1.54	0.46	0.63	2.44	0.0009
Water Wipes Soft Pack	Huggies One and Done Wipes Soft Pack	1.54	0.42	0.72	2.36	0.0002
Water Wipes Soft Pack	Parent's Choice Fragrance Free Wipes Tub	1.52	0.41	0.71	2.33	0.0002
Water Wipes Soft Pack	Huggies One and Done Wipes (3pk)	1.46	0.42	0.64	2.29	0.0005
Water Wipes Soft Pack	Pampers Sensitive Wipes (Case)	1.45	0.39	0.68	2.22	0.0002
Water Wipes Soft Pack	Pampers Sensitive Wipes (Soft Pack)	1.44	0.40	0.66	2.23	0.0003
Water Wipes Soft Pack	Huggies Natural Care Wipes (Soft Pack)	1.42	0.41	0.62	2.23	0.0005
Water Wipes Soft Pack	Parent's Choice Fragrance Free Wipes (3 pk)	1.35	0.46	0.46	2.25	0.0031
Water Wipes Soft Pack	Huggies One and Done Cucumber Green Tea Wipes (C	1.35	0.46	0.44	2.25	0.0036
Water Wipes Soft Pack	Huggies Natural Care Wipes Tub	1.24	0.41	0.44	2.03	0.0023
Water Wipes Soft Pack	Pampers Sensitive Wipes Tub	1.18	0.38	0.44	1.92	0.0019
Water Wipes Soft Pack	Huugies Natural Care Wipes w/ Pooh Bear Tub	1.13	0.42	0.30	0.95	0.0074
Water Wipes Soft Pack	Huggies Simply Clean Fragrance Free Wipes Soft Pack	1.09	0.40	0.31	1.88	0.0065
Huggies One and Done Wipes (Case)	Huggies Simply Clean Fragrance Free Wipes (3 pk)	0.95	0.47	0.03	1.88	0.0440
Huggies Simply Clean Fragrance Free Wipes Soft Pack	Parent's Choice Potty Training Wipes Soft Pack	0.85	0.37	0.12	1.58	0.0224
Huggies Simply Clean Fragrance Free Wipes Soft Pack	Huggies Simply Clean Fragrance Free Wipes (3 pk)	0.78	0.29	0.20	1.35	0.0080
Pampers Sensitive Wipes Tub	Parent's Choice Potty Training Wipes Soft Pack	0.77	0.35	0.09	1.45	0.0270
Huggies Simply Clean Fragrance Free Wipes Soft Pack	Parent's Choice Fresh Scent Wipes (500 ct Case)	0.77	0.37	0.04	1.50	0.0395

Battery Pairwise Comparison

Level	Level	Difference	Std Err Dif	Lower CL	Upper CL	p-Value
Energizer Eco Advanced AA4	Walgreens D2	2.90	0.41	2.10	3.69	<.0001
Energizer Eco Advanced AA4	Duracell D2	2.86	0.64	1.60	4.13	<.0001
Energizer Eco Advanced AA4	Walgreens C2	2.84	0.39	2.08	3.61	<.0001
Energizer Eco Advanced AA4	Energizer D2	2.81	0.36	2.11	3.51	<.0001
Energizer Eco Advanced AA4	Energizer C2	2.80	0.33	2.14	3.45	<.0001
Duracell AA8	Walgreens D2	2.79	0.52	1.77	3.82	<.0001
Energizer Eco Advanced AA4	Walgreens 9V2	2.77	0.37	2.05	3.49	<.0001
Duracell AA8	Duracell D2	2.76	0.72	1.34	4.18	0.0001
Energizer Eco Advanced AA4	Duracell 9V2	2.76	0.55	1.68	3.83	<.0001
Duracell AA8	Walgreens C2	2.74	0.51	1.74	3.74	<.0001
Duracell AA8	Energizer D2	2.71	0.49	1.75	3.66	<.0001
Duracell AA8	Energizer C2	2.70	0.47	1.78	3.62	<.0001
Duracell AA8	Walgreens 9V2	2.67	0.49	1.70	3.64	<.0001
Duracell AA8	Duracell 9V2	2.66	0.64	1.40	3.91	<.0001
Energizer Eco Advanced AA4	Walgreens AAA8	2.63	0.35	1.95	3.31	<.0001
Energizer Eco Advanced AA4	Energizer 9V2	2.61	0.33	1.96	3.27	<.0001
Duracell AA8	Walgreens AAA8	2.53	0.48	1.59	3.47	<.0001
Energizer Eco Advanced AA4	Duracell C2	2.53	0.52	1.51	3.54	<.0001
Duracell AA8	Energizer 9V2	2.51	0.47	1.59	3.44	<.0001
Duracell AA8	Duracell C2	2.42	0.62	1.22	3.63	<.0001
Energizer Eco Advanced AA4	Duracell AAA16	2.42	0.50	1.45	3.39	<.0001
Energizer Eco Advanced AA4	Energizer AAA 16	2.41	0.34	1.75	3.07	<.0001
Duracell AA8	Duracell AAA16	2.32	0.60	1.15	3.49	0.0001
Duracell AA8	Energizer AAA 16	2.31	0.47	1.38	3.24	<.0001
Energizer AA8	Walgreens D2	2.26	0.41	1.46	3.06	<.0001
Energizer AA8	Duracell D2	2.23	0.64	0.97	3.49	0.0006
Energizer AA8	Walgreens C2	2.21	0.39	1.44	2.97	<.0001
Energizer AA8	Energizer D2	2.17	0.36	1.47	2.88	<.0001
Energizer AA8	Energizer C2	2.17	0.33	1.51	2.82	<.0001
Energizer AA8	Walgreens 9V2	2.13	0.37	1.41	2.86	<.0001
Energizer AA8	Duracell 9V2	2.12	0.55	1.05	3.20	0.0001
Energizer Eco Advanced AA4	Energizer AAA8	2.02	0.35	1.33	2.72	<.0001
Energizer Eco Advanced AA4	Duracell AAA 8	2.01	0.45	1.12	2.90	<.0001
Energizer AA8	Walgreens AAA8	2.00	0.35	1.32	2.68	<.0001
Energizer AA8	Energizer 9V2	1.98	0.33	1.33	2.63	<.0001
Energizer Eco Advanced AA4	Walgreens AA16	1.95	0.32	1.32	2.58	<.0001
Duracell AA 16	Walgreens D2	1.93	0.52	0.92	2.94	0.0002
Duracell AA8	Energizer AAA8	1.92	0.49	0.97	2.87	<.0001
Duracell AA8	Duracell AAA 8	1.91	0.56	0.80	3.01	0.0007
Duracell AA 16	Duracell D2	1.90	0.72	0.49	3.31	0.0083
Energizer AA8	Duracell C2	1.89	0.52	0.87	2.91	0.0003

Duracell AA 16	Walgreens C2	1.88	0.50	0.89	2.86	0.0002
Energizer Eco Advanced AA4	Walgreens AA8	1.87	0.33	1.22	2.51	<.0001
Duracell AA8	Walgreens AA16	1.85	0.46	0.94	2.76	<.0001
Duracell AA 16	Energizer D2	1.85	0.48	0.91	2.78	0.0001
Duracell AA 16	Energizer C2	1.84	0.46	0.93	2.74	<.0001
Duracell AA 16	Walgreens 9V2	1.80	0.49	0.85	2.76	0.0002
Duracell AA 16	Duracell 9V2	1.79	0.63	0.55	3.03	0.0047
Energizer AA8	Duracell AAA16	1.79	0.50	0.81	2.76	0.0003
Energizer AA8	Energizer AAA 16	1.78	0.34	1.11	2.44	<.0001
Duracell AA8	Walgreens AA8	1.76	0.47	0.85	2.68	0.0002
Duracell AA 16	Walgreens AAA8	1.67	0.47	0.75	2.59	0.0004
Duracell AA 16	Energizer 9V2	1.65	0.46	0.75	2.55	0.0003
Energizer AA16	Walgreens D2	1.61	0.41	0.81	2.41	<.0001
Energizer AA16	Duracell D2	1.58	0.65	0.32	2.85	0.0144
Duracell AA 16	Duracell C2	1.56	0.61	0.37	2.76	0.0104
Energizer AA16	Walgreens C2	1.56	0.39	0.79	2.33	<.0001
Energizer AA16	Energizer D2	1.53	0.36	0.82	2.23	<.0001
Energizer AA16	Energizer C2	1.52	0.34	0.86	2.18	<.0001
Energizer AA16	Walgreens 9V2	1.49	0.37	0.76	2.21	<.0001
Energizer AA16	Duracell 9V2	1.47	0.55	0.40	2.55	0.0072
Duracell AA 16	Duracell AAA16	1.46	0.59	0.30	2.61	0.0136
Duracell AA 16	Energizer AAA 16	1.45	0.46	0.54	2.36	0.0018
Energizer AA8	Energizer AAA8	1.39	0.35	0.69	2.08	<.0001
Energizer AA8	Duracell AAA 8	1.37	0.46	0.48	2.27	0.0026
Energizer AA16	Walgreens AAA8	1.35	0.35	0.67	2.03	0.0001
Energizer AA16	Energizer 9V2	1.33	0.33	0.68	1.99	<.0001
Energizer AA8	Walgreens AA16	1.32	0.32	0.68	1.95	<.0001
Energizer Eco Advanced AA4	Energizer AA16	1.28	0.32	0.65	1.91	<.0001
Energizer AA16	Duracell C2	1.24	0.52	0.22	2.26	0.0169
Energizer AA8	Walgreens AA8	1.23	0.33	0.58	1.88	0.0002
Duracell AA8	Energizer AA16	1.18	0.46	0.28	2.09	0.0105
Energizer AA16	Duracell AAA16	1.14	0.50	0.16	2.11	0.0223
Energizer AA16	Energizer AAA 16	1.13	0.34	0.46	1.79	0.0009
Duracell AA 16	Energizer AAA8	1.06	0.48	0.12	1.99	0.0264
Duracell AA 16	Duracell AAA 8	1.04	0.55	-0.04	2.13	0.06
Walgreens AA8	Walgreens D2	1.03	0.42	0.22	1.84	0.0133
Duracell AA 16	Walgreens AA16	0.99	0.45	0.10	1.88	0.0298
Walgreens AA8	Walgreens C2	0.98	0.40	0.19	1.76	0.0148
Energizer Eco Advanced AA4	Duracell AA 16	0.96	0.45	0.08	1.85	0.0324
Walgreens AA16	Walgreens D2	0.94	0.41	0.14	1.75	0.0213
Walgreens AA8	Energizer D2	0.94	0.37	0.22	1.67	0.0105
Walgreens AA8	Energizer C2	0.93	0.35	0.26	1.61	0.007

Walgreens AA8	Walgreens 9V2	0.90	0.38	0.16	1.64	0.017
Duracell AA 16	Walgreens AA8	0.90	0.46	0.00	1.80	0.0496
Walgreens AA16	Walgreens C2	0.89	0.39	0.12	1.66	0.0239
Energizer AAA8	Walgreens D2	0.87	0.43	0.02	1.73	0.0445
Walgreens AA16	Energizer D2	0.86	0.36	0.15	1.57	0.0178
Walgreens AA16	Energizer C2	0.85	0.34	0.18	1.51	0.0123
Walgreens AA16	Walgreens 9V2	0.82	0.37	0.09	1.55	0.0279
Energizer AAA8	Energizer D2	0.79	0.39	0.02	1.55	0.0435
Energizer AAA8	Energizer C2	0.78	0.37	0.06	1.50	0.0349
Walgreens AA8	Walgreens AAA8	0.77	0.36	0.07	1.47	0.0322
Walgreens AA8	Energizer 9V2	0.75	0.34	0.07	1.43	0.0298
Energizer AA16	Energizer AAA8	0.74	0.36	0.04	1.44	0.0381
Energizer AA16	Walgreens AA16	0.67	0.33	0.03	1.31	0.0405
Walgreens AA16	Energizer 9V2	0.66	0.34	0.00	1.33	0.0493
Energizer AA8	Energizer AA16	0.65	0.32	0.02	1.28	0.0438
Energizer Eco Advanced AA4	Energizer AA8	0.63	0.32	0.01	1.26	0.047

Canned Bean Pairwise Comparisons

Level	Level	Difference	Std Err Dif	Lower CL	Upper CL	p-Value
Whiskey Hollow Moonshine Bacon Baked Beans	Great Value Cannellini Beans	1.29	0.41	0.49	2.08	0.0016
Whiskey Hollow Moonshine Bacon Baked Beans	Bush's Organic Honey Beans	1.24	0.31	0.63	1.85	<.0001
Whiskey Hollow Moonshine Bacon Baked Beans	Great Value Baked Beans	1.24	0.30	0.64	1.84	<.0001
Whiskey Hollow Moonshine Bacon Baked Beans	Great Value Organic Black Beans	1.23	0.31	0.63	1.84	<.0001
Whiskey Hollow Moonshine Bacon Baked Beans	Van Camp's Hickory Baked Beans	1.21	0.30	0.62	1.80	<.0001
Whiskey Hollow Moonshine Bacon Baked Beans	Bush's Onion Baked Beans	1.18	0.29	0.60	1.75	<.0001
Whiskey Hollow Moonshine Bacon Baked Beans	Great Value Organic Garbanzos Chick Peas	1.17	0.31	0.57	1.78	0.0002
Whiskey Hollow Moonshine Bacon Baked Beans	Great Value Navy Beans	1.16	0.41	0.36	1.95	0.0045
Whiskey Hollow Moonshine Bacon Baked Beans	Bush's Organic Black Beans	1.15	0.28	0.60	1.70	<.0001
Whiskey Hollow Moonshine Bacon Baked Beans	Great Value Chili Beans	1.15	0.31	0.54	1.75	0.0002
Whiskey Hollow Moonshine Bacon Baked Beans	Luck's Pinto Beans	1.14	0.30	0.56	1.73	0.0001
Whiskey Hollow Moonshine Bacon Baked Beans	Bush's Smokehouse Tradition Baked Beans	1.14	0.29	0.58	1.70	<.0001
Whiskey Hollow Moonshine Bacon Baked Beans	Bush's Organic Pinto Beans	1.10	0.30	0.50	1.70	0.0003
Whiskey Hollow Moonshine Bacon Baked Beans	Bush's Vegetarian Baked Beans	1.09	0.31	0.48	1.70	0.0004
Whiskey Hollow Moonshine Bacon Baked Beans	Hanover Brown Sugar and Bacon Baked Beans	1.05	0.30	0.46	1.64	0.0005
Whiskey Hollow Moonshine Bacon Baked Beans	Great Value Garbanzos Chick Peas	0.99	0.32	0.37	1.61	0.0018
Whiskey Hollow Moonshine Bacon Baked Beans	Bush's Original Baked Beans	0.96	0.27	0.42	1.49	0.0005
Great Value Pinto Beans	Great Value Cannellini Beans	0.95	0.41	0.14	1.77	0.0220
Whiskey Hollow Moonshine Bacon Baked Beans	Bush's Homestyle Baked Beans	0.94	0.28	0.39	1.50	0.0009
Whiskey Hollow Moonshine Bacon Baked Beans	Luck's Black Beans	0.93	0.29	0.36	1.50	0.0015
Bush's Brown Sugar Hickory Baked Beans	Great Value Cannellini Beans	0.92	0.40	0.13	1.71	0.0231
Whiskey Hollow Moonshine Bacon Baked Beans	Bush's Maple Cured Bacon Baked Beans	0.91	0.27	0.37	1.44	0.0009
Whiskey Hollow Moonshine Bacon Baked Beans	Bush's Sriracha Baked Beans	0.91	0.35	0.22	1.59	0.0092
Great Value Pinto Beans	Bush's Organic Honey Beans	0.90	0.32	0.27	1.54	0.0051
Great Value Pinto Beans	Great Value Baked Beans	0.90	0.32	0.28	1.52	0.0045
Great Value Pinto Beans	Great Value Organic Black Beans	0.90	0.32	0.27	1.53	0.0053
Whiskey Hollow Moonshine Bacon Baked Beans	Bush's Garbanzos Chick Peas	0.89	0.30	0.31	1.47	0.0027
Whiskey Hollow Moonshine Bacon Baked Beans	Bush's Organc Garbanzos Chick Peas	0.88	0.29	0.31	1.45	0.0027
Whiskey Hollow Moonshine Bacon Baked Beans	Bush's Southern Pit BBQ Baked Beans	0.88	0.30	0.30	1.46	0.0032
Great Value Pinto Beans	Van Camp's Hickory Baked Beans	0.87	0.31	0.26	1.49	0.0052
Bush's Brown Sugar Hickory Baked Beans	Bush's Organic Honey Beans	0.87	0.31	0.27	1.47	0.0047
Bush's Brown Sugar Hickory Baked Beans	Great Value Baked Beans	0.87	0.30	0.28	1.46	0.0041
Bush's Brown Sugar Hickory Baked Beans	Great Value Organic Black Beans	0.86	0.31	0.26	1.47	0.0049
Whiskey Hollow Moonshine Bacon Baked Beans	KC Masterpiece Applewood Smoked Bacon Baked Beans	0.85	0.27	0.32	1.39	0.0018
Great Value Pinto Beans	Bush's Onion Baked Beans	0.84	0.30	0.24	1.44	0.0058
Bush's Brown Sugar Hickory Baked Beans	Van Camp's Hickory Baked Beans	0.84	0.30	0.26	1.42	0.0047
Whiskey Hollow Moonshine Bacon Baked Beans	Bush's Honey Baked Beans	0.84	0.27	0.31	1.36	0.0019
Great Value Pinto Beans	Great Value Organic Garbanzos Chick Peas	0.84	0.32	0.21	1.47	0.0094
Whiskey Hollow Brown Sugar Baked Beans	Great Value Cannellini Beans	0.84	0.40	0.05	1.62	0.0361
Whiskey Hollow Moonshine Bacon Baked Beans	Van Camp's Original Baked Beans	0.84	0.33	0.19	1.48	0.0112
Great Value Pinto Beans	Great Value Navy Beans	0.82	0.41	0.01	1.63	0.0483

Great Value Pinto Beans	Bush's Organic Black Beans	0.81	0.29	0.24	1.39	0.0055
Great Value Pinto Beans	Great Value Chili Beans	0.81	0.32	0.18	1.44	0.0120
Great Value Pinto Beans	Luck's Pinto Beans	0.81	0.31	0.20	1.41	0.0089
Great Value Pinto Beans	Bush's Smokehouse Tradition Baked Beans	0.81	0.30	0.22	1.39	0.0069
Whiskey Hollow Moonshine Bacon Baked Beans	Bush's Black Beans	0.81	0.28	0.25	1.36	0.0043
Bush's Brown Sugar Hickory Baked Beans	Bush's Onion Baked Beans	0.81	0.29	0.24	1.37	0.0052
Bush's Brown Sugar Hickory Baked Beans	Great Value Organic Garbanzos Chick Peas	0.80	0.31	0.20	1.40	0.0089
Whiskey Hollow Brown Sugar Baked Beans	Bush's Organic Honey Beans	0.79	0.30	0.20	1.38	0.0088
Whiskey Hollow Brown Sugar Baked Beans	Great Value Baked Beans	0.79	0.30	0.21	1.37	0.0078
Whiskey Hollow Brown Sugar Baked Beans	Great Value Organic Black Beans	0.78	0.30	0.19	1.37	0.0093
Bush's Brown Sugar Hickory Baked Beans	Bush's Organic Black Beans	0.78	0.28	0.24	1.32	0.0048
Bush's Brown Sugar Hickory Baked Beans	Great Value Chili Beans	0.78	0.31	0.17	1.38	0.0116
Bush's Brown Sugar Hickory Baked Beans	Luck's Pinto Beans	0.77	0.29	0.20	1.35	0.0083
Bush's Brown Sugar Hickory Baked Beans	Bush's Smokehouse Tradition Baked Beans	0.77	0.28	0.22	1.33	0.0062
Whiskey Hollow Moonshine Bacon Baked Beans	Bush's Country Style Baked Beans	0.77	0.29	0.21	1.33	0.0073
Great Value Pinto Beans	Bush's Organic Pinto Beans	0.76	0.32	0.14	1.39	0.0162
Whiskey Hollow Brown Sugar Baked Beans	Van Camp's Hickory Baked Beans	0.76	0.29	0.19	1.33	0.0091
Great Value Pinto Beans	Bush's Vegetarian Baked Beans	0.76	0.32	0.12	1.39	0.0190
Whiskey Hollow Moonshine Bacon Baked Beans	KC Masterpiece Hickory Brown Sugar Baked Beans	0.73	0.28	0.19	1.28	0.0088
Whiskey Hollow Moonshine Bacon Baked Beans	Bush's Steakhouse Recipe Baked Beans	0.73	0.31	0.13	1.34	0.0181
Bush's Brown Sugar Hickory Baked Beans	Bush's Organic Pinto Beans	0.73	0.30	0.14	1.32	0.0157
Whiskey Hollow Brown Sugar Baked Beans	Bush's Onion Baked Beans	0.73	0.28	0.17	1.28	0.0102
Whiskey Hollow Brown Sugar Baked Beans	Great Value Organic Garbanzos Chick Peas	0.72	0.30	0.13	1.31	0.0164
Bush's Brown Sugar Hickory Baked Beans	Bush's Vegetarian Baked Beans	0.72	0.31	0.12	1.32	0.0187
Great Value Pinto Beans	Hanover Brown Sugar and Bacon Baked Beans	0.72	0.31	0.10	1.33	0.0218
Whiskey Hollow Moonshine Bacon Baked Beans	Bush's Bourbon and Brown Sugar Baked Beans	0.72	0.29	0.16	1.28	0.0122
Whiskey Hollow Brown Sugar Baked Beans	Bush's Organic Black Beans	0.70	0.27	0.17	1.23	0.0096
Whiskey Hollow Brown Sugar Baked Beans	Great Value Chili Beans	0.70	0.30	0.11	1.29	0.0210
Whiskey Hollow Brown Sugar Baked Beans	Luck's Pinto Beans	0.69	0.29	0.13	1.26	0.0156
Whiskey Hollow Brown Sugar Baked Beans	Bush's Smokehouse Tradition Baked Beans	0.69	0.28	0.15	1.23	0.0120
Bush's Brown Sugar Hickory Baked Beans	Hanover Brown Sugar and Bacon Baked Beans	0.68	0.30	0.10	1.27	0.0215
Great Value No Salt Added Black Beans	Bush's Organic Honey Beans	0.67	0.32	0.04	1.31	0.0363
Great Value No Salt Added Black Beans	Great Value Baked Beans	0.67	0.32	0.05	1.29	0.0339
Great Value No Salt Added Black Beans	Great Value Organic Black Beans	0.67	0.32	0.04	1.30	0.0377
Great Value Pinto Beans	Great Value Garbanzos Chick Peas	0.65	0.33	0.01	1.30	0.0461
Whiskey Hollow Brown Sugar Baked Beans	Bush's Organic Pinto Beans	0.65	0.30	0.07	1.23	0.0283
Great Value No Salt Added Black Beans	Van Camp's Hickory Baked Beans	0.65	0.31	0.03	1.26	0.0392
Whiskey Hollow Brown Sugar Baked Beans	Bush's Vegetarian Baked Beans	0.64	0.30	0.05	1.23	0.0331
Great Value Pinto Beans	Bush's Original Baked Beans	0.62	0.29	0.06	1.18	0.0302
Bush's Brown Sugar Hickory Baked Beans	Great Value Garbanzos Chick Peas	0.62	0.31	0.01	1.23	0.0477
Great Value No Salt Added Black Beans	Bush's Onion Baked Beans	0.61	0.30	0.01	1.21	0.0446
Great Value Pinto Beans	Bush's Homestyle Baked Beans	0.61	0.30	0.03	1.19	0.0405
Whiskey Hollow Brown Sugar Baked Beans	Hanover Brown Sugar and Bacon Baked Beans	0.60	0.29	0.03	1.17	0.0383
Bush's Brown Sugar Hickory Baked Beans	Bush's Original Baked Beans	0.59	0.27	0.06	1.11	0.0293
Great Value No Salt Added Black Beans	Bush's Organic Black Beans	0.58	0.29	0.01	1.16	0.0461
Bush's Brown Sugar Hickory Baked Beans	Bush's Homestyle Baked Beans	0.57	0.28	0.02	1.12	0.0405
Great Value Pinto Beans	Bush's Maple Cured Bacon Baked Beans	0.57	0.29	0.01	1.13	0.0461
Bush's Brown Sugar Hickory Baked Beans	Bush's Maple Cured Bacon Baked Beans	0.54	0.27	0.01	1.06	0.0460

Chocolate Pairwise Comparisons

Level	Level	Difference	Std Err Dif	Lower CL	Upper CL	p-Value
Trader Joe's Milk Chocolate	Old Dominion S'mores Crunch	1.53	0.21	1.10	1.95	<.0001
Trader Joe's Milk Chocolate	Hershey's Milk Chocolate with Almond Kisses	1.51	0.21	1.11	1.91	<.0001
Trader Joe's Milk Chocolate	Hershey's Minatures	1.48	0.21	1.06	1.90	<.0001
Trader Joe's Milk Chocolate	Old Dominion Sea Salt Brittle	1.46	0.21	1.04	1.87	<.0001
Trader Joe's Milk Chocolate	Riesen	1.44	0.22	1.02	1.87	<.0001
Trader Joe's Milk Chocolate	Old Dominion Peanut Butter Double Ups	1.42	0.25	0.94	1.91	<.0001
Trader Joe's Milk Chocolate	Variety Pack Snack Size	1.41	0.20	1.01	1.81	<.0001
Trader Joe's Milk Chocolate	LC Milk Chocolate Peanuts	1.41	0.20	1.02	1.80	<.0001
Trader Joe's Milk Chocolate	Mar's Chocolate Favorites	1.41	0.21	0.99	1.82	<.0001
Trader Joe's Milk Chocolate	Toostie Rolls	1.40	0.20	1.00	1.80	<.0001
Trader Joe's Milk Chocolate	Milky Way Snack Size	1.36	0.20	0.97	1.75	<.0001
Trader Joe's Milk Chocolate	Hershey's Milk Chcolate Snack Size	1.36	0.21	0.96	1.77	<.0001
Trader Joe's Milk Chocolate	Old Dominion Toffee Peanuts	1.36	0.21	0.94	1.78	<.0001
Trader Joe's Milk Chocolate	Hershey's Milk Chocolate Kisses	1.34	0.21	0.94	1.75	<.0001
Whitman's Sampler	Old Dominion S'mores Crunch	1.34	0.21	0.91	1.76	<.0001
Whitman's Sampler	Hershey's Milk Chocolate with Almond Kisses	1.32	0.21	0.92	1.72	<.0001
Trader Joe's Milk Chocolate	LC Milk Chocolate Caramels	1.30	0.19	0.94	1.67	<.0001
Whitman's Sampler	Hershey's Minatures	1.29	0.21	0.87	1.71	<.0001
Chocolove Milk Chocolate Almonds	Old Dominion S'mores Crunch	1.28	0.22	0.86	1.71	<.0001
Whitman's Sampler	Old Dominion Sea Salt Brittle	1.27	0.21	0.85	1.68	<.0001
Chocolove Milk Chocolate Almonds	Hershey's Milk Chocolate with Almond Kisses	1.27	0.21	0.86	1.67	<.0001
Whitman's Sampler	Riesen	1.25	0.22	0.83	1.68	<.0001
Chocolove Milk Chocolate Almonds	Hershey's Minatures	1.24	0.22	0.82	1.66	<.0001
Whitman's Sampler	Old Dominion Peanut Butter Double Ups	1.23	0.25	0.75	1.72	<.0001
Trader Joe's Milk Chocolate	Old Dominion Dipped Peanuts	1.23	0.23	0.78	1.68	<.0001
Whitman's Sampler	Variety Pack Snack Size	1.22	0.20	0.82	1.62	<.0001
Whitman's Sampler	LC Milk Chocolate Peanuts	1.22	0.20	0.83	1.61	<.0001
Whitman's Sampler	Mar's Chocolate Favorites	1.22	0.21	0.80	1.63	<.0001
Chocolove Milk Chocolate Almonds	Old Dominion Sea Salt Brittle	1.22	0.21	0.80	1.63	<.0001
Whitman's Sampler	Toostie Rolls	1.21	0.20	0.81	1.61	<.0001
Chocolove Milk Chocolate Almonds	Riesen	1.20	0.22	0.77	1.63	<.0001
Chocolove Milk Chocolate Almonds	Old Dominion Peanut Butter Double Ups	1.18	0.25	0.69	1.67	<.0001
Trader Joe's Milk Chocolate	Peanut M&Ms Fun Size	1.18	0.21	0.77	1.58	<.0001
Trader Joe's Milk Chocolate	LC Milk Chocolate Raisins	1.18	0.20	0.79	1.56	<.0001
DeMet's Original Turtles	Old Dominion S'mores Crunch	1.18	0.22	0.75	1.60	<.0001
Whitman's Sampler	Milky Way Snack Size	1.17	0.20	0.78	1.56	<.0001
Whitman's Sampler	Hershey's Milk Chcolate Snack Size	1.17	0.21	0.77	1.58	<.0001
Chocolove Milk Chocolate Almonds	Variety Pack Snack Size	1.17	0.21	0.77	1.57	<.0001
Chocolove Milk Chocolate Almonds	LC Milk Chocolate Peanuts	1.17	0.20	0.78	1.56	<.0001
Whitman's Sampler	Old Dominion Toffee Peanuts	1.17	0.21	0.75	1.59	<.0001
Chocolove Milk Chocolate Almonds	Mar's Chocolate Favorites	1.16	0.21	0.75	1.58	<.0001
DeMet's Original Turtles	Hershey's Milk Chocolate with Almond Kisses	1.16	0.21	0.75	1.57	<.0001
Chocolove Milk Chocolate Almonds	Toostie Rolls	1.16	0.20	0.75	1.56	<.0001
Whitman's Sampler	Hershey's Milk Chocolate Kisses	1.15	0.21	0.75	1.56	<.0001
DeMet's Original Turtles	Hershey's Minatures	1.13	0.22	0.71	1.56	<.0001
Chocolove Milk Chocolate Almonds	Milky Way Snack Size	1.12	0.20	0.73	1.51	<.0001
Chocolove Milk Chocolate Almonds	Hershey's Milk Chcolate Snack Size	1.12	0.21	0.71	1.53	<.0001
Chocolove Milk Chocolate Almonds	Old Dominion Toffee Peanuts	1.11	0.22	0.69	1.54	<.0001
Trader Joe's Milk Chocolate	DeMet's Double Chocolate Turtles	1.11	0.20	0.72	1.51	<.0001
Whitman's Sampler	LC Milk Chocolate Caramels	1.11	0.19	0.75	1.48	<.0001
DeMet's Original Turtles	Old Dominion Sea Salt Brittle	1.11	0.21	0.69	1.53	<.0001
Chocolove Milk Chocolate Almonds	Hershey's Milk Chocolate Kisses	1.10	0.21	0.69	1.51	<.0001
DeMet's Original Turtles	Riesen	1.09	0.22	0.67	1.52	<.0001
DeMet's Original Turtles	Old Dominion Peanut Butter Double Ups	1.08	0.25	0.58	1.57	<.0001

DeMet's Original Turtles	Variety Pack Snack Size	1.06	0.21	0.66	1.47	<.0001
DeMet's Original Turtles	LC Milk Chocolate Peanuts	1.06	0.20	0.67	1.46	<.0001
Chocolove Milk Chocolate Almonds	LC Milk Chocolate Caramels	1.06	0.19	0.69	1.43	<.0001
DeMet's Original Turtles	Mar's Chocolate Favorites	1.06	0.21	0.64	1.48	<.0001
DeMet's Original Turtles	Toostie Rolls	1.05	0.21	0.65	1.45	<.0001
Whitman's Sampler	Old Dominion Dipped Peanuts	1.04	0.23	0.59	1.49	<.0001
Chocolove Dark Chocolate Almonds	Old Dominion S'mores Crunch	1.03	0.22	0.61	1.46	<.0001
Chocolove Dark Chocolate Almonds	Hershey's Milk Chocolate with Almond Kisses	1.02	0.21	0.61	1.42	<.0001
DeMet's Original Turtles	Milky Way Snack Size	1.02	0.20	0.62	1.41	<.0001
DeMet's Original Turtles	Hershey's Milk Chcolate Snack Size	1.01	0.21	0.60	1.42	<.0001
DeMet's Original Turtles	Old Dominion Toffee Peanuts	1.01	0.22	0.58	1.43	<.0001
DeMet's Original Turtles	Hershey's Milk Chocolate Kisses	0.99	0.21	0.58	1.40	<.0001
Chocolove Dark Chocolate Almonds	Hershey's Minatures	0.99	0.22	0.57	1.42	<.0001
Whitman's Sampler	Peanut M&Ms Fun Size	0.99	0.21	0.58	1.39	<.0001
Chocolove Milk Chocolate Almonds	Old Dominion Dipped Peanuts	0.99	0.23	0.53	1.44	<.0001
Whitman's Sampler	LC Milk Chocolate Raisins	0.99	0.20	0.60	1.37	<.0001
Chocolove Dark Chocolate Almonds	Old Dominion Sea Salt Brittle	0.97	0.21	0.55	1.39	<.0001
DeMet's Original Turtles	LC Milk Chocolate Caramels	0.95	0.19	0.58	1.33	<.0001
Chocolove Dark Chocolate Almonds	Riesen	0.95	0.22	0.53	1.38	<.0001
Trader Joe's Milk Chocolate	All Time Greats Variety Pack	0.94	0.22	0.52	1.37	<.0001
Chocolove Milk Chocolate Almonds	Peanut M&Ms Fun Size	0.94	0.21	0.53	1.34	<.0001
Chocolove Dark Chocolate Almonds	Old Dominion Peanut Butter Double Ups	0.93	0.25	0.44	1.43	0.0002
Chocolove Milk Chocolate Almonds	LC Milk Chocolate Raisins	0.93	0.20	0.54	1.32	<.0001
Whitman's Sampler	DeMet's Double Chocolate Turtles	0.92	0.20	0.53	1.32	<.0001
Chocolove Dark Chocolate Almonds	Variety Pack Snack Size	0.92	0.21	0.52	1.33	<.0001
Chocolove Dark Chocolate Almonds	LC Milk Chocolate Peanuts	0.92	0.20	0.53	1.31	<.0001
Chocolove Dark Chocolate Almonds	Mar's Chocolate Favorites	0.92	0.21	0.50	1.34	<.0001
Chocolove Dark Chocolate Almonds	Toostie Rolls	0.91	0.20	0.51	1.31	<.0001
DeMet's Original Turtles	Old Dominion Dipped Peanuts	0.88	0.23	0.43	1.34	0.0002
Chocolove Dark Chocolate Almonds	Milky Way Snack Size	0.87	0.20	0.48	1.27	<.0001
Chocolove Dark Chocolate Almonds	Hershey's Milk Chcolate Snack Size	0.87	0.21	0.46	1.28	<.0001
Chocolove Milk Chocolate Almonds	DeMet's Double Chocolate Turtles	0.87	0.20	0.47	1.27	<.0001
Chocolove Dark Chocolate Almonds	Old Dominion Toffee Peanuts	0.87	0.22	0.44	1.29	<.0001
Chocolove Dark Chocolate Almonds	Hershey's Milk Chocolate Kisses	0.85	0.21	0.44	1.26	<.0001
DeMet's Original Turtles	Peanut M&Ms Fun Size	0.83	0.21	0.42	1.24	<.0001
DeMet's Original Turtles	LC Milk Chocolate Raisins	0.83	0.20	0.43	1.22	<.0001
Chocolove Dark Chocolate Almonds	LC Milk Chocolate Caramels	0.81	0.19	0.44	1.18	<.0001
DeMet's Original Turtles	DeMet's Double Chocolate Turtles	0.76	0.21	0.36	1.17	0.0002
Whitman's Sampler	All Time Greats Variety Pack	0.75	0.22	0.33	1.18	0.0005
Chocolove Dark Chocolate Almonds	Old Dominion Dipped Peanuts	0.74	0.23	0.29	1.19	0.0014
Chocolove Milk Chocolate Almonds	All Time Greats Variety Pack	0.70	0.22	0.27	1.13	0.0014
Chocolove Dark Chocolate Almonds	Peanut M&Ms Fun Size	0.69	0.21	0.28	1.10	0.001
Chocolove Dark Chocolate Almonds	LC Milk Chocolate Raisins	0.69	0.20	0.30	1.08	0.0006
Chocolove Dark Chocolate Almonds	DeMet's Double Chocolate Turtles	0.62	0.20	0.22	1.02	0.0024
DeMet's Original Turtles	All Time Greats Variety Pack	0.59	0.22	0.16	1.02	0.0068
All Time Greats Variety Pack	Old Dominion S'mores Crunch	0.58	0.23	0.13	1.04	0.0121
All Time Greats Variety Pack	Hershey's Milk Chocolate with Almond Kisses	0.57	0.22	0.13	1.01	0.0113
All Time Greats Variety Pack	Hershey's Minatures	0.54	0.23	0.09	1.00	0.02
All Time Greats Variety Pack	Old Dominion Sea Salt Brittle	0.52	0.23	0.07	0.97	0.0249
All Time Greats Variety Pack	Riesen	0.50	0.23	0.04	0.96	0.0318
Trader Joe's Milk Chocolate	Chocolove Dark Chocolate Almonds	0.49	0.20	0.10	0.88	0.0137
All Time Greats Variety Pack	Variety Pack Snack Size	0.47	0.22	0.03	0.91	0.0343
All Time Greats Variety Pack	LC Milk Chocolate Peanuts	0.47	0.22	0.04	0.90	0.0305
All Time Greats Variety Pack	Mar's Chocolate Favorites	0.47	0.23	0.02	0.92	0.0428
All Time Greats Variety Pack	Toostie Rolls	0.46	0.22	0.02	0.89	0.0392
Chocolove Dark Chocolate Almonds	All Time Greats Variety Pack	0.45	0.22	0.02	0.88	0.0385

Coffee Pairwise Comparisons

Level	Level	Difference	Std Err Dif	Lower CL	Upper CL	p-Value
Peet's Coffee Dark Roast	Laura Lyn French Roast	0.70	0.11	0.47	0.92	<.0001
Peet's Coffee Dark Roast	Eight O'Clock 18 cups French Roast	0.69	0.12	0.46	0.93	<.0001
Peet's Coffee Dark Roast	Cafe Bustelo 100% Columbian	0.69	0.12	0.45	0.92	<.0001
Peet's Coffee Dark Roast	Maxwell House 18 cup Breakfast Blend	0.68	0.12	0.44	0.92	<.0001
Peet's Coffee Dark Roast	Maxwell House French Roast	0.63	0.11	0.41	0.84	<.0001
Peet's Coffee Dark Roast	KGM 18 cups Breakfast Blend	0.58	0.10	0.38	0.79	<.0001
Peet's Coffee Dark Roast	Maxwell House 18 cup Bold	0.58	0.11	0.37	0.79	<.0001
Peet's Coffee Dark Roast	Eight O'Clock 18 cups Original	0.57	0.11	0.36	0.78	<.0001
Harvest Farms French Roast	Laura Lyn French Roast	0.57	0.12	0.34	0.80	<.0001
Peet's Coffee Dark Roast	Gevalia 18 cups Colombia	0.57	0.11	0.35	0.78	<.0001
Peet's Coffee Dark Roast	Bigelow English Breakfast	0.57	0.11	0.34	0.79	<.0001
Harvest Farms French Roast	Eight O'Clock 18 cups French Roast	0.56	0.12	0.33	0.80	<.0001
Harvest Farms French Roast	Cafe Bustelo 100% Columbian	0.56	0.12	0.32	0.79	<.0001
Harvest Farms French Roast	Maxwell House 18 cup Breakfast Blend	0.55	0.12	0.32	0.79	<.0001
Peet's Coffee Dark Roast	Snapple Peach Iced Tea	0.55	0.12	0.32	0.79	<.0001
Peet's Coffee Dark Roast	New England Coffee Donut Shop Blend	0.55	0.11	0.34	0.76	<.0001
Peet's Coffee Dark Roast	New England Coffee French Roast	0.54	0.11	0.33	0.75	<.0001
Peet's Coffee Dark Roast	Eight O'Clock 18 cups Dark Italian Roast	0.54	0.11	0.33	0.75	<.0001
Peet's Coffee Dark Roast	KGM 18 cups Half-Calf	0.54	0.11	0.33	0.75	<.0001
Peet's Coffee Dark Roast	Maxwell House Breakfast Blend	0.53	0.11	0.32	0.74	<.0001
Harvest Farms French Roast	Maxwell House French Roast	0.50	0.11	0.28	0.72	<.0001
Peet's Coffee Dark Roast	Laura Lyn House Blend	0.49	0.10	0.29	0.69	<.0001
Peet's Coffee Dark Roast	Laura Lyn French Vanilla	0.48	0.10	0.27	0.68	<.0001
Peet's Coffee Dark Roast	Maxwell House 18 cup Original	0.47	0.10	0.26	0.67	<.0001
Peet's Coffee Dark Roast	Donut Shop 18 cups Regular	0.46	0.12	0.23	0.69	0.0001
Harvest Farms French Roast	KGM 18 cups Breakfast Blend	0.46	0.10	0.25	0.66	<.0001
Harvest Farms French Roast	Maxwell House 18 cup Bold	0.45	0.11	0.24	0.66	<.0001
Harvest Farms French Roast	Eight O'Clock 18 cups Original	0.44	0.11	0.24	0.65	<.0001
Harvest Farms French Roast	Gevalia 18 cups Colombia	0.44	0.11	0.22	0.65	<.0001
Harvest Farms French Roast	Bigelow English Breakfast	0.44	0.11	0.21	0.66	0.0001
Peet's Coffee Dark Roast	Gevalia 18 cups Dark Royal Roast	0.44	0.12	0.20	0.67	0.0003
Peet's Coffee Dark Roast	Folgers Gourmet	0.43	0.10	0.23	0.64	<.0001
Peet's Coffee Dark Roast	Chock Full O'Nuts	0.43	0.11	0.21	0.65	<.0001
Harvest Farms French Roast	Snapple Peach Iced Tea	0.42	0.12	0.19	0.66	0.0005
Peet's Coffee Dark Roast	Gevalia 18 cups Signature Blend	0.42	0.11	0.20	0.65	0.0002
Harvest Farms French Roast	New England Coffee Donut Shop Blend	0.42	0.11	0.21	0.63	0.0001
Peet's Coffee Dark Roast	Donut Shop 18 cups Decaf	0.42	0.11	0.21	0.63	0.0001
Harvest Farms French Roast	New England Coffee French Roast	0.41	0.11	0.20	0.62	0.0001
Harvest Farms French Roast	Eight O'Clock 18 cups Dark Italian Roast	0.41	0.11	0.20	0.62	0.0002
Harvest Farms French Roast	KGM 18 cups Half-Calf	0.41	0.11	0.20	0.62	0.0001
Harvest Farms French Roast	Maxwell House Breakfast Blend	0.40	0.11	0.19	0.62	0.0002
Peet's Coffee Dark Roast	Harvest Farms Breakfast Blend	0.40	0.11	0.19	0.61	0.0001
Peet's Coffee Dark Roast	Cafe Bustelo Orginial	0.38	0.10	0.18	0.58	0.0002
Harvest Farms French Roast	Laura Lyn House Blend	0.36	0.10	0.16	0.56	0.0004
Peet's Coffee Dark Roast	Peet's Medium Roast	0.36	0.11	0.15	0.57	0.0008
Laura Lynn Donut Shop	Laura Lyn French Roast	0.36	0.12	0.13	0.59	0.0021
Maxwell House House Blend	Laura Lyn French Roast	0.36	0.12	0.12	0.59	0.0029

New England Coffee Breakfast Blend	Laura Lyn French Roast	0.35	0.12	0.13	0.58	0.0023
Laura Lynn Donut Shop	Eight O'Clock 18 cups French Roast	0.35	0.12	0.11	0.59	0.004
Harvest Farms French Roast	Laura Lyn French Vanilla	0.35	0.11	0.14	0.56	0.001
Maxwell House House Blend	Eight O'Clock 18 cups French Roast	0.35	0.12	0.10	0.59	0.0052
Peet's Coffee Dark Roast	New England Coffee Breakfast Blend	0.35	0.10	0.15	0.54	0.0006
New England Coffee Breakfast Blend	Eight O'Clock 18 cups French Roast	0.34	0.12	0.11	0.58	0.0044
Laura Lynn Donut Shop	Cafe Bustelo 100% Columbian	0.34	0.12	0.11	0.58	0.0043
Peet's Coffee Dark Roast	Maxwell House House Blend	0.34	0.11	0.14	0.55	0.0011
Maxwell House House Blend	Cafe Bustelo 100% Columbian	0.34	0.12	0.10	0.58	0.0056
Laura Lynn Donut Shop	Maxwell House 18 cup Breakfast Blend	0.34	0.12	0.10	0.58	0.0054
Peet's Coffee Dark Roast	Laura Lynn Donut Shop	0.34	0.10	0.14	0.54	0.0008
Maxwell House House Blend	Maxwell House 18 cup Breakfast Blend	0.34	0.13	0.09	0.59	0.007
New England Coffee Breakfast Blend	Cafe Bustelo 100% Columbian	0.34	0.12	0.10	0.57	0.0048
Harvest Farms French Roast	Maxwell House 18 cup Original	0.34	0.10	0.13	0.54	0.0013
Peet's Medium Roast	Laura Lyn French Roast	0.34	0.12	0.10	0.58	0.0051
New England Coffee Breakfast Blend	Maxwell House 18 cup Breakfast Blend	0.34	0.12	0.10	0.58	0.006
Harvest Farms French Roast	Donut Shop 18 cups Regular	0.33	0.12	0.10	0.56	0.0056
Peet's Medium Roast	Eight O'Clock 18 cups French Roast	0.33	0.13	0.08	0.58	0.0086
Peet's Medium Roast	Cafe Bustelo 100% Columbian	0.33	0.13	0.08	0.57	0.0094
Peet's Medium Roast	Maxwell House 18 cup Breakfast Blend	0.32	0.13	0.07	0.57	0.0114
Cafe Bustelo Orginial	Laura Lyn French Roast	0.32	0.12	0.09	0.55	0.0061
Cafe Bustelo Orginial	Eight O'Clock 18 cups French Roast	0.31	0.12	0.07	0.55	0.0104
Harvest Farms French Roast	Gevalia 18 cups Dark Royal Roast	0.31	0.12	0.07	0.55	0.0104
Cafe Bustelo Orginial	Cafe Bustelo 100% Columbian	0.31	0.12	0.07	0.55	0.0113
Harvest Farms French Roast	Folgers Gourmet	0.31	0.11	0.10	0.51	0.0036
Cafe Bustelo Orginial	Maxwell House 18 cup Breakfast Blend	0.30	0.12	0.06	0.55	0.0137
Harvest Farms French Roast	Chock Full O'Nuts	0.30	0.11	0.09	0.52	0.0065
Harvest Farms Breakfast Blend	Laura Lyn French Roast	0.30	0.12	0.06	0.53	0.0132
Harvest Farms French Roast	Gevalia 18 cups Signature Blend	0.30	0.11	0.07	0.52	0.0099
Harvest Farms French Roast	Donut Shop 18 cups Decaf	0.29	0.11	0.08	0.51	0.008
Laura Lynn Donut Shop	Maxwell House French Roast	0.29	0.11	0.07	0.51	0.0098
Harvest Farms Breakfast Blend	Eight O'Clock 18 cups French Roast	0.29	0.12	0.04	0.53	0.0206
Maxwell House House Blend	Maxwell House French Roast	0.29	0.11	0.06	0.51	0.0127
New England Coffee Breakfast Blend	Maxwell House French Roast	0.28	0.11	0.07	0.50	0.0108
Harvest Farms Breakfast Blend	Cafe Bustelo 100% Columbian	0.28	0.12	0.04	0.53	0.0223
Harvest Farms Breakfast Blend	Maxwell House 18 cup Breakfast Blend	0.28	0.13	0.03	0.53	0.0261
Donut Shop 18 cups Decaf	Laura Lyn French Roast	0.28	0.12	0.04	0.52	0.0232
Gevalia 18 cups Signature Blend	Laura Lyn French Roast	0.28	0.13	0.03	0.52	0.0297
Harvest Farms French Roast	Harvest Farms Breakfast Blend	0.27	0.11	0.07	0.48	0.0101
Donut Shop 18 cups Decaf	Eight O'Clock 18 cups French Roast	0.27	0.13	0.02	0.52	0.0339
Peet's Medium Roast	Maxwell House French Roast	0.27	0.12	0.04	0.50	0.0209
Gevalia 18 cups Signature Blend	Eight O'Clock 18 cups French Roast	0.27	0.13	0.01	0.52	0.0417
Chock Full O'Nuts	Laura Lyn French Roast	0.27	0.12	0.02	0.51	0.0311
Donut Shop 18 cups Decaf	Cafe Bustelo 100% Columbian	0.27	0.13	0.02	0.51	0.0366
Folgers Gourmet	Laura Lyn French Roast	0.26	0.12	0.03	0.50	0.0259
Donut Shop 18 cups Decaf	Maxwell House 18 cup Breakfast Blend	0.26	0.13	0.01	0.52	0.0419
Gevalia 18 cups Signature Blend	Cafe Bustelo 100% Columbian	0.26	0.13	0.01	0.52	0.0449
Gevalia 18 cups Dark Royal Roast	Laura Lyn French Roast	0.26	0.13	0.00	0.52	0.0479
Chock Full O'Nuts	Eight O'Clock 18 cups French Roast	0.26	0.13	0.01	0.51	0.044
Folgers Gourmet	Eight O'Clock 18 cups French Roast	0.26	0.12	0.01	0.50	0.0382
Chock Full O'Nuts	Cafe Bustelo 100% Columbian	0.25	0.13	0.00	0.50	0.0474
Cafe Bustelo Orginial	Maxwell House French Roast	0.25	0.11	0.03	0.47	0.0253

Folgers Gourmet	Cafe Bustelo 100% Columbian	0.25	0.12	0.01	0.49	0.0413
Harvest Farms French Roast	Cafe Bustelo Orginial	0.25	0.10	0.05	0.45	0.016
Folgers Gourmet	Maxwell House 18 cup Breakfast Blend	0.25	0.12	0.00	0.49	0.0474
Laura Lynn Donut Shop	KGM 18 cups Breakfast Blend	0.24	0.11	0.04	0.45	0.0206
Maxwell House House Blend	KGM 18 cups Breakfast Blend	0.24	0.11	0.03	0.45	0.0262
New England Coffee Breakfast Blend	KGM 18 cups Breakfast Blend	0.24	0.10	0.03	0.44	0.0227
Laura Lynn Donut Shop	Maxwell House 18 cup Bold	0.24	0.11	0.02	0.45	0.0305
Maxwell House House Blend	Maxwell House 18 cup Bold	0.23	0.11	0.01	0.46	0.0373
Harvest Farms French Roast	Peet's Medium Roast	0.23	0.11	0.02	0.44	0.0316
New England Coffee Breakfast Blend	Maxwell House 18 cup Bold	0.23	0.11	0.02	0.45	0.0335
Maxwell House 18 cup Original	Laura Lyn French Roast	0.23	0.12	0.00	0.46	0.0495
Laura Lynn Donut Shop	Eight O'Clock 18 cups Original	0.23	0.11	0.02	0.44	0.0313
Maxwell House House Blend	Eight O'Clock 18 cups Original	0.23	0.11	0.01	0.45	0.0384
Harvest Farms Breakfast Blend	Maxwell House French Roast	0.23	0.12	0.00	0.45	0.0485
Donut Shop 18 cups Regular	Cafe Bustelo 100% Columbian	0.23	0.13	-0.04	0.49	0.0925
New England Coffee Breakfast Blend	Eight O'Clock 18 cups Original	0.23	0.11	0.02	0.44	0.0343
Laura Lynn Donut Shop	Gevalia 18 cups Colombia	0.23	0.11	0.01	0.44	0.0408
Peet's Medium Roast	KGM 18 cups Breakfast Blend	0.22	0.11	0.01	0.44	0.0421
Donut Shop 18 cups Regular	Maxwell House 18 cup Breakfast Blend	0.22	0.14	-0.04	0.49	0.1015
Maxwell House House Blend	Gevalia 18 cups Colombia	0.22	0.11	0.00	0.45	0.049
New England Coffee Breakfast Blend	Gevalia 18 cups Colombia	0.22	0.11	0.01	0.44	0.0446
Harvest Farms French Roast	New England Coffee Breakfast Blend	0.22	0.10	0.02	0.42	0.0331
Harvest Farms French Roast	Maxwell House House Blend	0.22	0.11	0.01	0.42	0.0429
Harvest Farms French Roast	Laura Lynn Donut Shop	0.21	0.10	0.01	0.41	0.0384

Cold Brew Pairwise Comparisons

Level	Level	Difference	Std Err Dif	Lower CL	Upper CL	p-Value
Chameleon Cold Brew	Starbucks Frap Mocha	1.59	0.48	0.64	2.54	0.0012
Chameleon Cold Brew	Starbucks Frap Vanilla	1.56	0.48	0.60	2.51	0.0015
Calfia XX Espresso Cold Brew	Starbucks Frap Mocha	1.54	0.48	0.59	2.50	0.0017
Chameleon Cold Brew	Starbucks Iced Coffee Sweetened	1.53	0.48	0.57	2.48	0.0019
Calfia XX Espresso Cold Brew	Starbucks Frap Vanilla	1.51	0.48	0.55	2.46	0.0021
Chameleon Cold Brew	Caribou Sea Salt Caramel Iced Coffee	1.51	0.49	0.54	2.48	0.0025
Calfia XX Espresso Cold Brew	Starbucks Iced Coffee Sweetened	1.48	0.48	0.52	2.43	0.0026
Chameleon Cold Brew	Starbucks Iced Coffee Vanilla	1.47	0.48	0.52	2.43	0.0026
Calfia XX Espresso Cold Brew	Caribou Sea Salt Caramel Iced Coffee	1.46	0.49	0.49	2.43	0.0034
Chameleon Cold Brew	Caribou Choc Mocha Iced Coffee	1.45	0.49	0.48	2.42	0.0036
Chameleon Cold Brew	Caribou Vanilla Iced Coffee	1.44	0.49	0.47	2.41	0.0039
Chameleon Cold Brew	Calfia Salted Caramel Cold Brew	1.44	0.48	0.48	2.39	0.0034
Calfia XX Espresso Cold Brew	Starbucks Iced Coffee Vanilla	1.43	0.48	0.47	2.38	0.0036
Calfia XX Espresso Cold Brew	Caribou Choc Mocha Iced Coffee	1.40	0.49	0.43	2.37	0.0048
Calfia XX Espresso Cold Brew	Caribou Vanilla Iced Coffee	1.39	0.49	0.42	2.36	0.0052
Calfia XX Espresso Cold Brew	Calfia Salted Caramel Cold Brew	1.39	0.48	0.43	2.34	0.0046
Chameleon Cold Brew	Starbucks Doubleshot Espresso	1.29	0.49	0.32	2.26	0.0092
Calfia XX Espresso Cold Brew	Starbucks Doubleshot Espresso	1.25	0.49	0.28	2.22	0.0121
Calfia Triple Shot Cold Brew	Starbucks Frap Mocha	1.24	0.47	0.30	2.17	0.0097
Calfia Triple Shot Cold Brew	Starbucks Frap Vanilla	1.20	0.47	0.27	2.14	0.0119
Calfia Triple Shot Cold Brew	Starbucks Iced Coffee Sweetened	1.17	0.47	0.24	2.11	0.0142
Chameleon Cold Brew	Stumptown Cold Brew	1.16	0.49	0.19	2.13	0.0193
Calfia Triple Shot Cold Brew	Caribou Sea Salt Caramel Iced Coffee	1.15	0.48	0.20	2.11	0.0177
Calfia Triple Shot Cold Brew	Starbucks Iced Coffee Vanilla	1.12	0.47	0.19	2.06	0.019
Calfia XX Espresso Cold Brew	Stumptown Cold Brew	1.11	0.49	0.14	2.08	0.0248
Calfia Triple Shot Cold Brew	Caribou Choc Mocha Iced Coffee	1.10	0.48	0.15	2.05	0.0237
Calfia Triple Shot Cold Brew	Caribou Vanilla Iced Coffee	1.09	0.48	0.13	2.04	0.0256
Calfia Triple Shot Cold Brew	Calfia Salted Caramel Cold Brew	1.08	0.47	0.15	2.02	0.0233
Chameleon Cold Brew	Calfia Cocoa Noir Cold Brew	1.02	0.48	0.07	1.98	0.0358
Calfia XX Espresso Cold Brew	Calfia Cocoa Noir Cold Brew	0.98	0.48	0.02	1.93	0.0452

Cookie Pairwise Comparisons

Level	Level	Difference	Std Err Dif	Lower CL	Upper CL	p-Value
Quakers Chocolate Chip Oatmeal Cookies	Southern Home Vanilla Wafers	0.83	0.20	0.43	1.23	<.0001
Famous Amos Chocolate Chip	Southern Home Vanilla Wafers	0.75	0.21	0.34	1.17	0.0004
Quakers Chocolate Chip Oatmeal Cookies	Keebler Chocolate Chip Cookies	0.59	0.19	0.22	0.97	0.0021
Quakers Chocolate Chip Oatmeal Cookies	Zone Chocolate Almond Raisin	0.58	0.18	0.22	0.94	0.0019
Chips Ahoy Chewy	Southern Home Vanilla Wafers	0.57	0.21	0.16	0.98	0.0061
Quakers Chocolate Chip Oatmeal Cookies	Mint Oreos	0.57	0.19	0.20	0.94	0.003
Famous Amos Chocolate Chip	Keebler Chocolate Chip Cookies	0.52	0.20	0.13	0.91	0.0093
Quakers Chocolate Chip Oatmeal Cookies	Chips Ahot Chunky	0.51	0.20	0.13	0.90	0.0094
Famous Amos Chocolate Chip	Zone Chocolate Almond Raisin	0.50	0.19	0.13	0.88	0.0091
Famous Amos Chocolate Chip	Mint Oreos	0.49	0.20	0.11	0.88	0.0127
Chips Ahoy Snack Size	Southern Home Vanilla Wafers	0.48	0.21	0.08	0.89	0.0199
Quakers Chocolate Chip Oatmeal Cookies	Nabisco Nilla Wafers	0.47	0.19	0.09	0.85	0.0144
Famous Amos Chocolate Chip	Chips Ahot Chunky	0.43	0.20	0.04	0.83	0.0321
Famous Amos Chocolate Chip	Nabisco Nilla Wafers	0.40	0.20	0.01	0.78	0.0468

Frozen Sausage Pairwise Comparisons

Level	Level	Difference	Std Err Dif	Lower CL	Upper CL	p-Value
Jimmy Dean Original Links	Banquet Lite Original	1.42	0.28	0.86	1.97	<.0001
JDF Turkey Links	Banquet Lite Original	1.34	0.35	0.65	2.02	0.0001
Jimmy Dean Original Links	Banquet Turkey Patties	1.33	0.29	0.76	1.90	<.0001
Jimmy Dean Original Links	Banquet Turkey Links	1.26	0.28	0.70	1.81	<.0001
Jimmy Dean Original Links	Banquet Beef Links	1.25	0.27	0.73	1.78	<.0001
JDF Turkey Links	Banquet Turkey Patties	1.25	0.36	0.55	1.95	0.0004
JDF Maple Pork Links	Banquet Lite Original	1.25	0.34	0.58	1.92	0.0003
Jimmy Dean Original Links	Banquet Original Patties	1.23	0.27	0.71	1.76	<.0001
Jimmy Dean Original Links	Jimmy Dean Turkey Patties	1.23	0.29	0.66	1.80	<.0001
Jimmy Dean Original Patties	Banquet Lite Original	1.20	0.29	0.63	1.78	<.0001
JDF Turkey Links	Banquet Turkey Links	1.18	0.35	0.49	1.86	0.0008
JDF Turkey Links	Banquet Beef Links	1.18	0.34	0.51	1.84	0.0006
JDF Chicken Links	Banquet Lite Original	1.17	0.35	0.49	1.84	0.0008
JDF Maple Pork Links	Banquet Turkey Patties	1.17	0.35	0.48	1.85	0.0008
JDF Turkey Links	Banquet Original Patties	1.15	0.34	0.49	1.82	0.0007
JDF Turkey Links	Jimmy Dean Turkey Patties	1.15	0.36	0.45	1.85	0.0013
Jimmy Dean Original Patties	Banquet Turkey Patties	1.12	0.30	0.53	1.70	0.0002
Jimmy Dean Original Links	Applegate Chicken and Apple Patties	1.11	0.26	0.59	1.62	<.0001
Applegate Chicken and Maple Links	Banquet Lite Original	1.09	0.29	0.52	1.66	0.0002
JDF Maple Pork Links	Banquet Turkey Links	1.09	0.34	0.42	1.76	0.0015
JDF Maple Pork Links	Banquet Beef Links	1.09	0.33	0.44	1.74	0.0011
JDF Chicken Links	Banquet Turkey Patties	1.08	0.35	0.39	1.77	0.0022
Jimmy Dean Original Links	Banquet Maple Links	1.08	0.25	0.58	1.57	<.0001
JDF Maple Pork Links	Banquet Original Patties	1.07	0.33	0.42	1.71	0.0013
JDF Maple Pork Links	Jimmy Dean Turkey Patties	1.06	0.35	0.38	1.75	0.0024
Jimmy Dean Original Patties	Banquet Turkey Links	1.04	0.29	0.47	1.61	0.0003
Jimmy Dean Original Patties	Banquet Beef Links	1.04	0.28	0.50	1.59	0.0002
Applegate Peppered Turkey Links	Banquet Lite Original	1.04	0.30	0.44	1.63	0.0006
JDF Turkey Links	Applegate Chicken and Apple Patties	1.03	0.33	0.37	1.69	0.0022
Jimmy Dean Original Links	Jimmy Dean Turkey Links	1.02	0.27	0.50	1.55	0.0001
Jimmy Dean Original Patties	Banquet Original Patties	1.02	0.28	0.48	1.56	0.0002
Jimmy Dean Original Patties	Jimmy Dean Turkey Patties	1.02	0.30	0.43	1.61	0.0007
Applegate Chicken and Maple Links	Banquet Turkey Patties	1.01	0.30	0.42	1.59	0.0007
JDF Chicken Links	Banquet Turkey Links	1.00	0.35	0.33	1.68	0.0037
JDF Chicken Links	Banquet Beef Links	1.00	0.34	0.35	1.66	0.0028
JDF Turkey Links	Banquet Maple Links	1.00	0.33	0.36	1.64	0.0023
JDF Chicken Links	Banquet Original Patties	0.98	0.33	0.33	1.64	0.0034
JDF Chicken Links	Jimmy Dean Turkey Patties	0.98	0.35	0.29	1.67	0.0057
Applegate Peppered Turkey Links	Banquet Turkey Patties	0.95	0.31	0.35	1.56	0.0021
JDF Turkey Links	Jimmy Dean Turkey Links	0.94	0.34	0.28	1.61	0.0054
JDF Maple Pork Links	Applegate Chicken and Apple Patties	0.94	0.33	0.30	1.58	0.004

Applegate Chicken and Maple Links	Banquet Turkey Links	0.93	0.29	0.36	1.50	0.0014
Applegate Chicken and Maple Links	Banquet Beef Links	0.93	0.28	0.38	1.48	0.0009
Applegate Chicken and Maple Links	Banquet Original Patties	0.91	0.28	0.37	1.45	0.0011
JDF Maple Pork Links	Banquet Maple Links	0.91	0.32	0.29	1.53	0.0043
Applegate Chicken and Maple Links	Jimmy Dean Turkey Patties	0.91	0.30	0.32	1.50	0.0026
Jimmy Dean Original Patties	Applegate Chicken and Apple Patties	0.90	0.27	0.36	1.43	0.001
Applegate Peppered Turkey Links	Banquet Turkey Links	0.88	0.30	0.28	1.47	0.0038
Applegate Peppered Turkey Links	Banquet Beef Links	0.88	0.29	0.30	1.45	0.0027
JDF Maple Pork Patties	Banquet Lite Original	0.87	0.33	0.21	1.53	0.0094
Jimmy Dean Original Links	Applegate Peppered Turkey Patties	0.87	0.25	0.37	1.36	0.0006
Jimmy Dean Original Patties	Banquet Maple Links	0.86	0.26	0.35	1.38	0.001
JDF Chicken Links	Applegate Chicken and Apple Patties	0.86	0.33	0.21	1.51	0.0096
JDF Maple Pork Links	Jimmy Dean Turkey Links	0.86	0.33	0.21	1.50	0.0096
Applegate Peppered Turkey Links	Banquet Original Patties	0.85	0.29	0.29	1.42	0.0033
Applegate Peppered Turkey Links	Jimmy Dean Turkey Patties	0.85	0.31	0.24	1.46	0.0065
Applegate Classic Pork Links	Banquet Lite Original	0.83	0.32	0.21	1.46	0.0087
JDF Chicken Links	Banquet Maple Links	0.82	0.32	0.19	1.46	0.0105
Jimmy Dean Original Links	JDF Light Links	0.82	0.32	0.18	1.46	0.0119
Jimmy Dean Original Patties	Jimmy Dean Turkey Links	0.81	0.28	0.27	1.35	0.0035
Jimmy Dean Original Links	Applegate Chicken and Apple Links	0.81	0.28	0.26	1.36	0.0039
JDF Mild Pork Links	Banquet Lite Original	0.79	0.35	0.11	1.47	0.022
JDF Turkey Links	Applegate Peppered Turkey Patties	0.79	0.33	0.15	1.43	0.0162
Applegate Chicken and Maple Links	Applegate Chicken and Apple Patties	0.78	0.27	0.25	1.32	0.0041
JDF Maple Pork Patties	Banquet Turkey Patties	0.78	0.34	0.12	1.45	0.0216
Jimmy Dean Original Links	Applegate Chicken and Maple Patties	0.78	0.25	0.28	1.28	0.0024
JDF Chicken Links	Jimmy Dean Turkey Links	0.77	0.33	0.12	1.43	0.021
Applegate Chicken and Maple Links	Banquet Maple Links	0.75	0.26	0.24	1.27	0.0043
Applegate Classic Pork Links	Banquet Turkey Patties	0.75	0.32	0.11	1.38	0.021
Applegate Peppered Turkey Links	Applegate Chicken and Apple Patties	0.73	0.29	0.17	1.29	0.0107
JDF Turkey Links	Applegate Chicken and Apple Links	0.73	0.35	0.05	1.41	0.0364
Applegate Chicken and Sage Links	Banquet Lite Original	0.71	0.30	0.13	1.30	0.017
JDF Maple Pork Patties	Banquet Turkey Links	0.71	0.33	0.05	1.36	0.0345
JDF Maple Pork Patties	Banquet Beef Links	0.71	0.32	0.07	1.34	0.0293
JDF Mild Pork Links	Banquet Turkey Patties	0.71	0.35	0.02	1.40	0.0447
Jimmy Dean Original Links	Applegate Chicken and Sage Links	0.71	0.27	0.18	1.23	0.0086
Applegate Chicken and Maple Links	Jimmy Dean Turkey Links	0.70	0.28	0.16	1.24	0.0118
JDF Maple Pork Links	Applegate Peppered Turkey Patties	0.70	0.32	0.08	1.32	0.028
JDF Turkey Links	Applegate Chicken and Maple Patties	0.70	0.33	0.05	1.34	0.0341
Applegate Peppered Turkey Links	Banquet Maple Links	0.70	0.28	0.16	1.24	0.0116
JDF Maple Pork Patties	Banquet Original Patties	0.69	0.32	0.05	1.32	0.0339
JDF Maple Pork Patties	Jimmy Dean Turkey Patties	0.68	0.34	0.01	1.35	0.0469
Applegate Classic Pork Links	Banquet Turkey Links	0.67	0.32	0.05	1.29	0.0342
Applegate Classic Pork Links	Banquet Beef Links	0.67	0.31	0.07	1.27	0.0285
Jimmy Dean Original Patties	Applegate Peppered Turkey Patties	0.65	0.26	0.14	1.17	0.0129
Applegate Classic Pork Links	Banquet Original Patties	0.65	0.30	0.05	1.25	0.0332
Applegate Classic Pork Links	Jimmy Dean Turkey Patties	0.65	0.33	0.01	1.29	0.0476
Applegate Peppered Turkey Links	Jimmy Dean Turkey Links	0.64	0.29	0.08	1.21	0.0264
Applegate Chicken and Maple Patties	Banquet Lite Original	0.64	0.29	0.08	1.20	0.025
Applegate Chicken and Sage Links	Banquet Turkey Patties	0.63	0.30	0.03	1.22	0.0401
Applegate Chicken and Apple Links	Banquet Lite Original	0.61	0.31	0.00	1.21	0.0483
Jimmy Dean Original Patties	Applegate Chicken and Apple Links	0.60	0.29	0.03	1.16	0.0392
Jimmy Dean Original Links	Applegate Classic Pork Links	0.58	0.29	0.02	1.15	0.0439
Jimmy Dean Original Patties	Applegate Chicken and Maple Patties	0.56	0.26	0.04	1.08	0.0334
Applegate Chicken and Maple Links	Applegate Peppered Turkey Patties	0.54	0.26	0.03	1.06	0.0392

Frozen Treat Pairwise Comparisons

Level	Level	Difference	Std Err Dif	Lower CL	Upper CL	p-Value
Weight Watchers Belgian Eclairs	PET Crunch Bar	1.32	0.33	0.66	1.98	<.0001
Weight Watchers Belgian Eclairs	Milky Way Chocolate Ice Cream Bar	1.32	0.33	0.66	1.97	0.0001
Weight Watchers Belgian Eclairs	Popsicle Jolly Rancher Awesome Twosome	1.22	0.32	0.59	1.86	0.0002
Weight Watchers Belgian Eclairs	Cadbury Vanilla chocolate Bar	1.10	0.32	0.47	1.73	0.0006
Weight Watchers Belgian Eclairs	Blue Bunny Chocolate Lovers Sandwiches	1.03	0.33	0.39	1.68	0.0017
Magnum Classic Ice Cream Bar	PET Crunch Bar	0.77	0.36	0.06	1.47	0.0326
Magnum Classic Ice Cream Bar	Milky Way Chocolate Ice Cream Bar	0.77	0.36	0.06	1.47	0.033
Weight Watchers Belgian Eclairs	Twix Ice Cream Bar	0.72	0.32	0.09	1.35	0.0244

Hot Sauce Pairwise Comparisons

Level	Level	Difference	Std Err Dif	Lower CL	Upper CL	p-Value
Texas Pete	Texas Pete Hot Pepper Sauce	2.16	0.48	1.22	3.11	<.0001
Texas Pete	Tabasco Green Pepper	2.15	0.40	1.35	2.94	<.0001
Texas Pete	Tabasco Chipotle	2.09	0.40	1.29	2.88	<.0001
Texas Pete	Louisiana Hot Sauce	1.91	0.35	1.22	2.59	<.0001
Texas Pete	Tabasco Original	1.87	0.44	1.01	2.74	<.0001
Texas Pete	Great Value Louisiana Hot Sauce	1.79	0.37	1.05	2.52	<.0001
Texas Pete	Crystal Hot Sauce	1.72	0.37	0.99	2.44	<.0001
Texas Pete	Sweet Baby Rays	1.69	0.35	1.01	2.37	<.0001
Texas Pete	Franks Red Hot	1.66	0.35	0.97	2.35	<.0001
Texas Pete	Hoy Fung Sriracha	1.61	0.38	0.86	2.35	<.0001
Texas Pete	Texas Pete Hotter Hot Sauce	1.60	0.37	0.88	2.33	<.0001
Texas Pete	Moore's Buffalo Sauce	1.59	0.35	0.90	2.28	<.0001
Texas Pete	Texas Pete Wing Sauce	1.58	0.33	0.93	2.23	<.0001
Texas Pete	Tabasco Chili Sauce	1.54	0.35	0.85	2.22	<.0001
Tabasco	Texas Pete Hot Pepper Sauce	1.48	0.49	0.51	2.44	0.0027
Franks	Texas Pete Hot Pepper Sauce	1.47	0.48	0.52	2.42	0.0025
Tabasco	Tabasco Green Pepper	1.46	0.42	0.65	2.28	0.0005
Franks	Tabasco Green Pepper	1.46	0.41	0.66	2.26	0.0004
Tabasco	Tabasco Chipotle	1.40	0.42	0.58	2.22	0.0008
Franks	Tabasco Chipotle	1.39	0.41	0.59	2.19	0.0007
Tabasco	Louisiana Hot Sauce	1.22	0.36	0.51	1.93	0.0008
Franks	Louisiana Hot Sauce	1.21	0.35	0.52	1.90	0.0006
Tabasco	Tabasco Original	1.18	0.45	0.30	2.07	0.0089
Franks	Tabasco Original	1.18	0.44	0.31	2.05	0.0081
Texas Pete	Franks Red Hot Wing Sauce	1.17	0.33	0.52	1.82	0.0004
Texas Pete	Texas Pete Hot Sauce	1.11	0.34	0.45	1.77	0.001
Tabasco	Great Value Louisiana Hot Sauce	1.10	0.39	0.34	1.86	0.0045
Franks	Great Value Louisiana Hot Sauce	1.09	0.38	0.35	1.83	0.0038
Texas Pete Hot Sauce	Texas Pete Hot Pepper Sauce	1.05	0.50	0.07	2.03	0.035
Texas Pete Hot Sauce	Tabasco Green Pepper	1.04	0.42	0.20	1.87	0.0148
Tabasco	Crystal Hot Sauce	1.03	0.38	0.28	1.78	0.007
Franks	Crystal Hot Sauce	1.02	0.37	0.29	1.75	0.0061
Tabasco	Sweet Baby Rays	1.00	0.36	0.30	1.70	0.0054
Franks	Sweet Baby Rays	0.99	0.35	0.31	1.68	0.0045
Franks Red Hot Wing Sauce	Texas Pete Hot Pepper Sauce	0.99	0.49	0.02	1.96	0.0445
Franks Red Hot Wing Sauce	Tabasco Green Pepper	0.98	0.42	0.16	1.80	0.0199
Texas Pete Hot Sauce	Tabasco Chipotle	0.97	0.42	0.14	1.81	0.0219
Tabasco	Franks Red Hot	0.97	0.36	0.26	1.69	0.0079
Franks	Franks Red Hot	0.97	0.36	0.27	1.66	0.0068
Tabasco	Hoy Fung Sriracha	0.92	0.39	0.15	1.69	0.019
Tabasco	Texas Pete Hotter Hot Sauce	0.92	0.38	0.17	1.67	0.0163

Franks Red Hot Wing Sauce	Tabasco Chipotle	0.92	0.42	0.09	1.74	0.0292
Franks	Hoy Fung Sriracha	0.91	0.38	0.16	1.66	0.0173
Franks	Texas Pete Hotter Hot Sauce	0.91	0.37	0.18	1.64	0.0146
Tabasco	Moore's Buffalo Sauce	0.90	0.36	0.19	1.62	0.0136
Franks	Moore's Buffalo Sauce	0.90	0.36	0.20	1.59	0.012
Tabasco	Texas Pete Wing Sauce	0.89	0.34	0.21	1.57	0.0099
Franks	Texas Pete Wing Sauce	0.88	0.33	0.23	1.54	0.0085
Tabasco	Tabasco Chili Sauce	0.85	0.36	0.14	1.56	0.0186
Franks	Tabasco Chili Sauce	0.85	0.35	0.15	1.54	0.0165
Texas Pete Hot Sauce	Louisiana Hot Sauce	0.79	0.37	0.07	1.52	0.0325
Franks Red Hot Wing Sauce	Louisiana Hot Sauce	0.74	0.37	0.02	1.46	0.0442
Texas Pete	Franks	0.69	0.32	0.07	1.31	0.0283
Texas Pete	Tabasco	0.69	0.33	0.05	1.33	0.0355

Muesli Pairwise Comparisons

Level	Level	Difference	Std Err Dif	Lower CL	Upper CL	p-Value
Fruit and Nut Muesli	Swiss Muesli Original	2.23	0.65	0.94	3.52	0.0008
Fruit and Nut Muesli	Swiss Muesli No Added Sugar	1.73	0.63	0.48	2.99	0.0069

Olive Oil Pairwise Comparisons

Level	Level	Difference	Std Err Dif	Lower CL	Upper CL	p-Value
Bertolli Extra Virgin Olive Oil Large	Lucini Estate Select Extra Virgin Olive Oil	0.82	0.23	0.37	1.28	0.0004
Pompeian Extra Virgin Olive Oil Large	Lucini Estate Select Extra Virgin Olive Oil	0.80	0.23	0.33	1.26	0.0008
Bertolli Extra Virgin Olive Oil Large	Olivari Mediterranean Extra Virgin Olive Oil Large	0.76	0.23	0.30	1.22	0.0014
Bertolli Extra Virgin Olive Oil Large	Crisco Extra Virgin Olive Oil Small	0.74	0.23	0.28	1.19	0.0016
Pompeian Extra Virgin Olive Oil Large	Olivari Mediterranean Extra Virgin Olive Oil Large	0.73	0.24	0.26	1.20	0.0025
Bertolli Extra Virgin Olive Oil Large	Crisco Extra Virgin Olive Oil Large	0.71	0.22	0.27	1.16	0.0016
Pompeian Extra Virgin Olive Oil Large	Crisco Extra Virgin Olive Oil Small	0.71	0.24	0.24	1.18	0.0029
Pompeian Extra Virgin Olive Oil Large	Crisco Extra Virgin Olive Oil Large	0.69	0.23	0.23	1.14	0.003
Bertolli Extra Virgin Olive Oil Large	Georgia Olive Farms Extra Virgin Olive Oil	0.67	0.24	0.20	1.14	0.0055
Bertolli Extra Virgin Olive Oil Small	Lucini Estate Select Extra Virgin Olive Oil	0.66	0.23	0.20	1.11	0.0045
Pompeian Extra Virgin Olive Oil Large	Georgia Olive Farms Extra Virgin Olive Oil	0.64	0.24	0.16	1.12	0.0092
Bertolli Extra Virgin Olive Oil Large	Olivari Mediterranean Extra Virgin Olive Oil Small	0.63	0.23	0.18	1.08	0.0062
Bertolli Extra Virgin Olive Oil Large	Colvativa Extra Virgin Olive Oil Small	0.62	0.22	0.18	1.06	0.0063
Pompeian Extra Virgin Olive Oil Large	Olivari Mediterranean Extra Virgin Olive Oil Small	0.60	0.23	0.14	1.06	0.0106
Bertolli Extra Virgin Olive Oil Large	Pompeian Exra Virgin Olive Oil Small	0.59	0.23	0.14	1.05	0.0107
Pompeian Extra Virgin Olive Oil Large	Colvativa Extra Virgin Olive Oil Small	0.59	0.23	0.14	1.04	0.0108
Bertolli Extra Virgin Olive Oil Small	Olivari Mediterranean Extra Virgin Olive Oil Large	0.59	0.23	0.13	1.05	0.0125
Bertolli Extra Virgin Olive Oil Small	Crisco Extra Virgin Olive Oil Small	0.57	0.23	0.11	1.03	0.0143
Pompeian Extra Virgin Olive Oil Large	Pompeian Exra Virgin Olive Oil Small	0.57	0.24	0.10	1.03	0.0174
Bertolli Extra Virgin Olive Oil Small	Crisco Extra Virgin Olive Oil Large	0.55	0.22	0.11	0.99	0.0153
Bertolli Extra Virgin Olive Oil Small	Georgia Olive Farms Extra Virgin Olive Oil	0.50	0.24	0.03	0.97	0.0375
Bertolli Extra Virgin Olive Oil Large	Filippo Berio Organic Extra Virgin Olive Oil	0.48	0.23	0.02	0.94	0.0428
Bertolli Extra Virgin Olive Oil Large	Colvativa Extra Virgin Olive Oil Large	0.46	0.23	0.02	0.91	0.0405
Bertolli Extra Virgin Olive Oil Small	Olivari Mediterranean Extra Virgin Olive Oil Small	0.46	0.23	0.01	0.92	0.0442
Bertolli Extra Virgin Olive Oil Small	Colvativa Extra Virgin Olive Oil Small	0.45	0.22	0.01	0.89	0.0463

Organic Cereal Pairwise Comparisons

Level	Level	Difference	Std Err Dif	Lower CL	Upper CL	p-Value
Pure Vida Organic Cereal	365 Organic Brown Rice Crisps	2.11	0.55	1.03	3.20	0.0002
Pure Vida Organic Cereal	Greenwise Organic Honey Nut	1.59	0.55	0.51	2.67	0.004

Rice Pairwise Comparisons

Level	Level	Difference	Std Err Dif	Lower CL	Upper CL	p-Value
Organic Grains Brown Rice Pilaf	Zatarain's Yellow Rice	2.62	0.30	2.03	3.22	<.0001
Organic Grains Brown Rice Pilaf	Zatarain's Jambayla Mix Family Size	2.51	0.27	1.98	3.04	<.0001
Organic Grains Brown Rice Pilaf	Zatarain's Dirty Rice	2.49	0.31	1.89	3.09	<.0001
Organic Grains Brown Rice Pilaf	Success Basmati Rice	2.41	0.27	1.89	2.93	<.0001
Organic Grains Brown Rice Pilaf	Rice Select Sushi Rice	2.32	0.32	1.70	2.94	<.0001
Organic Grains Brown Rice Pilaf	Rice Select Texmati	2.32	0.31	1.72	2.92	<.0001
Organic Grains Brown Rice Pilaf	Rice Select Arborio Rice	2.31	0.29	1.73	2.88	<.0001
Organic Grains Brown Rice Pilaf	Zatarain's Jambayla Mix	2.28	0.27	1.74	2.82	<.0001
Organic Grains Brown Rice Pilaf	Southern Home Boil-in-Bag	2.18	0.27	1.65	2.71	<.0001
Organic Grains Brown Rice Pilaf	Blue Ribbon Bagged Rice	2.14	0.27	1.61	2.67	<.0001
Lunberg Organic Whole Grain Rice	Zatarain's Yellow Rice	2.01	0.31	1.41	2.62	<.0001
Organic Grains Brown Rice Pilaf	Mahatma Yellow Rice	2.00	0.27	1.47	2.53	<.0001
Organic Grains Brown Rice Pilaf	Southern Home Bagged Rice	2.00	0.28	1.45	2.54	<.0001
Organic Grains Brown Rice Pilaf	Rice Select Texmati Brown Rice	1.99	0.32	1.37	2.61	<.0001
Lunberg Organic Whole Grain Rice	Zatarain's Jambayla Mix Family Size	1.90	0.28	1.36	2.44	<.0001
Lunberg Organic Whole Grain Rice	Zatarain's Dirty Rice	1.88	0.31	1.27	2.49	<.0001
Organic Grains Brown Rice Pilaf	Southern Home Orginial	1.81	0.27	1.27	2.34	<.0001
Lunberg Organic Whole Grain Rice	Success Basmati Rice	1.80	0.27	1.27	2.33	<.0001
365 Organic Rice Pilaf	Zatarain's Yellow Rice	1.80	0.30	1.20	2.40	<.0001
Lunberg Organic Whole Grain Rice	Rice Select Sushi Rice	1.71	0.32	1.08	2.34	<.0001
Lunberg Organic Whole Grain Rice	Rice Select Texmati	1.71	0.31	1.10	2.32	<.0001
Lunberg Organic Whole Grain Rice	Rice Select Arborio Rice	1.70	0.30	1.11	2.28	<.0001
365 Organic Rice Pilaf	Zatarain's Jambayla Mix Family Size	1.69	0.27	1.16	2.23	<.0001
365 Organic Rice Pilaf	Zatarain's Dirty Rice	1.67	0.31	1.06	2.27	<.0001
Lunberg Organic Whole Grain Rice	Zatarain's Jambayla Mix	1.67	0.28	1.12	2.21	<.0001
365 Organic Rice Pilaf	Success Basmati Rice	1.59	0.27	1.07	2.12	<.0001
Lunberg Organic Whole Grain Rice	Southern Home Boil-in-Bag	1.57	0.27	1.03	2.10	<.0001
Lunberg Organic Whole Grain Rice	Blue Ribbon Bagged Rice	1.53	0.27	0.99	2.07	<.0001
365 Organic Rice Pilaf	Rice Select Sushi Rice	1.50	0.32	0.88	2.12	<.0001
365 Organic Rice Pilaf	Rice Select Texmati	1.50	0.31	0.90	2.10	<.0001
Organic Grains Brown Rice Pilaf	Southern Home Long Grain and Wild Rice	1.49	0.27	0.96	2.01	<.0001
365 Organic Rice Pilaf	Rice Select Arborio Rice	1.48	0.29	0.91	2.06	<.0001
365 Organic Rice Pilaf	Zatarain's Jambayla Mix	1.45	0.28	0.91	2.00	<.0001
Lunberg Organic Whole Grain Rice	Mahatma Yellow Rice	1.39	0.27	0.85	1.93	<.0001
Lunberg Organic Whole Grain Rice	Southern Home Bagged Rice	1.39	0.28	0.83	1.94	<.0001
Lunberg Organic Whole Grain Rice	Rice Select Texmati Brown Rice	1.38	0.32	0.75	2.00	<.0001
365 Organic Rice Pilaf	Southern Home Boil-in-Bag	1.36	0.27	0.83	1.89	<.0001
365 Organic Rice Pilaf	Blue Ribbon Bagged Rice	1.32	0.27	0.79	1.85	<.0001
Lunberg Organic Whole Grain Rice	Southern Home Orginial	1.19	0.28	0.65	1.74	<.0001
365 Organic Rice Pilaf	Mahatma Yellow Rice	1.18	0.27	0.65	1.71	<.0001
365 Organic Rice Pilaf	Southern Home Bagged Rice	1.17	0.28	0.63	1.72	<.0001

365 Organic Rice Pilaf	Rice Select Texmati Brown Rice	1.16	0.32	0.54	1.79	0.0003
Southern Home Long Grain and Wild	Zatarain's Yellow Rice	1.14	0.30	0.54	1.73	0.0002
Southern Home Long Grain and Wild	Zatarain's Jambayla Mix Family Size	1.03	0.27	0.49	1.56	0.0002
Southern Home Long Grain and Wild	Zatarain's Dirty Rice	1.00	0.31	0.40	1.61	0.0012
365 Organic Rice Pilaf	Southern Home Orginial	0.98	0.27	0.45	1.52	0.0003
Southern Home Long Grain and Wild	Success Basmati Rice	0.93	0.27	0.40	1.45	0.0005
Lunberg Organic Whole Grain Rice	Southern Home Long Grain and Wild Rice	0.87	0.27	0.34	1.41	0.0013
Southern Home Long Grain and Wild	Rice Select Sushi Rice	0.84	0.32	0.21	1.46	0.0085
Southern Home Long Grain and Wild	Rice Select Texmati	0.84	0.31	0.23	1.44	0.0067
Organic Grains Brown Rice Pilaf	365 Organic Rice Pilaf	0.82	0.27	0.30	1.34	0.0021
Southern Home Long Grain and Wild	Rice Select Arborio Rice	0.82	0.29	0.24	1.40	0.0055
Southern Home Orginial	Zatarain's Yellow Rice	0.82	0.31	0.21	1.42	0.0085
Southern Home Long Grain and Wild	Zatarain's Jambayla Mix	0.79	0.28	0.25	1.33	0.0043
Southern Home Orginial	Zatarain's Jambayla Mix Family Size	0.71	0.28	0.16	1.25	0.0108
Southern Home Long Grain and Wild	Southern Home Boil-in-Bag	0.69	0.27	0.17	1.22	0.0102
Southern Home Orginial	Zatarain's Dirty Rice	0.68	0.31	0.07	1.30	0.029
365 Organic Rice Pilaf	Southern Home Long Grain and Wild Rice	0.66	0.27	0.14	1.19	0.0133
Southern Home Long Grain and Wild	Blue Ribbon Bagged Rice	0.65	0.27	0.12	1.18	0.0159
Rice Select Texmati Brown Rice	Zatarain's Yellow Rice	0.64	0.35	-0.05	1.32	0.0687
Southern Home Bagged Rice	Zatarain's Yellow Rice	0.63	0.31	0.01	1.24	0.0463
Mahatma Yellow Rice	Zatarain's Yellow Rice	0.62	0.31	0.02	1.22	0.0437
Organic Grains Brown Rice Pilaf	Lunberg Organic Whole Grain Rice	0.61	0.27	0.08	1.14	0.0241
Southern Home Orginial	Success Basmati Rice	0.61	0.27	0.07	1.14	0.0257

Ready-to-eat Pasta Pairwise Comparisons

Level	Level	Difference	Std Err Dif	Lower CL	Upper CL	p-Value
Velveeta Cheesy Bowls Lasagna with Meat Sauce	Chef Boyardee Jumbo Spaghetti and Meatballs	1.53	0.57	0.40	2.66	0.0078
Velveeta Cheesy Bowls Lasagna with Meat Sauce	Great Value Spaghetti and Meatballs	1.53	0.54	0.47	2.59	0.0049
Velveeta Cheesy Bowls Lasagna with Meat Sauce	Great Value Pasta Rings and Meatballs	1.50	0.44	0.64	2.37	0.0007
Velveeta Cheesy Bowls Bean and Rice Burrito Bowl	Chef Boyardee Jumbo Spaghetti and Meatballs	1.47	0.57	0.36	2.59	0.0098
Velveeta Cheesy Bowls Bean and Rice Burrito Bowl	Great Value Spaghetti and Meatballs	1.47	0.53	0.42	2.52	0.0062
Velveeta Cheesy Bowls Bean and Rice Burrito Bowl	Great Value Pasta Rings and Meatballs	1.45	0.44	0.59	2.30	0.001
Velveeta Cheesy Bowls Lasagna with Meat Sauce	Campbells Spaghetti and Meatballs	1.43	0.57	0.30	2.56	0.0131
Velveeta Cheesy Bowls Lasagna with Meat Sauce	Campbells Spaghetti Original	1.40	0.57	0.27	2.53	0.0149
Velveeta Cheesy Bowls Lasagna with Meat Sauce	Great Value Mini Beef Ravioli	1.38	0.43	0.54	2.23	0.0014
Barilla Sausage and Tomato Rotini	Chef Boyardee Jumbo Spaghetti and Meatballs	1.38	0.56	0.28	2.48	0.0142
Barilla Sausage and Tomato Rotini	Great Value Spaghetti and Meatballs	1.37	0.53	0.34	2.40	0.0093
Velveeta Cheesy Bowls Bean and Rice Burrito Bowl	Campbells Spaghetti and Meatballs	1.37	0.57	0.25	2.49	0.0163
Velveeta Cheesy Bowls Lasagna with Meat Sauce	Chef Boyardee Lasagna	1.37	0.54	0.31	2.43	0.0115
Pace Ready Meals Cheesy Chicken Quesadilla	Chef Boyardee Jumbo Spaghetti and Meatballs	1.36	0.57	0.25	2.47	0.0163
Pace Ready Meals Cheesy Chicken Quesadilla	Great Value Spaghetti and Meatballs	1.36	0.53	0.31	2.40	0.0109
Barilla Sausage and Tomato Rotini	Great Value Pasta Rings and Meatballs	1.35	0.42	0.52	2.18	0.0015
Velveeta Cheesy Bowls Bean and Rice Burrito Bowl	Campbells Spaghetti Original	1.34	0.57	0.23	2.46	0.0185
Pace Ready Meals Cheesy Chicken Quesadilla	Great Value Pasta Rings and Meatballs	1.33	0.43	0.49	2.18	0.0021
Velveeta Cheesy Bowls Bean and Rice Burrito Bowl	Great Value Mini Beef Ravioli	1.32	0.42	0.49	2.16	0.0019
Velveeta Cheesy Bowls Bean and Rice Burrito Bowl	Chef Boyardee Lasagna	1.31	0.53	0.26	2.36	0.0145
Velveeta Cheesy Bowls Lasagna with Meat Sauce	Chef Boyardee Burger Macaroni	1.28	0.68	-0.06	2.62	0.0602
Barilla Sausage and Tomato Rotini	Campbells Spaghetti and Meatballs	1.28	0.56	0.17	2.38	0.0233
Barilla Meat Sauce Gemelli	Chef Boyardee Jumbo Spaghetti and Meatballs	1.27	0.56	0.16	2.37	0.0253
Pace Ready Meals Cheesy Chicken Quesadilla	Campbells Spaghetti and Meatballs	1.26	0.57	0.15	2.37	0.0264
Barilla Meat Sauce Gemelli	Great Value Spaghetti and Meatballs	1.26	0.53	0.22	2.30	0.0178
Barilla Sausage and Tomato Rotini	Campbells Spaghetti Original	1.25	0.56	0.15	2.35	0.0263
Barilla Meat Sauce Gemelli	Great Value Pasta Rings and Meatballs	1.24	0.43	0.39	2.08	0.0041
Pace Ready Meals Cheesy Chicken Quesadilla	Campbells Spaghetti Original	1.23	0.57	0.12	2.34	0.0297
Barilla Sausage and Tomato Rotini	Great Value Mini Beef Ravioli	1.23	0.41	0.42	2.04	0.003
Velveeta Cheesy Bowls Lasagna with Meat Sauce	Chef Boyardee Spaghetti and Meatbals small	1.23	0.54	0.17	2.29	0.0236
Velveeta Cheesy Bowls Lasagna with Meat Sauce	Chef Boyardee Pasta in Tomato Sauce Super Hero	1.22	0.40	0.45	2.00	0.0021
Pace Ready Meals Santa Fe Style Steak	Chef Boyardee Jumbo Spaghetti and Meatballs	1.22	0.56	0.12	2.32	0.0303
Velveeta Cheesy Bowls Lasagna with Meat Sauce	Great Value Macaroni and Beef	1.22	0.46	0.32	2.11	0.0079
Barilla Sausage and Tomato Rotini	Chef Boyardee Lasagna	1.21	0.53	0.18	2.25	0.0211
Pace Ready Meals Cheesy Chicken Quesadilla	Great Value Mini Beef Ravioli	1.21	0.42	0.39	2.04	0.004
Pace Ready Meals Santa Fe Style Steak	Great Value Spaghetti and Meatballs	1.21	0.53	0.18	2.25	0.0216
Velveeta Cheesy Bowls Lasagna with Meat Sauce	Chef Boyardee Beef Ravioli	1.20	0.62	-0.02	2.42	0.0534
Pace Ready Meals Cheesy Chicken Quesadilla	Chef Boyardee Lasagna	1.20	0.53	0.16	2.24	0.0243
Pace Ready Meals Santa Fe Style Steak	Great Value Pasta Rings and Meatballs	1.19	0.43	0.36	2.03	0.0053
Velveeta Cheesy Bowls Buffalo Style Chicken Mac	Chef Boyardee Jumbo Spaghetti and Meatballs	1.18	0.57	0.06	2.30	0.0388
Velveeta Cheesy Bowls Buffalo Style Chicken Mac	Great Value Spaghetti and Meatballs	1.18	0.54	0.12	2.23	0.0288
Velveeta Cheesy Bowls Bean and Rice Burrito Bowl	Chef Boyardee Spaghetti and Meatbals small	1.17	0.53	0.12	2.22	0.0293
Velveeta Cheesy Bowls Bean and Rice Burrito Bowl	Chef Boyardee Pasta in Tomato Sauce Super Hero	1.17	0.39	0.40	1.93	0.0028
Velveeta Cheesy Bowls Chicken Chili Cheese Mac	Chef Boyardee Jumbo Spaghetti and Meatballs	1.16	0.57	0.05	2.28	0.0405
Barilla Meat Sauce Gemelli	Campbells Spaghetti and Meatballs	1.16	0.56	0.05	2.27	0.0399
Velveeta Cheesy Bowls Chicken Chili Cheese Mac	Great Value Spaghetti and Meatballs	1.16	0.53	0.11	2.20	0.0301
Velveeta Cheesy Bowls Bean and Rice Burrito Bowl	Great Value Macaroni and Beef	1.16	0.45	0.27	2.04	0.0103
Velveeta Cheesy Bowls Buffalo Style Chicken Mac	Great Value Pasta Rings and Meatballs	1.15	0.44	0.29	2.01	0.0086

Velveeta Cheesy Bowls Lasagna with Meat Sauce	Chef Boyardee Beefaroni	1.14	0.49	0.17	2.10	0.0209
Velveeta Cheesy Bowls Chicken Chili Cheese Mac	Great Value Pasta Rings and Meatballs	1.14	0.43	0.29	1.99	0.009
Barilla Meat Sauce Gemelli	Campbells Spaghetti Original	1.14	0.56	0.03	2.24	0.0446
Velveeta Cheesy Bowls Lasagna with Meat Sauce	Chef Boyardee Mini ABC's and 123's with meatballs	1.14	0.40	0.34	1.93	0.005
Pace Ready Meals Santa Fe Style Steak	Campbells Spaghetti and Meatballs	1.12	0.56	0.01	2.22	0.0473
Barilla Meat Sauce Gemelli	Great Value Mini Beef Ravioli	1.12	0.42	0.30	1.94	0.0077
Pace Ready Meals Southwest Style Mac and Cheese	Chef Boyardee Jumbo Spaghetti and Meatballs	1.11	0.57	-0.01	2.24	0.0513
Pace Ready Meals Southwest Style Mac and Cheese	Great Value Spaghetti and Meatballs	1.11	0.54	0.05	2.16	0.0393
Barilla Meat Sauce Gemelli	Chef Boyardee Lasagna	1.10	0.53	0.06	2.14	0.0379
Pace Ready Meals Southwest Style Mac and Cheese	Great Value Pasta Rings and Meatballs	1.09	0.44	0.23	1.95	0.0134
Velveeta Cheesy Bowls Bean and Rice Burrito Bowl	Chef Boyardee Beefaroni	1.08	0.48	0.13	2.03	0.0264
Velveeta Cheesy Bowls Bean and Rice Burrito Bowl	Chef Boyardee Mini ABC's and 123's with meatballs	1.08	0.39	0.30	1.85	0.0066
Barilla Sausage and Tomato Rotini	Chef Boyardee Spaghetti and Meatbals small	1.07	0.53	0.04	2.10	0.0418
Pace Ready Meals Santa Fe Style Steak	Great Value Mini Beef Ravioli	1.07	0.41	0.26	1.88	0.0099
Barilla Sausage and Tomato Rotini	Chef Boyardee Pasta in Tomato Sauce Super Hero	1.07	0.37	0.33	1.81	0.0045
Velveeta Cheesy Bowls Lasagna with Meat Sauce	Great Value Beef Ravioli	1.07	0.49	0.10	2.03	0.03
Barilla Sausage and Tomato Rotini	Great Value Macaroni and Beef	1.06	0.44	0.20	1.92	0.0158
Pace Ready Meals Cheesy Chicken Quesadilla	Chef Boyardee Spaghetti and Meatbals small	1.06	0.53	0.01	2.10	0.0472
Pace Ready Meals Santa Fe Style Steak	Chef Boyardee Lasagna	1.06	0.53	0.02	2.09	0.0454
Pace Ready Meals Cheesy Chicken Quesadilla	Chef Boyardee Pasta in Tomato Sauce Super Hero	1.05	0.38	0.30	1.81	0.0061
Pace Ready Meals Cheesy Chicken Quesadilla	Great Value Macaroni and Beef	1.05	0.45	0.17	1.92	0.0192
Velveeta Cheesy Bowls Lasagna with Meat Sauce	Chef Boyardee Beefaroni Small	1.04	0.40	0.26	1.82	0.0088
Velveeta Cheesy Bowls Buffalo Style Chicken Mac	Great Value Mini Beef Ravioli	1.03	0.43	0.20	1.87	0.0156
Velveeta Cheesy Bowls Chicken Chili Cheese Mac	Great Value Mini Beef Ravioli	1.01	0.42	0.19	1.84	0.0163
Velveeta Cheesy Bowls Bean and Rice Burrito Bowl	Great Value Beef Ravioli	1.01	0.48	0.06	1.96	0.0376
Barilla Sausage and Tomato Rotini	Chef Boyardee Beefaroni	0.98	0.47	0.05	1.91	0.0388
Barilla Sausage and Tomato Rotini	Chef Boyardee Mini ABC's and 123's with meatballs	0.98	0.38	0.23	1.73	0.0106
Velveeta Cheesy Bowls Bean and Rice Burrito Bowl	Chef Boyardee Beefaroni Small	0.98	0.39	0.22	1.74	0.0117
Pace Ready Meals Cheesy Chicken Quesadilla	Chef Boyardee Beefaroni	0.97	0.48	0.02	1.91	0.0447
Velveeta Cheesy Bowls Bacon Mac and Cheese	Great Value Pasta Rings and Meatballs	0.97	0.43	0.13	1.80	0.0235
Pace Ready Meals Cheesy Chicken Quesadilla	Chef Boyardee Mini ABC's and 123's with meatballs	0.97	0.39	0.20	1.73	0.0137
Pace Ready Meals Southwest Style Mac and Cheese	Great Value Mini Beef Ravioli	0.96	0.43	0.13	1.80	0.0239
Barilla Meat Sauce Gemelli	Chef Boyardee Pasta in Tomato Sauce Super Hero	0.96	0.38	0.21	1.70	0.0122
Velveeta Cheesy Bowls Chicken Alfredo	Great Value Pasta Rings and Meatballs	0.94	0.43	0.09	1.78	0.0301
Barilla Meat Sauce Gemelli	Great Value Macaroni and Beef	0.95	0.44	0.08	1.82	0.0329

Seasoned Breading Pairwise Comparisons

Level	Level	Difference	Std Err Dif	Lower CL	Upper CL	p-Value
House Autry Chicken Seasoned Breading Mix	Zatarain's Fish Fry	1.46	0.36	0.76	2.16	<.0001
House Autry Chicken Seasoned Breading Mix	MCC Fish Fry Seafood Fry Mix	1.44	0.39	0.68	2.20	0.0002
House Autry Chicken Seasoned Breading Mix	French's Chitpotle BBQ Coating Mix	1.28	0.39	0.52	2.04	0.001
House Autry Chicken Seasoned Breading Mix	Zatarain's All Purpose Batter	1.26	0.34	0.58	1.93	0.0003
House Autry Chicken Seasoned Breading Mix	House Autry Seafood Seasoned Breading Mix	1.25	0.34	0.57	1.93	0.0003
House Autry Chicken Seasoned Breading Mix	House Autry Chicken Fried Steak Breading Mix	1.20	0.34	0.52	1.87	0.0005
House Autry Chicken Seasoned Breading Mix	MCC Beer Batter Seasoned Batter Mix	1.19	0.35	0.51	1.87	0.0007
House Autry Chicken Seasoned Breading Mix	MCC Cajun Seafood Fry Mix	1.13	0.36	0.43	1.83	0.0016
House Autry Chicken Seasoned Breading Mix	House Autry Oven Baked GF Extra Crispy Pork Seasoned Coating Mix	1.12	0.37	0.39	1.85	0.0026
House Autry Chicken Seasoned Breading Mix	French's Buffalo Coating Mix	1.10	0.36	0.40	1.81	0.0021
Lawry's Seasoned Crispy Oven Bake Homestyle Chicken	Zatarain's Fish Fry	1.06	0.34	0.40	1.73	0.0018
House Autry Chicken Seasoned Breading Mix	Great Value Seasoning and Coating Mix Pork	1.06	0.33	0.40	1.72	0.0016
House Autry Chicken Seasoned Breading Mix	House Autry Pork Seasoned Breading Mix	1.05	0.34	0.37	1.72	0.0024
Lawry's Seasoned Crispy Oven Bake Homestyle Chicken	MCC Fish Fry Seafood Fry Mix	1.05	0.37	0.32	1.77	0.0049
Shake 'n Bake Parmesan Crusted Seasoned Coating Mix	Zatarain's Fish Fry	1.03	0.33	0.37	1.69	0.0021
House Autry Chicken Seasoned Breading Mix	4C Panko	1.02	0.38	0.28	1.76	0.0067
Shake 'n Bake Parmesan Crusted Seasoned Coating Mix	MCC Fish Fry Seafood Fry Mix	1.01	0.37	0.29	1.73	0.006
Oven Fry Extra Crispy Chicken Seasoned Coating Mix	Zatarain's Fish Fry	1.01	0.34	0.34	1.67	0.0029
House Autry Chicken Seasoned Breading Mix	Shake 'n Bake Original Pork Seasoned Coating Mix	1.00	0.33	0.35	1.66	0.0028
Oven Fry Extra Crispy Chicken Seasoned Coating Mix	MCC Fish Fry Seafood Fry Mix	0.99	0.37	0.26	1.71	0.0076
Shake 'n Bake Crispy Buffalo Seasoned Coating Mix	Zatarain's Fish Fry	0.97	0.34	0.30	1.63	0.0042
Shake 'n Bake Crispy Buffalo Seasoned Coating Mix	MCC Fish Fry Seafood Fry Mix	0.95	0.37	0.22	1.67	0.0104
House Autry Chicken Seasoned Breading Mix	4C Plain	0.94	0.41	0.13	1.75	0.0228
House Autry Chicken Seasoned Breading Mix	Kikkoman Panko Bread Crumbs	0.89	0.34	0.21	1.56	0.0102
Lawry's Seasoned Crispy Oven Bake Homestyle Chicken	French's Chitpotle BBQ Coating Mix	*0.89*	*0.37*	*0.16*	1.61	0.0172
Lawry's Seasoned Crispy Oven Bake Homestyle Chicken	Zatarain's All Purpose Batter	0.86	0.32	0.22	1.50	0.0081
Lawry's Seasoned Crispy Oven Bake Homestyle Chicken	House Autry Seafood Seasoned Breading Mix	0.86	0.32	0.22	1.49	0.0086
Shake 'n Bake Parmesan Crusted Seasoned Coating Mix	French's Chitpotle BBQ Coating Mix	0.85	0.37	0.13	1.57	0.0206

Shake 'n Bake Extra Crispt Seasoned Coating Mix	Zatarain's Fish Fry	0.84	0.37	0.12	1.56	0.0226
House Autry Chicken Seasoned Breading Mix	Oven Fry Extra Crispy Pork Seasoned Coating Mix	0.83	0.33	0.18	1.49	0.0121
Shake 'n Bake Parmesan Crusted Seasoned Coating Mix	Zatarain's All Purpose Batter	0.83	0.32	0.20	1.45	0.0099
Oven Fry Extra Crispy Chicken Seasoned Coating Mix	French's Chitpotle BBQ Coating Mix	0.83	0.37	0.10	1.55	0.0253
Shake 'n Bake Parmesan Crusted Seasoned Coating Mix	House Autry Seafood Seasoned Breading Mix	0.82	0.32	0.19	1.45	0.0104
House Autry Chicken Seasoned Breading Mix	House Autry One-Step Baking Tray Chicken Seasoned Coating Mix	0.82	0.34	0.15	1.49	0.0167
Shake 'n Bake Extra Crispt Seasoned Coating Mix	MCC Fish Fry Seafood Fry Mix	0.82	0.40	0.04	1.60	0.0392
Great Value Seasoning and Coating Mix Chicken	Zatarain's Fish Fry	0.81	0.33	0.16	1.46	0.0148
Oven Fry Extra Crispy Chicken Seasoned Coating Mix	Zatarain's All Purpose Batter	0.80	0.32	0.17	1.43	0.0129
Lawry's Seasoned Crispy Oven Bake Homestyle Chicken	House Autry Chicken Fried Steak Breading Mix	0.80	0.32	0.16	1.44	0.0137
Progresso Lemon Pepper Panko Bread Crumbs	Zatarain's Fish Fry	0.80	0.37	0.08	1.52	0.0296
Oven Fry Extra Crispy Chicken Seasoned Coating Mix	House Autry Seafood Seasoned Breading Mix	0.80	0.32	0.16	1.43	0.0136
Lawry's Seasoned Crispy Oven Bake Homestyle Chicken	MCC Beer Batter Seasoned Batter Mix	0.79	0.33	0.15	1.44	0.0158
Great Value Seasoning and Coating Mix Chicken	MCC Fish Fry Seafood Fry Mix	0.79	0.36	0.08	1.51	0.0301
Shake 'n Bake Crispy Buffalo Seasoned Coating Mix	French's Chitpotle BBQ Coating Mix	0.79	0.37	0.06	1.51	0.0332
Progresso Lemon Pepper Panko Bread Crumbs	MCC Fish Fry Seafood Fry Mix	0.78	0.40	0.00	1.56	0.0493
House Autry Chicken Seasoned Breading Mix	Zatarain's Chicken Frying Mix	0.78	0.34	0.10	1.45	0.0241
Shake 'n Bake Parmesan Crusted Seasoned Coating Mix	House Autry Chicken Fried Steak Breading Mix	0.77	0.32	0.14	1.39	0.0166
Shake 'n Bake Crispy Buffalo Seasoned Coating Mix	Zatarain's All Purpose Batter	0.76	0.32	0.13	1.39	0.0182
Shake 'n Bake Parmesan Crusted Seasoned Coating Mix	MCC Beer Batter Seasoned Batter Mix	0.76	0.32	0.12	1.39	0.0191
Shake 'n Bake Crispy Buffalo Seasoned Coating Mix	House Autry Seafood Seasoned Breading Mix	0.76	0.32	0.12	1.39	0.0191
Progresso Plain Panko Bread Crumbs	Zatarain's Fish Fry	0.76	0.36	0.05	1.47	0.0372
Oven Fry Extra Crispy Chicken Seasoned Coating Mix	House Autry Chicken Fried Steak Breading Mix	0.74	0.32	0.11	1.38	0.0213
House Autry Oven Baked GF Extra Crispy Chicken Seasoned C	Zatarain's Fish Fry	0.74	0.36	0.03	1.45	0.0405
Lawry's Seasoned Crispy Oven Bake Homestyle Chicken	MCC Cajun Seafood Fry Mix	0.74	0.34	0.07	1.40	0.03
Shake 'n Bake Original Chicken	Zatarain's Fish Fry	0.74	0.34	0.07	1.40	0.0304
Oven Fry Extra Crispy Chicken Seasoned Coating Mix	MCC Beer Batter Seasoned Batter Mix	0.73	0.33	0.10	1.37	0.0243
House Autry Chicken Seasoned Breading Mix	Shake 'n Bake Ranch and Herb Seasoned Coating Mix	0.73	0.34	0.07	1.40	0.0312
Lawry's Seasoned Crispy Oven Bake Homestyle Chicken	House Autry Oven Baked GF Extra Crispy Pork Seasoned Coating M	0.73	0.35	0.04	1.42	0.0394
Shake 'n Bake Ranch and Herb Seasoned Coating Mix	Zatarain's Fish Fry	0.73	0.34	0.06	1.39	0.0322
House Autry Chicken Seasoned Breading Mix	Shake 'n Bake Original Chicken	0.72	0.34	0.06	1.39	0.033
House Autry Chicken Seasoned Breading Mix	House Autry Oven Baked GF Extra Crispy Chicken Seasoned Coating	0.72	0.36	0.01	1.43	0.0483
Lawry's Seasoned Crispy Oven Bake Homestyle Chicken	French's Buffalo Coating Mix	0.71	0.34	0.04	1.37	0.0367
Shake 'n Bake Crispy Buffalo Seasoned Coating Mix	House Autry Chicken Fried Steak Breading Mix	0.70	0.32	0.07	1.34	0.0293
Shake 'n Bake Parmesan Crusted Seasoned Coating Mix	MCC Cajun Seafood Fry Mix	0.70	0.33	0.05	1.36	0.0359
Shake 'n Bake Crispy Buffalo Seasoned Coating Mix	MCC Beer Batter Seasoned Batter Mix	0.69	0.33	0.06	1.33	0.0331
Shake 'n Bake Parmesan Crusted Seasoned Coating Mix	House Autry Oven Baked GF Extra Crispy Pork Seasoned Coating M	0.69	0.35	0.01	1.38	0.0469
Zatarain's Chicken Frying Mix	Zatarain's Fish Fry	0.68	0.34	0.00	1.36	0.0486
Oven Fry Extra Crispy Chicken Seasoned Coating Mix	MCC Cajun Seafood Fry Mix	0.68	0.34	0.02	1.34	0.0442
Shake 'n Bake Parmesan Crusted Seasoned Coating Mix	French's Buffalo Coating Mix	0.67	0.33	0.02	1.33	0.0439
Lawry's Seasoned Crispy Oven Bake Homestyle Chicken	Great Value Seasoning and Coating Mix Pork	0.66	0.31	0.05	1.28	0.0344
Lawry's Seasoned Crispy Oven Bake Homestyle Chicken	House Autry Pork Seasoned Breading Mix	0.65	0.32	0.02	1.29	0.0448
Shake 'n Bake Parmesan Crusted Seasoned Coating Mix	Great Value Seasoning and Coating Mix Pork	0.63	0.31	0.02	1.23	0.0415

Snack Bar Pairwise Comparisons

Level	Level	Difference	Std Err Dif	Lower CL	Upper CL	p-Value
Zone Pefect Choc Almond Raisin	Nature Valley Soft Baked Oatmeal Peanut Butter	1.64	0.32	1.00	2.27	<.0001
Zone Pefect Choc Almond Raisin	Nature Valley Soft Baked Oatmeal Banana Bread and Dark Choc	1.64	0.35	0.94	2.34	<.0001
Zone Pefect Choc Almond Raisin	Nature Valley Chewy Trail Mix Dark Choc Cherry	1.61	0.32	0.97	2.24	<.0001
Zone Pefect Choc Almond Raisin	Atkins Caramel Double Choc Crunch Bar	1.58	0.32	0.94	2.21	<.0001
Zone Pefect Choc Almond Raisin	Clif Bar Nut Butter Filled Energy Bar Choc Peanut Butter	1.54	0.32	0.90	2.18	<.0001
Zone Pefect Choc Almond Raisin	Special K Chewy Nut Bars Cranberry Almond	1.52	0.32	0.88	2.15	<.0001
Zone Pefect Choc Almond Raisin	Nature Valley Soft Baked Oatmeal Cinnamon Brown Sugar	1.51	0.32	0.88	2.15	<.0001
Zone Pefect Choc Almond Raisin	Special K Chewy Snack Bars Berry Medley	1.51	0.32	0.88	2.15	<.0001
Zone Pefect Choc Almond Raisin	Special K Protein Meal Bar Choc Chip	1.47	0.32	0.85	2.10	<.0001
Zone Pefect Choc Almond Raisin	Kind Breakfast Dark Chocolate Cocoa	1.44	0.32	0.82	2.07	<.0001
Zone Pefect Choc Almond Raisin	Kind Breakfast Peanut Butter	1.43	0.32	0.80	2.07	<.0001
Zone Pefect Choc Almond Raisin	Cascadian Farms Protein Peanut Butter Choc Chip	1.42	0.32	0.79	2.06	<.0001
Zone Pefect Choc Almond Raisin	Fiber One Protein Caramel Nut	1.42	0.32	0.79	2.06	<.0001
Zone Pefect Choc Almond Raisin	Annie's Organic Chewy Oatmeal Raisin	1.41	0.32	0.77	2.04	<.0001
Zone Pefect Choc Almond Raisin	Nature Valley Protein Coconut Almond	1.37	0.32	0.74	2.01	<.0001
Zone Pefect Choc Almond Raisin	Nature Valley Protein Salted Caramel Nut	1.37	0.35	0.69	2.04	<.0001
Zone Pefect Choc Almond Raisin	Fiber One Protein Coconut Almond	1.36	0.32	0.74	1.99	<.0001
Zone Pefect Choc Almond Raisin	Special K Protein Meal Bar Choc Peanut Butter	1.36	0.32	0.73	2.00	<.0001
Zone Pefect Choc Almond Raisin	Nature Valley Crunchy Granola Peanut Butter	1.35	0.32	0.71	1.98	<.0001
Zone Pefect Choc Almond Raisin	Nature Valley Crunchy Granola Oats and Dark Choc	1.34	0.33	0.69	1.99	<.0001
Zone Pefect Choc Almond Raisin	Kind Breakfast Blueberry Almond	1.33	0.32	0.70	1.97	<.0001
Zone Pefect Choc Almond Raisin	Jif Bars Crunchy Peanut Butter	1.33	0.32	0.69	1.96	<.0001
Zone Pefect Choc Almond Raisin	Clif Bar Choc Chip	1.32	0.32	0.68	1.96	<.0001
Zone Pefect Choc Almond Raisin	Special K Protein Trail Mix Bars Fruit & Nut	1.32	0.32	0.68	1.95	<.0001

Zone Pefect Choc Almond Raisin	Atkins Triple Choc Bar	1.31	0.32	0.67	1.94	<.0001
Zone Pefect Choc Almond Raisin	Fiber One Chewy Oats and Choc	1.31	0.32	0.67	1.94	<.0001
Kind Healthy Grains Vanilla Blueberry	Nature Valley Soft Baked Oatmeal Peanut Butter	1.30	0.32	0.67	1.94	<.0001
Kind Healthy Grains Vanilla Blueberry	Nature Valley Soft Baked Oatmeal Banana Bread and Dark Choc	1.30	0.35	0.61	2.00	0.0003
Zone Pefect Choc Almond Raisin	Cascadian Farms Vanilla Chip	1.30	0.32	0.67	1.94	<.0001
Zone Pefect Choc Almond Raisin	Southern Home Chewy Granola	1.30	0.32	0.66	1.94	<.0001
Kind Healthy Grains Vanilla Blueberry	Nature Valley Chewy Trail Mix Dark Choc Cherry	1.27	0.32	0.64	1.91	<.0001
Zone Pefect Choc Almond Raisin	Clif Bar Nut Butter Filled Energy Bar Peanut Butter	1.27	0.32	0.63	1.90	0.0001
Zone Pefect Choc Almond Raisin	Nature Valley Protein Peanut Butter Dark Choc	1.27	0.35	0.59	1.94	0.0003
Zone Pefect Choc Almond Raisin	Nature Valley Granola Cups Peanut Butter Choc	1.25	0.32	0.62	1.89	0.0001
Kind Healthy Grains Vanilla Blueberry	Atkins Caramel Double Choc Crunch Bar	1.24	0.32	0.61	1.88	0.0001
Zone Pefect Choc Almond Raisin	Special K Protein Trail Mix Bars Choc Peanut Pecan	1.24	0.32	0.61	1.88	0.0001
Zone Pefect Choc Almond Raisin	Special K Protein Meal Bar Choc Dipped Mint	1.22	0.32	0.59	1.84	0.0001
Zone Pefect Choc Almond Raisin	Nature Valley XL Bar Pretzel Peanut Choc	1.21	0.32	0.58	1.85	0.0002
Kind Healthy Grains Vanilla Blueberry	Clif Bar Nut Butter Filled Energy Bar Choc Peanut Butter	1.21	0.32	0.57	1.84	0.0002
Zone Pefect Choc Almond Raisin	NutriGrain Apple Cinnamon	1.20	0.32	0.57	1.82	0.0002
Zone Pefect Choc Almond Raisin	Clif Bar Crunchy Peanut Butter	1.19	0.32	0.56	1.83	0.0003
Kind Healthy Grains Vanilla Blueberry	Special K Chewy Nut Bars Cranberry Almond	1.18	0.32	0.55	1.82	0.0003
Zone Pefect Choc Almond Raisin	Nature Valley XL Bar Choc Nut and Seed	1.18	0.33	0.53	1.83	0.0004
Kind Healthy Grains Vanilla Blueberry	Nature Valley Soft Baked Oatmeal Cinnamon Brown Sugar	1.18	0.32	0.54	1.82	0.0003
Kind Healthy Grains Vanilla Blueberry	Special K Chewy Snack Bars Berry Medley	1.18	0.32	0.54	1.81	0.0003
Kind Healthy Grains Vanilla Blueberry	Special K Protein Meal Bar Choc Chip	1.14	0.32	0.51	1.77	0.0004
Special K Protein Meal Bar Strawberry	Nature Valley Soft Baked Oatmeal Peanut Butter	1.13	0.32	0.49	1.76	0.0005
Special K Protein Meal Bar Strawberry	Nature Valley Soft Baked Oatmeal Banana Bread and Dark Choc	1.13	0.35	0.43	1.82	0.0016
Kind Healthy Grains Vanilla Blueberry	Kind Breakfast Dark Chocolate Cocoa	1.11	0.32	0.48	1.73	0.0005
Kind Healthy Grains Vanilla Blueberry	Kind Breakfast Peanut Butter	1.10	0.32	0.46	1.74	0.0007
Zone Pefect Choc Almond Raisin	Special K Protein Meal Bar Double Choc	1.10	0.32	0.46	1.73	0.0008
Special K Protein Meal Bar Strawberry	Nature Valley Chewy Trail Mix Dark Choc Cherry	1.09	0.32	0.46	1.73	0.0008
Kind Healthy Grains Vanilla Blueberry	Cascadian Farms Protein Peanut Butter Choc Chip	1.09	0.32	0.45	1.73	0.0008
Kind Healthy Grains Vanilla Blueberry	Fiber One Protein Caramel Nut	1.09	0.32	0.45	1.73	0.0008
Kind Healthy Grains Vanilla Blueberry	Annie's Organic Chewy Oatmeal Raisin	1.07	0.32	0.44	1.71	0.001
Zone Pefect Choc Almond Raisin	Kind Healthy Grains Dark Choc Mocha	1.07	0.32	0.43	1.70	0.001
Special K Protein Meal Bar Strawberry	Atkins Caramel Double Choc Crunch Bar	1.07	0.32	0.43	1.70	0.0011
Kind Healthy Grains Vanilla Blueberry	Nature Valley Protein Coconut Almond	1.04	0.32	0.40	1.68	0.0014
Kind Healthy Grains Vanilla Blueberry	Nature Valley Protein Salted Caramel Nut	1.03	0.35	0.35	1.71	0.0029
Kind Healthy Grains Vanilla Blueberry	Fiber One Protein Coconut Almond	1.03	0.32	0.40	1.65	0.0013
Kind Healthy Grains Vanilla Blueberry	Special K Protein Meal Bar Choc Peanut Butter	1.03	0.32	0.39	1.66	0.0016
Special K Protein Meal Bar Strawberry	Clif Bar Nut Butter Filled Energy Bar Choc Peanut Butter	1.03	0.32	0.39	1.66	0.0016
Kind Healthy Grains Vanilla Blueberry	Nature Valley Crunchy Granola Peanut Butter	1.01	0.32	0.38	1.65	0.0018
Zone Pefect Choc Almond Raisin	Nature Valley Protein Honey Peanut Almond	1.01	0.32	0.38	1.65	0.0019
Kind Healthy Grains Vanilla Blueberry	Nature Valley Crunchy Granola Oats and Dark Choc	1.01	0.33	0.36	1.65	0.0024
Special K Protein Meal Bar Strawberry	Special K Chewy Nut Bars Cranberry Almond	1.00	0.32	0.37	1.64	0.002
Special K Protein Meal Bar Strawberry	Nature Valley Soft Baked Oatmeal Cinnamon Brown Sugar	1.00	0.32	0.37	1.64	0.0021
Special K Protein Meal Bar Strawberry	Special K Chewy Snack Bars Berry Medley	1.00	0.32	0.36	1.64	0.0021
Kind Healthy Grains Vanilla Blueberry	Kind Breakfast Blueberry Almond	1.00	0.32	0.36	1.64	0.0021
Kind Healthy Grains Vanilla Blueberry	Jif Bars Crunchy Peanut Butter	0.99	0.32	0.36	1.63	0.0023
Kind Healthy Grains Vanilla Blueberry	Clif Bar Choc Chip	0.99	0.32	0.35	1.62	0.0024
Kind Healthy Grains Vanilla Blueberry	Special K Protein Trail Mix Bars Fruit & Nut	0.98	0.32	0.35	1.62	0.0025
Zone Pefect Choc Almond Raisin	Nature Valley Granola Cups Amond Butter	0.98	0.32	0.34	1.61	0.0026
Kind Healthy Grains Vanilla Blueberry	Atkins Triple Choc Bar	0.97	0.32	0.34	1.61	0.0027
Kind Healthy Grains Vanilla Blueberry	Fiber One Chewy Oats and Choc	0.97	0.32	0.34	1.61	0.0027
Kind Healthy Grains Vanilla Blueberry	Cascadian Farms Vanilla Chip	0.97	0.32	0.33	1.60	0.0029
Kind Healthy Grains Vanilla Blueberry	Southern Home Chewy Granola	0.97	0.32	0.33	1.60	0.003
Special K Protein Meal Bar Strawberry	Special K Protein Meal Bar Choc Chip	0.96	0.32	0.34	1.59	0.0027
Zone Pefect Choc Almond Raisin	Jif Bars Peanut Butter and Choc	0.95	0.32	0.31	1.58	0.0036
Kind Healthy Grains Salted Caramel	Nature Valley Soft Baked Oatmeal Peanut Butter	0.94	0.32	0.30	1.57	0.0039
Kind Healthy Grains Salted Caramel	Nature Valley Soft Baked Oatmeal Banana Bread and Dark Choc	0.94	0.35	0.24	1.64	0.0084
Kind Healthy Grains Vanilla Blueberry	Clif Bar Nut Butter Filled Energy Bar Peanut Butter	0.93	0.32	0.30	1.57	0.0041
Kind Healthy Grains Vanilla Blueberry	Nature Valley Protein Peanut Butter Dark Choc	0.93	0.35	0.25	1.61	0.0071
Special K Protein Meal Bar Strawberry	Kind Breakfast Dark Chocolate Cocoa	0.93	0.32	0.30	1.56	0.0036
Special K Protein Meal Bar Strawberry	Kind Breakfast Peanut Butter	0.92	0.32	0.29	1.56	0.0046
Kind Healthy Grains Vanilla Blueberry	Nature Valley Granola Cups Peanut Butter Choc	0.92	0.32	0.28	1.56	0.0047
Special K Protein Meal Bar Strawberry	Cascadian Farms Protein Peanut Butter Choc Chip	0.91	0.32	0.28	1.55	0.0051
Special K Protein Meal Bar Strawberry	Fiber One Protein Caramel Nut	0.91	0.32	0.28	1.55	0.0051
Kind Healthy Grains Vanilla Blueberry	Special K Protein Trail Mix Bars Choc Peanut Pecan	0.91	0.32	0.27	1.54	0.0052
Kind Healthy Grains Salted Caramel	Nature Valley Chewy Trail Mix Dark Choc Cherry	0.91	0.32	0.27	1.54	0.0053

Special K Protein Meal Bar Strawberry	Annie's Organic Chewy Oatmeal Raisin	0.89	0.32	0.26	1.53	0.006
Kind Healthy Grains Vanilla Blueberry	Special K Protein Meal Bar Choc Dipped Mint	0.88	0.32	0.26	1.51	0.0056
Kind Healthy Grains Salted Caramel	Atkins Caramel Double Choc Crunch Bar	0.88	0.32	0.24	1.51	0.0069
Kind Healthy Grains Vanilla Blueberry	Nature Valley XL Bar Pretzel Peanut Choc	0.88	0.32	0.24	1.51	0.0069
Kind Healthy Grains Vanilla Blueberry	NutriGrain Apple Cinnamon	0.86	0.32	0.24	1.49	0.0068
Special K Protein Meal Bar Strawberry	Nature Valley Protein Coconut Almond	0.86	0.32	0.23	1.50	0.008
Kind Healthy Grains Vanilla Blueberry	Clif Bar Crunchy Peanut Butter	0.86	0.32	0.22	1.49	0.0083
Special K Protein Meal Bar Strawberry	Nature Valley Protein Salted Caramel Nut	0.85	0.35	0.18	1.53	0.0137
Special K Protein Meal Bar Strawberry	Fiber One Protein Coconut Almond	0.85	0.32	0.22	1.48	0.0078
Special K Protein Meal Bar Strawberry	Special K Protein Meal Bar Choc Peanut Butter	0.85	0.32	0.21	1.48	0.009
Kind Healthy Grains Vanilla Blueberry	Nature Valley XL Bar Choc Nut and Seed	0.85	0.33	0.20	1.50	0.0104
Kind Healthy Grains Salted Caramel	Clif Bar Nut Butter Filled Energy Bar Choc Peanut Butter	0.84	0.32	0.20	1.48	0.0097
Nature Valley Crunchy Granola Cinnamon	Nature Valley Soft Baked Oatmeal Peanut Butter	0.84	0.32	0.20	1.47	0.0099
Nature Valley Crunchy Granola Cinnamon	Nature Valley Soft Baked Oatmeal Banana Bread and Dark Choc	0.84	0.35	0.14	1.54	0.0184
Special K Protein Meal Bar Strawberry	Nature Valley Crunchy Granola Peanut Butter	0.84	0.32	0.20	1.47	0.0101
Special K Protein Meal Bar Strawberry	Nature Valley Crunchy Granola Oats and Dark Choc	0.83	0.33	0.18	1.48	0.0124
Special K Protein Meal Bar Strawberry	Kind Breakfast Blueberry Almond	0.82	0.32	0.19	1.46	0.0115
Kind Healthy Grains Salted Caramel	Special K Chewy Nut Bars Cranberry Almond	0.82	0.32	0.18	1.45	0.0119
Kind Healthy Grains Salted Caramel	Nature Valley Soft Baked Oatmeal Cinnamon Brown Sugar	0.81	0.32	0.18	1.45	0.0122
Special K Protein Meal Bar Strawberry	Jif Bars Crunchy Peanut Butter	0.81	0.32	0.18	1.45	0.0122
Kind Healthy Grains Salted Caramel	Special K Chewy Snack Bars Berry Medley	0.81	0.32	0.18	1.45	0.0124
Special K Protein Meal Bar Strawberry	Clif Bar Choc Chip	0.81	0.32	0.17	1.44	0.013
Nature Valley Crunchy Granola Cinnamon	Nature Valley Chewy Trail Mix Dark Choc Cherry	0.81	0.32	0.17	1.44	0.0131
Special K Protein Meal Bar Strawberry	Special K Protein Trail Mix Bars Fruit & Nut	0.80	0.32	0.17	1.44	0.0133
Zone Pefect Choc Almond Raisin	Nature Valley Crunchy Granola Cinnamon	0.80	0.32	0.16	1.44	0.0138
Special K Protein Meal Bar Strawberry	Atkins Triple Choc Bar	0.80	0.32	0.16	1.43	0.0143
Special K Protein Meal Bar Strawberry	Fiber One Chewy Oats and Choc	0.80	0.32	0.16	1.43	0.0143
Special K Protein Meal Bar Strawberry	Cascadian Farms Vanilla Chip	0.79	0.32	0.15	1.43	0.015
Special K Protein Meal Bar Strawberry	Southern Home Chewy Granola	0.79	0.32	0.15	1.42	0.0154
Nature Valley Crunchy Granola Cinnamon	Atkins Caramel Double Choc Crunch Bar	0.78	0.32	0.14	1.41	0.0165
Kind Healthy Grains Salted Caramel	Special K Protein Meal Bar Choc Chip	0.77	0.32	0.15	1.40	0.0154
Kind Healthy Grains Vanilla Blueberry	Special K Protein Meal Bar Double Choc	0.76	0.32	0.13	1.40	0.0188
Special K Protein Meal Bar Strawberry	Clif Bar Nut Butter Filled Energy Bar Peanut Butter	0.75	0.32	0.12	1.39	0.0202
Special K Protein Meal Bar Strawberry	Nature Valley Protein Peanut Butter Dark Choc	0.75	0.35	0.08	1.43	0.0294
Kind Healthy Grains Salted Caramel	Kind Breakfast Dark Chocolate Cocoa	0.74	0.32	0.12	1.37	0.0199
Special K Protein Meal Bar Strawberry	Nature Valley Granola Cups Peanut Butter Choc	0.74	0.32	0.11	1.38	0.0224
Nature Valley Crunchy Granola Cinnamon	Clif Bar Nut Butter Filled Energy Bar Choc Peanut Butter	0.74	0.32	0.10	1.38	0.0227
Kind Healthy Grains Salted Caramel	Kind Breakfast Peanut Butter	0.73	0.32	0.10	1.37	0.0238
Kind Healthy Grains Vanilla Blueberry	Kind Healthy Grains Dark Choc Mocha	0.73	0.32	0.10	1.37	0.024
Special K Protein Meal Bar Strawberry	Special K Protein Trail Mix Bars Choc Peanut Pecan	0.73	0.32	0.09	1.37	0.0246
Kind Healthy Grains Salted Caramel	Cascadian Farms Protein Peanut Butter Choc Chip	0.72	0.32	0.09	1.36	0.0257
Kind Healthy Grains Salted Caramel	Fiber One Protein Caramel Nut	0.72	0.32	0.09	1.36	0.0257
Nature Valley Crunchy Granola Cinnamon	Special K Chewy Nut Bars Cranberry Almond	0.72	0.32	0.08	1.35	0.0272
Nature Valley Crunchy Granola Cinnamon	Nature Valley Soft Baked Oatmeal Cinnamon Brown Sugar	0.71	0.32	0.08	1.35	0.0278
Nature Valley Crunchy Granola Cinnamon	Special K Chewy Snack Bars Berry Medley	0.71	0.32	0.08	1.35	0.0281
Special K Protein Meal Bar Strawberry	Special K Protein Meal Bar Choc Dipped Mint	0.71	0.32	0.08	1.33	0.0269
Kind Healthy Grains Salted Caramel	Annie's Organic Chewy Oatmeal Raisin	0.71	0.32	0.07	1.34	0.0298
Special K Protein Meal Bar Strawberry	Nature Valley XL Bar Pretzel Peanut Choc	0.70	0.32	0.06	1.34	0.0311
Zone Pefect Choc Almond Raisin	Kind Healthy Grains Salted Caramel	0.70	0.32	0.06	1.34	0.0311
Jif Bars Peanut Butter and Choc	Nature Valley Soft Baked Oatmeal Peanut Butter	0.69	0.32	0.06	1.33	0.0332
Special K Protein Meal Bar Strawberry	NutriGrain Apple Cinnamon	0.69	0.32	0.06	1.31	0.0316
Special K Protein Meal Bar Strawberry	Clif Bar Crunchy Peanut Butter	0.68	0.32	0.04	1.32	0.0362
Kind Healthy Grains Vanilla Blueberry	Nature Valley Protein Honey Peanut Almond	0.68	0.32	0.04	1.31	0.0366
Kind Healthy Grains Salted Caramel	Nature Valley Protein Coconut Almond	0.67	0.32	0.04	1.31	0.0378
Nature Valley Crunchy Granola Cinnamon	Special K Protein Meal Bar Choc Chip	0.67	0.32	0.05	1.30	0.0348
Special K Protein Meal Bar Strawberry	Nature Valley XL Bar Choc Nut and Seed	0.67	0.33	0.02	1.32	0.043
Kind Healthy Grains Salted Caramel	Fiber One Protein Coconut Almond	0.66	0.32	0.04	1.29	0.0377
Kind Healthy Grains Salted Caramel	Special K Protein Meal Bar Choc Peanut Butter	0.66	0.32	0.03	1.30	0.0416
Nature Valley Granola Cups Amond Butter	Nature Valley Soft Baked Oatmeal Peanut Butter	0.66	0.32	0.02	1.30	0.0421
Jif Bars Peanut Butter and Choc	Nature Valley Chewy Trail Mix Dark Choc Cherry	0.66	0.32	0.02	1.29	0.0425
Kind Healthy Grains Salted Caramel	Nature Valley Crunchy Granola Peanut Butter	0.65	0.32	0.01	1.28	0.0457
Kind Healthy Grains Vanilla Blueberry	Nature Valley Granola Cups Amond Butter	0.64	0.32	0.01	1.28	0.0472
Nature Valley Crunchy Granola Cinnamon	Kind Breakfast Dark Chocolate Cocoa	0.64	0.32	0.02	1.27	0.0439

Snack Cakes Pairwise Comparisons

Level	Level	Difference	Std Err Dif	Lower CL	Upper CL	p-Value
Little Debbie Swiss Rolls	Great Value Swiss Chocolate Bars	0.67	0.20	0.28	1.07	0.0009
Little Debbie Swiss Rolls	Entenmann's Little Bites Blueberry Muffins	0.66	0.18	0.30	1.02	0.0003
Little Debbie Swiss Rolls	Entenmann's Little Bites Chocolate Chip	0.59	0.19	0.22	0.96	0.0019
Little Debbie Swiss Rolls	Great Value Peanut Butter Bars	0.59	0.22	0.15	1.03	0.0091
Little Debbie Swiss Rolls	Great Value Honey Buns	0.55	0.22	0.12	0.98	0.0119
Little Debbie Swiss Rolls	Nabisco Fig Newtons	0.54	0.20	0.14	0.93	0.0076
Little Debbie Swiss Rolls	Entenmann's Little Bites Fudge Brownies	0.51	0.21	0.09	0.93	0.0176
Little Debbie Swiss Rolls	Little Debbie Cocoa Cremes	0.51	0.18	0.15	0.86	0.005
Little Debbie Fig Bars	Great Value Swiss Chocolate Bars	0.50	0.21	0.09	0.91	0.0177
Little Debbie Nutty Buddy	Great Value Swiss Chocolate Bars	0.48	0.22	0.05	0.92	0.0306
Little Debbie Fig Bars	Entenmann's Little Bites Blueberry Muffins	0.48	0.19	0.11	0.86	0.0122
Little Debbie Nutty Buddy	Entenmann's Little Bites Blueberry Muffins	0.47	0.21	0.06	0.88	0.024
Little Debbie Chocolate Chip Muffins	Great Value Swiss Chocolate Bars	0.46	0.21	0.05	0.87	0.0284
Little Debbie Swiss Rolls	Hostess Ding Dongs	0.45	0.20	0.06	0.84	0.0238
Little Debbie Chocolate Chip Muffins	Entenmann's Little Bites Blueberry Muffins	0.44	0.19	0.07	0.82	0.0209
Little Debbie Fig Bars	Entenmann's Little Bites Chocolate Chip	0.41	0.20	0.03	0.80	0.0366
Little Debbie Swiss Rolls	Little Debbie Salted Caramel	0.41	0.18	0.05	0.77	0.0272

Sour Cream Pairwise Comparisons

Level	Level	Difference	Std Err Dif	Lower CL	Upper CL	p-Value
Daisy Sour Cream Pouch	Monticello Sour Cream	1.36	0.26	0.85	1.86	<.0001
Daisy Sour Cream Pouch	Breakstone Reduced Fat Sour Cream	1.26	0.26	0.76	1.77	<.0001
Daisy Sour Cream Pouch	Great Value Light Sour Cream	1.16	0.25	0.66	1.66	<.0001
Daisy Sour Cream Pouch	Breakstone All Natural Sour Cream	1.10	0.26	0.60	1.61	<.0001
Daisy Sour Cream Pouch	Daisy Sour Cream Tub	1.01	0.29	0.45	1.58	0.0005
Daisy Sour Cream Pouch	Great Value All Natural Sour Cream	0.98	0.26	0.47	1.48	0.0002

Vegetable Pairwise Comparisons

Level	Level	Difference	Std Err Dif	Lower CL	Upper CL	p-Value
Tomatoes	Onions	2.01	0.54	0.95	3.07	0.0003
Tomatoes	Peppers	1.04	0.49	0.07	2.01	0.0365

Appendix B

TTFF Significant Differences Full Report by Category

Product Category Pairwise Comparisons

Level	Level	Difference	Std Err Dif	Lower CL	Upper CL	p-Value
RTE Pasta	Sour cream	15.19	1.49	12.27	18.11	<.0001
RTE Pasta	Frozen Treats	14.45	1.41	11.67	17.22	<.0001
RTE Pasta	Hot Sauce	12.93	1.06	10.85	15.01	<.0001
Baby Food	Sour cream	12.92	1.45	10.08	15.76	<.0001
RTE Pasta	Cold brew	12.20	1.16	9.92	14.48	<.0001
Baby Food	Frozen Treats	12.18	1.37	9.49	14.87	<.0001
RTE Pasta	Vegetables	12.11	2.12	7.93	16.28	<.0001
RTE Pasta	Olive Oil	11.85	1.19	9.52	14.19	<.0001
Canned Beans	Sour cream	11.68	1.43	8.86	14.49	<.0001
RTE Pasta	Sunscreen	11.62	2.12	7.45	15.80	<.0001
RTE Pasta	Detergent	11.33	1.41	8.55	14.10	<.0001
RTE Pasta	Snack Cakes	11.11	1.06	9.03	13.19	<.0001
Canned Beans	Frozen Treats	10.94	1.36	8.27	13.60	<.0001
Chocolate	Sour cream	10.72	1.49	7.80	13.64	<.0001
RTE Pasta	Natural Fruit Drinks	10.67	1.11	8.49	12.86	<.0001
Baby Food	Hot Sauce	10.66	1.00	8.69	12.63	<.0001
RTE Pasta	Rice	10.46	1.11	8.27	12.65	<.0001
RTE Pasta	Batteries	10.12	1.03	8.10	12.15	<.0001
RTE Pasta	Muesli	10.03	1.87	6.36	13.71	<.0001
Chocolate	Frozen Treats	9.98	1.41	7.20	12.75	<.0001
Baby Food	Cold brew	9.93	1.11	7.75	12.11	<.0001
RTE Pasta	Cookies	9.84	1.30	7.29	12.40	<.0001
Baby Food	Vegetables	9.83	2.10	5.72	13.95	<.0001
RTE Pasta	Seasoned breading	9.59	0.93	7.77	11.41	<.0001
Baby Food	Olive Oil	9.58	1.14	7.34	11.82	<.0001
Canned Beans	Hot Sauce	9.42	0.98	7.49	11.35	<.0001
Baby Food	Sunscreen	9.35	2.10	5.23	13.47	<.0001
RTE Pasta	Organic cereal	9.14	2.12	4.97	13.32	<.0001
RTE Pasta	Coffee	9.13	0.92	7.33	10.93	<.0001
RTE Pasta	Tissue	9.07	1.09	6.93	11.22	<.0001
Baby Food	Detergent	9.06	1.37	6.36	11.75	<.0001
RTE Pasta	Frozen Sausage	8.99	0.99	7.03	10.94	<.0001
RTE Pasta	Dish soap	8.88	1.70	5.53	12.23	<.0001
Baby Food	Snack Cakes	8.84	1.00	6.87	10.80	<.0001
Canned Beans	Cold brew	8.69	1.09	6.55	10.83	<.0001
Canned Beans	Vegetables	8.59	2.09	4.49	12.69	<.0001
Chocolate	Hot Sauce	8.46	1.06	6.38	10.54	<.0001
Baby Food	Natural Fruit Drinks	8.40	1.06	6.32	10.48	<.0001
RTE Pasta	Baby wipes	8.39	0.95	6.52	10.25	<.0001
Canned Beans	Olive Oil	8.34	1.12	6.14	10.54	<.0001
Baby Food	Rice	8.19	1.06	6.11	10.27	<.0001
Canned Beans	Sunscreen	8.11	2.09	4.01	12.21	0.0001
Baby Food	Batteries	7.85	0.97	5.95	9.76	<.0001
Canned Beans	Detergent	7.82	1.36	5.15	10.48	<.0001
Tuna	Sour cream	7.77	1.47	4.89	10.66	<.0001
Baby Food	Muesli	7.76	1.84	4.15	11.38	<.0001

Canned Beans	Detergent	7.82	1.36	5.15	10.48	<.0001
Tuna	Sour cream	7.77	1.47	4.89	10.66	<.0001
Baby Food	Muesli	7.76	1.84	4.15	11.38	<.0001
Chocolate	Cold brew	7.73	1.16	5.45	10.01	<.0001
RTE Pasta	Snack bars	7.67	0.86	5.98	9.36	<.0001
Chocolate	Vegetables	7.63	2.12	3.46	11.81	0.0004
RTE Pasta	Spaghetti	7.60	0.98	5.67	9.53	<.0001
Canned Beans	Snack Cakes	7.60	0.98	5.67	9.52	<.0001
Spaghetti	Sour cream	7.59	1.49	4.67	10.51	<.0001
Baby Food	Cookies	7.57	1.25	5.11	10.04	<.0001
Snack bars	Sour cream	7.52	1.41	4.75	10.29	<.0001
RTE Pasta	Tuna	7.42	0.96	5.54	9.30	<.0001
Chocolate	Olive Oil	7.38	1.19	5.04	9.71	<.0001
Baby Food	Seasoned breading	7.32	0.86	5.62	9.01	<.0001
Canned Beans	Natural Fruit Drinks	7.16	1.04	5.12	9.20	<.0001
Chocolate	Sunscreen	7.15	2.12	2.98	11.32	0.0008
Tuna	Frozen Treats	7.03	1.39	4.29	9.77	<.0001
Canned Beans	Rice	6.95	1.04	4.91	8.99	<.0001
Baby Food	Organic cereal	6.87	2.10	2.76	10.99	0.0011
Baby Food	Coffee	6.86	0.85	5.19	8.53	<.0001
Chocolate	Detergent	6.85	1.41	4.08	9.63	<.0001
Spaghetti	Frozen Treats	6.85	1.41	4.08	9.62	<.0001
Baby wipes	Sour cream	6.80	1.46	3.93	9.68	<.0001
Baby Food	Tissue	6.80	1.04	4.76	8.84	<.0001
Snack bars	Frozen Treats	6.78	1.33	4.17	9.39	<.0001
Baby Food	Frozen Sausage	6.71	0.93	4.88	8.55	<.0001
Chocolate	Snack Cakes	6.64	1.06	4.56	8.71	<.0001
Canned Beans	Batteries	6.61	0.95	4.75	8.48	<.0001
Baby Food	Dish soap	6.61	1.67	3.33	9.89	<.0001
Canned Beans	Muesli	6.52	1.83	2.93	10.12	0.0004
Canned Beans	Cookies	6.33	1.24	3.90	8.76	<.0001
Dish soap	Sour cream	6.31	2.04	2.31	10.31	0.002
Frozen Sausage	Sour cream	6.20	1.49	3.27	9.14	<.0001
Chocolate	Natural Fruit Drinks	6.20	1.11	4.01	8.39	<.0001
Tissue	Sour cream	6.11	1.56	3.05	9.18	0.0001
Baby Food	Baby wipes	6.11	0.88	4.38	7.85	<.0001
Canned Beans	Seasoned breading	6.08	0.84	4.43	7.73	<.0001
Baby wipes	Frozen Treats	6.06	1.39	3.34	8.79	<.0001
Coffee	Sour cream	6.06	1.44	3.22	8.89	<.0001
Organic cereal	Sour cream	6.04	2.40	1.33	10.76	0.012
Chocolate	Rice	5.99	1.11	3.80	8.17	<.0001
Chocolate	Batteries	5.65	1.03	3.63	7.67	<.0001
Canned Beans	Organic cereal	5.63	2.09	1.53	9.73	0.0072
Canned Beans	Coffee	5.62	0.83	4.00	7.24	<.0001
Seasoned breading	Sour cream	5.60	1.45	2.75	8.45	0.0001
Dish soap	Frozen Treats	5.57	1.98	1.68	9.46	0.0051
Canned Beans	Tissue	5.56	1.02	3.56	7.56	<.0001

Chocolate	Muesli	5.56	1.87	1.88	9.24	0.0031
Tuna	Hot Sauce	5.51	1.03	3.48	7.54	<.0001
Canned Beans	Frozen Sausage	5.47	0.91	3.68	7.26	<.0001
Frozen Sausage	Frozen Treats	5.46	1.42	2.67	8.25	0.0001
Baby Food	Snack bars	5.40	0.79	3.85	6.95	<.0001
Tissue	Frozen Treats	5.37	1.49	2.45	8.30	0.0003
Chocolate	Cookies	5.37	1.30	2.81	7.92	<.0001
Canned Beans	Dish soap	5.37	1.66	2.11	8.62	0.0013
Cookies	Sour cream	5.35	1.71	1.98	8.71	0.0019
Spaghetti	Hot Sauce	5.33	1.06	3.25	7.41	<.0001
Baby Food	Spaghetti	5.33	0.92	3.52	7.14	<.0001
Coffee	Frozen Treats	5.32	1.37	2.63	8.00	0.0001
Organic cereal	Frozen Treats	5.30	2.35	0.68	9.93	0.0246
Snack bars	Hot Sauce	5.26	0.94	3.41	7.12	<.0001
Muesli	Sour cream	5.15	2.18	0.87	9.44	0.0184
Baby Food	Tuna	5.15	0.89	3.39	6.90	<.0001
Chocolate	Seasoned breading	5.12	0.93	3.29	6.94	<.0001
Batteries	Sour cream	5.06	1.52	2.08	8.04	0.0009
Canned Beans	Baby wipes	4.87	0.86	3.18	6.57	<.0001
Seasoned breading	Frozen Treats	4.86	1.37	2.16	7.56	0.0004
Tuna	Cold brew	4.78	1.14	2.55	7.02	<.0001
Rice	Sour cream	4.73	1.58	1.63	7.82	0.0028
Tuna	Vegetables	4.69	2.11	0.54	8.84	0.0269
Chocolate	Organic cereal	4.67	2.12	0.50	8.84	0.0283
Chocolate	Coffee	4.66	0.92	2.86	6.46	<.0001
Cookies	Frozen Treats	4.61	1.65	1.37	7.85	0.0054
Chocolate	Tissue	4.60	1.09	2.45	6.75	<.0001
Spaghetti	Cold brew	4.60	1.16	2.32	6.88	<.0001
Baby wipes	Hot Sauce	4.55	1.03	2.53	6.56	<.0001
Snack bars	Cold brew	4.53	1.06	2.45	6.61	<.0001
Natural Fruit Drinks	Sour cream	4.52	1.58	1.42	7.61	0.0043
Chocolate	Frozen Sausage	4.51	0.99	2.56	6.46	<.0001
Spaghetti	Vegetables	4.51	2.12	0.33	8.68	0.0343
RTE Pasta	Chocolate	4.47	0.98	2.54	6.40	<.0001
Snack bars	Vegetables	4.44	2.07	0.37	8.50	0.0326
Tuna	Olive Oil	4.43	1.17	2.14	6.72	0.0002
Muesli	Frozen Treats	4.41	2.13	0.23	8.60	0.0386
Chocolate	Dish soap	4.41	1.70	1.06	7.75	0.0099
Batteries	Frozen Treats	4.32	1.44	1.49	7.16	0.0029
Spaghetti	Olive Oil	4.25	1.19	1.92	6.59	0.0004
Tuna	Sunscreen	4.21	2.11	0.06	8.35	0.047
Snack bars	Olive Oil	4.18	1.09	2.04	6.32	0.0001
Canned Beans	Snack bars	4.16	0.76	2.66	5.66	<.0001
Canned Beans	Spaghetti	4.09	0.90	2.32	5.85	<.0001
Snack Cakes	Sour cream	4.08	1.54	1.06	7.10	0.0082
Dish soap	Hot Sauce	4.05	1.75	0.62	7.48	0.0208

Rice	Frozen Treats	3.99	1.51	1.03	6.94	0.0083
Frozen Sausage	Hot Sauce	3.95	1.07	1.85	6.04	0.0002
Chocolate	Baby wipes	3.91	0.95	2.05	5.78	<.0001
Tuna	Detergent	3.91	1.39	1.17	6.65	0.0052
Canned Beans	Tuna	3.91	0.87	2.20	5.62	<.0001
Detergent	Sour cream	3.86	1.80	0.33	7.40	0.0323
Tissue	Hot Sauce	3.86	1.16	1.58	6.14	0.001
Baby wipes	Cold brew	3.81	1.13	1.59	6.04	0.0008
Coffee	Hot Sauce	3.80	1.00	1.85	5.76	0.0002
Natural Fruit Drinks	Frozen Treats	3.78	1.51	0.82	6.73	0.0124
Spaghetti	Detergent	3.73	1.41	0.95	6.50	0.0085
Tuna	Snack Cakes	3.69	1.03	1.66	5.72	0.0004
Snack bars	Detergent	3.66	1.33	1.05	6.27	0.0061
RTE Pasta	Canned Beans	3.51	0.90	1.74	5.28	0.0001
Spaghetti	Snack Cakes	3.51	1.06	1.43	5.59	0.001
Baby wipes	Olive Oil	3.47	1.16	1.19	5.74	0.003
Snack bars	Snack Cakes	3.44	0.94	1.58	5.30	0.0003
Seasoned breading	Hot Sauce	3.34	1.01	1.36	5.32	0.001
Snack Cakes	Frozen Treats	3.34	1.46	0.46	6.22	0.023
Olive Oil	Sour cream	3.34	1.63	0.14	6.54	0.041
Tuna	Natural Fruit Drinks	3.25	1.09	1.11	5.39	0.003
Frozen Sausage	Cold brew	3.21	1.17	0.92	5.51	0.0062
Chocolate	Snack bars	3.20	0.86	1.51	4.89	0.0002
Chocolate	Spaghetti	3.13	0.98	1.19	5.06	0.0016
Tissue	Cold brew	3.13	1.25	0.66	5.59	0.013
Cookies	Hot Sauce	3.09	1.36	0.42	5.76	0.0233
Spaghetti	Natural Fruit Drinks	3.07	1.11	0.89	5.26	0.006
Coffee	Cold brew	3.07	1.10	0.90	5.24	0.0056
Tuna	Rice	3.04	1.09	0.90	5.18	0.0054
Snack bars	Natural Fruit Drinks	3.00	1.01	1.03	4.98	0.003
Chocolate	Tuna	2.95	0.96	1.07	4.82	0.0022
Baby wipes	Detergent	2.94	1.39	0.21	5.67	0.0346
Frozen Sausage	Olive Oil	2.87	1.20	0.51	5.22	0.0171
Spaghetti	Rice	2.86	1.11	0.68	5.05	0.0104
Batteries	Hot Sauce	2.81	1.10	0.64	4.97	0.0111
Snack bars	Rice	2.79	1.01	0.82	4.77	0.0057
Tissue	Olive Oil	2.78	1.28	0.26	5.29	0.0306
Baby wipes	Snack Cakes	2.72	1.03	0.71	4.74	0.0082
Coffee	Olive Oil	2.72	1.13	0.49	4.95	0.0167
Tuna	Batteries	2.71	1.00	0.74	4.68	0.0072
Spaghetti	Batteries	2.53	1.03	0.50	4.55	0.0144
Seasoned breading	Olive Oil	2.26	1.14	0.01	4.51	0.0486
RTE Pasta	Baby Food	2.27	0.92	0.46	4.08	0.0141
Rice	Hot Sauce	2.47	1.18	0.15	4.79	0.0368
Snack bars	Batteries	2.46	0.91	0.66	4.25	0.0073
Baby wipes	Natural Fruit Drinks	2.29	1.08	0.16	4.41	0.0352

Cookies	Vegetables	2.26	2.29	-2.23	6.76	0.3231
Frozen Sausage	Snack Cakes	2.12	1.07	0.03	4.22	0.0473
Coffee	Snack Cakes	1.98	1.00	0.02	3.93	0.0474
Spaghetti	Seasoned breading	1.99	0.93	0.17	3.81	0.0323
Baby Food	Chocolate	2.20	0.92	0.39	4.01	0.0173
Seasoned breading	Cold brew	2.61	1.11	0.42	4.80	0.0195

Baby Wipes Pairwise Comparisons

Level	Level	Difference	Std Err Dif	Lower CL	Upper CL	p-Value
Huggies Natural Care Wipes (Case)	Parent's Choice Fresh Scent Wipes (Soft Pack)	17.24	3.61	10.16	24.33	<.0001
Huggies Natural Care Wipes (Case)	Parent's Choice Fragrance Free Wipes Tub	17.18	3.36	10.59	23.77	<.0001
Huggies Natural Care Wipes (Case)	Parent's Choice Fresh Scent Wipes Tub	16.35	3.34	9.79	22.90	<.0001
Huggies Natural Care Wipes (Case)	Water Wipes Soft Pack	16.32	3.88	8.71	23.93	<.0001
Huggies Natural Care Wipes (Case)	Parent's Choice Sensitive Wipes (3 pk)	15.73	3.83	8.20	23.25	<.0001
Pampers Sensitive Wipes (Case)	Parent's Choice Fresh Scent Wipes (Soft Pack)	14.94	2.55	9.93	19.94	<.0001
Pampers Sensitive Wipes (Case)	Parent's Choice Fragrance Free Wipes Tub	14.87	2.18	10.59	19.16	<.0001
Huggies Natural Care Wipes (Case)	Parent's Choice Potty Training Wipes Soft Pack	14.73	3.72	7.43	22.03	<.0001
Huggies One and Done Wipes (Case)	Parent's Choice Fresh Scent Wipes (Soft Pack)	14.45	3.80	7.00	21.91	0.0002
Huggies One and Done Wipes (Case)	Parent's Choice Fragrance Free Wipes Tub	14.39	3.56	7.40	21.38	<.0001
Pampers Sensitive Wipes (Case)	Parent's Choice Fresh Scent Wipes Tub	14.04	2.15	9.81	18.26	<.0001
Pampers Sensitive Wipes (Case)	Water Wipes Soft Pack	14.01	2.92	8.28	19.74	<.0001
Huggies Natural Care Wipes (Case)	Pampers Sensitive Wipes (Soft Pack)	13.89	3.28	7.46	20.32	<.0001
Huggies One and Done Wipes (Case)	Parent's Choice Fresh Scent Wipes Tub	13.56	3.55	6.60	20.51	0.0001
Huggies One and Done Wipes (Case)	Water Wipes Soft Pack	13.53	4.06	5.57	21.49	0.0009
Huggies Natural Care Wipes (Case)	Huggies Simply Clean Fragrance Free Wipes Soft Pack	13.49	3.28	7.06	19.92	<.0001
Huggies Natural Care Wipes (Case)	Parent's Choice Fresh Scent Wipes (3 pk)	13.47	4.05	5.53	21.41	0.0009
Huggies Natural Care Wipes (Case)	Pampers Sensitive Wipes Tub	13.45	3.12	7.33	19.58	<.0001
Pampers Sensitive Wipes (Case)	Parent's Choice Sensitive Wipes (3 pk)	13.42	2.86	7.81	19.03	<.0001
Huggies One and Done Wipes (Case)	Parent's Choice Sensitive Wipes (3 pk)	12.94	4.01	5.06	20.81	0.0013
Pampers Sensitive Wipes (Case)	Parent's Choice Potty Training Wipes Soft Pack	12.42	2.71	7.11	17.73	<.0001
Huggies Natural Care Wipes (Case)	Huggies Natural Care Wipes Tub	12.27	3.31	5.76	18.77	0.0002
Huggies Natural Care Wipes (Case)	Huggies Natural Care Wipes w/ Pooh Bear Tub	12.26	3.42	5.56	18.97	0.0003
Huggies Natural Care Wipes (Case)	Huggies Natural Care Wipes (Soft Pack)	12.07	3.34	5.51	18.63	0.0003
Huggies One and Done Cucumber Green Tea Wipes (Case)	Parent's Choice Fresh Scent Wipes (Soft Pack)	12.03	3.12	5.91	18.14	0.0001
Huggies One and Done Cucumber Green Tea Wipes (Case)	Parent's Choice Fragrance Free Wipes Tub	11.96	2.82	6.42	17.50	<.0001
Huggies One and Done Wipes (Case)	Parent's Choice Potty Training Wipes Soft Pack	11.94	3.91	4.27	19.60	0.0023
Huggies One and Done Wipes (3 pk)	Parent's Choice Fresh Scent Wipes (Soft Pack)	11.80	2.77	6.36	17.23	<.0001
Huggies One and Done Wipes (3 pk)	Parent's Choice Fragrance Free Wipes Tub	11.73	2.44	6.95	16.52	<.0001
Pampers Sensitive Wipes (Case)	Pampers Sensitive Wipes (Soft Pack)	11.58	2.05	7.55	15.61	<.0001
Huggies Natural Care Wipes (Case)	Pampers Baby Fresh Wipes Soft Pack	11.56	3.30	5.09	18.04	0.0005
Huggies Natural Care Wipes (Case)	Parent's Choice Fresh Scent Wipes (500 ct Case)	11.18	3.72	3.88	18.49	0.0027
Pampers Sensitive Wipes (Case)	Huggies Simply Clean Fragrance Free Wipes Soft Pack	11.18	2.05	7.15	15.21	<.0001
Pampers Sensitive Wipes (Case)	Parent's Choice Fresh Scent Wipes (3 pk)	11.16	3.14	5.00	17.31	0.0004
Pampers Sensitive Wipes (Case)	Pampers Sensitive Wipes Tub	11.15	1.79	7.63	14.66	<.0001
Huggies One and Done Cucumber Green Tea Wipes (Case)	Parent's Choice Fresh Scent Wipes Tub	11.13	2.80	5.63	16.63	<.0001
Huggies One and Done Cucumber Green Tea Wipes (Case)	Water Wipes Soft Pack	11.10	3.43	4.38	17.82	0.0012
Huggies One and Done Wipes (Case)	Pampers Sensitive Wipes (Soft Pack)	11.10	3.49	4.26	17.94	0.0015
Parent's Choice Fragrance Free Wipes (Case 800ct)	Parent's Choice Fresh Scent Wipes (Soft Pack)	11.04	3.34	4.49	17.59	0.001
Parent's Choice Fragrance Free Wipes (Case 800ct)	Parent's Choice Fragrance Free Wipes Tub	10.98	3.07	4.96	17.00	0.0004
Huggies One and Done Wipes (3 pk)	Parent's Choice Fresh Scent Wipes Tub	10.90	2.41	6.17	15.63	<.0001

Huggies One and Done Wipes (3 pk)	Water Wipes Soft Pack	10.87	3.12	4.76	16.98	0.0005
Huggies One and Done Wipes (Case)	Huggies Simply Clean Fragrance Free Wipes Soft Pack	10.70	3.49	3.85	17.54	0.0022
Huggies One and Done Wipes (Case)	Parent's Choice Fresh Scent Wipes (3 pk)	10.67	4.22	2.40	18.95	0.0115
Huggies One and Done Wipes (Case)	Pampers Sensitive Wipes Tub	10.66	3.34	4.11	17.21	0.0015
Huggies One and Done Cucumber Green Tea Wipes (Case)	Parent's Choice Sensitive Wipes (3 pk)	10.51	3.38	3.89	17.13	0.0019
Huggies Natural Care Wipes (Case)	Pampers Sensitive Wipes (3 pk)	10.46	3.28	4.03	16.89	0.0015
Huggies One and Done Wipes (3 pk)	Parent's Choice Sensitive Wipes (3 pk)	10.28	3.06	4.28	16.28	0.0008
Huggies Natural Care Wipes (Case)	Parent's Choice Refreshing Cucumber Wipes (Case 800ct)	10.16	4.65	1.03	19.29	0.0292
Parent's Choice Fragrance Free Wipes (Case 800ct)	Parent's Choice Fresh Scent Wipes Tub	10.15	3.05	4.17	16.12	0.0009
Parent's Choice Fragrance Free Wipes (Case 800ct)	Water Wipes Soft Pack	10.12	3.63	3.00	17.24	0.0054
Pampers Sensitive Wipes (Case)	Huggies Natural Care Wipes Tub	9.96	2.11	5.81	14.11	<.0001
Pampers Sensitive Wipes (Case)	Huggies Natural Care Wipes w/ Pooh Bear Tub	9.95	2.27	5.50	14.41	<.0001
Huggies Natural Care Wipes (Case)	Parent's Choice Fragrance Free Wipes (500ct Case)	9.88	3.69	2.64	17.13	0.0075
Huggies Natural Care Wipes (Case)	Huggies Natural Care Wipes (3 pk)	9.76	3.35	3.19	16.34	0.0036
Pampers Sensitive Wipes (Case)	Huggies Natural Care Wipes (Soft Pack)	9.76	2.15	5.54	13.99	<.0001
Huggies Simply Clean Fresh Scent Wipes (3 pk)	Parent's Choice Fresh Scent Wipes (Soft Pack)	9.70	2.69	4.42	14.98	0.0003
Huggies Simply Clean Fresh Scent Wipes (3 pk)	Parent's Choice Fragrance Free Wipes Tub	9.64	2.35	5.03	14.25	<.0001
Parent's Choice Fragrance Free Wipes (Case 800ct)	Parent's Choice Sensitive Wipes (3 pk)	9.53	3.58	2.50	16.55	0.0079
Huggies One and Done Cucumber Green Tea Wipes (Case)	Parent's Choice Potty Training Wipes Soft Pack	9.51	3.25	3.14	15.88	0.0035
Huggies One and Done Wipes (Case)	Huggies Natural Care Wipes Tub	9.48	3.52	2.57	16.39	0.0072
Huggies One and Done Wipes (Case)	Huggies Natural Care Wipes w/ Pooh Bear Tub	9.47	3.62	2.37	16.57	0.009
Huggies One and Done Wipes (3 pk)	Parent's Choice Potty Training Wipes Soft Pack	9.28	2.92	3.56	15.00	0.0015
Huggies One and Done Wipes (Case)	Huggies Natural Care Wipes (Soft Pack)	9.28	3.55	2.32	16.24	0.009
Pampers Sensitive Wipes (Case)	Pampers Baby Fresh Wipes Soft Pack	9.25	2.09	5.16	13.35	<.0001
Huggies Natural Care Wipes (Case)	Pampers Baby Fresh Wipes (3 pk)	9.04	3.34	2.49	15.60	0.0069
Pampers Sensitive Wipes (Case)	Parent's Choice Fresh Scent Wipes (500 ct Case)	8.88	2.71	3.56	14.19	0.0011
Huggies Simply Clean Fragrance Free Wipes (3 pk)	Parent's Choice Fresh Scent Wipes (Soft Pack)	8.82	2.64	3.64	14.01	0.0009
Huggies Simply Clean Fresh Scent Wipes (3 pk)	Parent's Choice Fresh Scent Wipes Tub	8.80	2.32	4.25	13.36	0.0002
Huggies Simply Clean Fresh Scent Wipes (3 pk)	Water Wipes Soft Pack	8.77	3.05	2.80	14.75	0.0041
Huggies One and Done Wipes (Case)	Pampers Baby Fresh Wipes Soft Pack	8.77	3.51	1.89	15.65	0.0125
Huggies Simply Clean Fragrance Free Wipes (3 pk)	Parent's Choice Fragrance Free Wipes Tub	8.76	2.29	4.27	13.25	0.0001
Huggies One and Done Cucumber Green Tea Wipes (Case)	Pampers Sensitive Wipes (Soft Pack)	8.67	2.73	3.32	14.02	0.0015
Huggies Natural Care Wipes (Case)	Huggies One and Done Wipes Soft Pack	8.62	3.39	1.97	15.28	0.0112
Huggies One and Done Wipes Soft Pack	Parent's Choice Fresh Scent Wipes (Soft Pack)	8.62	2.76	3.21	14.03	0.0018
Huggies One and Done Wipes Soft Pack	Parent's Choice Fragrance Free Wipes Tub	8.56	2.42	3.81	13.31	0.0004
Parent's Choice Fragrance Free Wipes (Case 800ct)	Parent's Choice Potty Training Wipes Soft Pack	8.53	3.46	1.74	15.32	0.0139
Huggies One and Done Wipes (3 pk)	Pampers Sensitive Wipes (Soft Pack)	8.44	2.32	3.88	13.00	0.0003
Huggies Natural Care Wipes (Case)	Huggies Simply Clean Fragrance Free Wipes (3 pk)	8.42	3.30	1.95	14.90	0.0108
Huggies One and Done Wipes (Case)	Parent's Choice Fresh Scent Wipes (500 ct Case)	8.39	3.91	0.73	16.06	0.0319
Huggies One and Done Cucumber Green Tea Wipes (Case)	Huggies Simply Clean Fragrance Free Wipes Soft Pack	8.27	2.73	2.92	13.62	0.0025
Huggies One and Done Cucumber Green Tea Wipes (Case)	Parent's Choice Fresh Scent Wipes (3 pk)	8.25	3.61	1.16	15.34	0.0227
Huggies One and Done Cucumber Green Tea Wipes (Case)	Pampers Sensitive Wipes Tub	8.23	2.54	3.26	13.21	0.0012
Pampers Baby Fresh Wipes (3 pk)	Parent's Choice Fresh Scent Wipes (Soft Pack)	8.20	2.69	2.92	13.49	0.0024
Huggies Simply Clean Fresh Scent Wipes (3 pk)	Parent's Choice Sensitive Wipes (3 pk)	8.18	2.99	2.32	14.05	0.0063
Pampers Sensitive Wipes (Case)	Pampers Sensitive Wipes (3 pk)	8.15	2.05	4.12	12.18	<.0001
Pampers Baby Fresh Wipes (3 pk)	Parent's Choice Fragrance Free Wipes Tub	8.14	2.35	3.53	12.75	0.0006
Huggies One and Done Wipes (3 pk)	Huggies Simply Clean Fragrance Free Wipes Soft Pack	8.04	2.32	3.48	12.60	0.0006
Huggies One and Done Wipes (3 pk)	Parent's Choice Fresh Scent Wipes (3 pk)	8.02	3.32	1.50	14.53	0.0159
Huggies One and Done Wipes (3 pk)	Pampers Sensitive Wipes Tub	8.01	2.10	3.89	12.12	0.0001
Huggies Simply Clean Fragrance Free Wipes (3 pk)	Parent's Choice Fresh Scent Wipes Tub	7.92	2.26	3.49	12.36	0.0005
Huggies Simply Clean Fragrance Free Wipes (3 pk)	Water Wipes Soft Pack	7.90	3.00	2.01	13.78	0.0086
Pampers Sensitive Wipes (Case)	Parent's Choice Refreshing Cucumber Wipes (Case 800ct)	7.85	3.89	0.22	15.48	0.0437
Huggies One and Done Wipes Soft Pack	Parent's Choice Fresh Scent Wipes Tub	7.73	2.39	3.03	12.42	0.0013
Huggies One and Done Wipes Soft Pack	Water Wipes Soft Pack	7.70	3.10	1.61	13.78	0.0133

Parent's Choice Fragrance Free Wipes (Case 800ct)	Pampers Sensitive Wipes (Soft Pack)	7.69	2.98	1.85	13.53	0.01
Huggies One and Done Wipes (Case)	Pampers Sensitive Wipes (3 pk)	7.67	3.49	0.82	14.51	0.0281
Pampers Sensitive Wipes (Case)	Parent's Choice Fragrance Free Wipes (500ct Case)	7.57	2.66	2.35	12.80	0.0046
Huggies Natural Care Wipes (Case)	Huggies Simply Clean Fresh Scent Wipes (3 pk)	7.54	3.34	0.99	14.10	0.0241
Huggies Natural Care Wipes (3 pk)	Parent's Choice Fresh Scent Wipes (Soft Pack)	7.48	2.70	2.17	12.79	0.0058
Pampers Sensitive Wipes (Case)	Huggies Natural Care Wipes (3 pk)	7.45	2.17	3.20	11.71	0.0006
Huggies Natural Care Wipes (3 pk)	Parent's Choice Fragrance Free Wipes Tub	7.42	2.36	2.78	12.05	0.0017
Huggies One and Done Wipes (Case)	Parent's Choice Refreshing Cucumber Wipes (Case 800ct)	7.37	4.80	-2.05	16.79	0.1252
Parent's Choice Fragrance Free Wipes (500ct Case)	Parent's Choice Fresh Scent Wipes (Soft Pack)	7.36	3.12	1.25	13.48	0.0184
Pampers Baby Fresh Wipes (3 pk)	Parent's Choice Fresh Scent Wipes Tub	7.31	2.32	2.75	11.86	0.0017
Huggies Simply Clean Fragrance Free Wipes (3 pk)	Parent's Choice Sensitive Wipes (3 pk)	7.30	2.94	1.53	13.08	0.0132
Parent's Choice Fragrance Free Wipes (500ct Case)	Parent's Choice Fragrance Free Wipes Tub	7.30	2.82	1.76	12.84	0.0099
Parent's Choice Fragrance Free Wipes (Case 800ct)	Huggies Simply Clean Fragrance Free Wipes Soft Pack	7.29	2.98	1.44	13.13	0.0146
Pampers Baby Fresh Wipes (3 pk)	Water Wipes Soft Pack	7.28	3.05	1.30	13.25	0.0171
Parent's Choice Fragrance Free Wipes (Case 800ct)	Pampers Sensitive Wipes Tub	7.25	2.80	1.75	12.75	0.0098
Huggies Simply Clean Fresh Scent Wipes (3 pk)	Parent's Choice Potty Training Wipes Soft Pack	7.18	2.84	1.61	12.76	0.0116
Huggies One and Done Wipes Soft Pack	Parent's Choice Sensitive Wipes (3 pk)	7.11	3.05	1.13	13.08	0.0199
Huggies One and Done Cucumber Green Tea Wipes (Case)	Huggies Natural Care Wipes Tub	7.05	2.77	1.61	12.49	0.0111
Huggies One and Done Cucumber Green Tea Wipes (Case)	Huggies Natural Care Wipes w/ Pooh Bear Tub	7.04	2.89	1.37	12.72	0.015
Huggies One and Done Cucumber Green Tea Wipes (Case)	Huggies Natural Care Wipes (Soft Pack)	6.85	2.80	1.35	12.35	0.0146
Huggies One and Done Wipes (3 pk)	Huggies Natural Care Wipes Tub	6.82	2.38	2.16	11.48	0.0042
Huggies One and Done Wipes (3 pk)	Huggies Natural Care Wipes w/ Pooh Bear Tub	6.81	2.51	1.88	11.75	0.0068
Pampers Sensitive Wipes (3 pk)	Parent's Choice Fresh Scent Wipes (Soft Pack)	6.79	2.61	1.65	11.92	0.0096
Pampers Sensitive Wipes (Case)	Pampers Baby Fresh Wipes (3 pk)	6.73	2.15	2.51	10.96	0.0018
Pampers Sensitive Wipes (3 pk)	Parent's Choice Fragrance Free Wipes Tub	6.72	2.26	2.29	11.16	0.003
Pampers Baby Fresh Wipes (3 pk)	Parent's Choice Sensitive Wipes (3 pk)	6.69	2.99	0.82	12.55	0.0255
Huggies One and Done Wipes (3 pk)	Huggies Natural Care Wipes (Soft Pack)	6.62	2.41	1.89	11.35	0.0061
Huggies Natural Care Wipes (3 pk)	Parent's Choice Fresh Scent Wipes Tub	6.58	2.33	2.00	11.17	0.0049
Huggies Natural Care Wipes (3 pk)	Water Wipes Soft Pack	6.56	3.06	0.56	12.55	0.0322
Parent's Choice Fragrance Free Wipes (500ct Case)	Parent's Choice Fresh Scent Wipes Tub	6.46	2.80	0.97	11.96	0.0212
Huggies Simply Clean Fresh Scent Wipes (3 pk)	Pampers Sensitive Wipes (Soft Pack)	6.34	2.23	1.97	10.72	0.0045
Huggies One and Done Cucumber Green Tea Wipes (Case)	Pampers Baby Fresh Wipes Soft Pack	6.34	2.75	0.94	11.74	0.0213
Pampers Sensitive Wipes (Case)	Huggies One and Done Wipes Soft Pack	6.31	2.23	1.93	10.69	0.0048
Huggies Simply Clean Fragrance Free Wipes (3 pk)	Parent's Choice Potty Training Wipes Soft Pack	6.31	2.79	0.82	11.79	0.0242
Huggies One and Done Wipes (3 pk)	Pampers Baby Fresh Wipes Soft Pack	6.12	2.35	1.50	10.73	0.0095
Pampers Sensitive Wipes (Case)	Huggies Simply Clean Fragrance Free Wipes (3 pk)	6.11	2.09	2.02	10.21	0.0035
Huggies One and Done Wipes Soft Pack	Parent's Choice Potty Training Wipes Soft Pack	6.11	2.90	0.41	11.80	0.0357
Parent's Choice Fragrance Free Wipes (Case 800ct)	Huggies Natural Care Wipes Tub	6.07	3.02	0.15	11.99	0.0446
Parent's Choice Fresh Scent Wipes (500 ct Case)	Parent's Choice Fragrance Free Wipes Tub	6.00	2.87	0.37	11.62	0.0366
Huggies Natural Care Wipes (3 pk)	Parent's Choice Sensitive Wipes (3 pk)	5.97	3.00	0.08	11.85	0.047
Huggies Simply Clean Fresh Scent Wipes (3 pk)	Huggies Simply Clean Fragrance Free Wipes Soft Pack	5.94	2.23	1.57	10.32	0.0078
Huggies Simply Clean Fresh Scent Wipes (3 pk)	Pampers Sensitive Wipes Tub	5.91	1.99	2.00	9.82	0.0031
Pampers Sensitive Wipes (3 pk)	Parent's Choice Fresh Scent Wipes Tub	5.89	2.23	1.51	10.27	0.0084
Pampers Sensitive Wipes (3 pk)	Water Wipes Soft Pack	5.86	2.98	0.02	11.70	0.0493
Huggies One and Done Wipes (3 pk)	Parent's Choice Fresh Scent Wipes (500 ct Case)	5.74	2.92	0.01	11.46	0.0495
Pampers Baby Fresh Wipes (3 pk)	Parent's Choice Potty Training Wipes Soft Pack	5.69	2.84	0.11	11.26	0.0458
Pampers Baby Fresh Wipes Soft Pack	Parent's Choice Fresh Scent Wipes (Soft Pack)	5.68	2.64	0.50	10.86	0.0317
Huggies Simply Clean Fragrance Free Wipes (3 pk)	Pampers Sensitive Wipes (Soft Pack)	5.47	2.17	1.21	9.72	0.0118
Huggies One and Done Wipes Soft Pack	Pampers Sensitive Wipes (Soft Pack)	5.27	2.31	0.74	9.79	0.0226
Pampers Sensitive Wipes (Case)	Huggies Simply Clean Fresh Scent Wipes (3 pk)	5.24	2.15	1.01	9.46	0.0152
Huggies Natural Care Wipes (Soft Pack)	Parent's Choice Fragrance Free Wipes Tub	5.11	2.35	0.50	9.72	0.0297
Huggies Simply Clean Fragrance Free Wipes (3 pk)	Huggies Simply Clean Fragrance Free Wipes Soft Pack	5.06	2.17	0.81	9.32	0.0197
Huggies Simply Clean Fragrance Free Wipes (3 pk)	Pampers Sensitive Wipes Tub	5.03	1.92	1.26	8.80	0.009
Huggies One and Done Wipes (3 pk)	Pampers Sensitive Wipes (3 pk)	5.01	2.32	0.45	9.57	0.0313
Huggies Natural Care Wipes w/ Pooh Bear Tub	Parent's Choice Fragrance Free Wipes Tub	4.92	2.45	0.10	9.74	0.0454
Huggies Natural Care Wipes Tub	Parent's Choice Fragrance Free Wipes Tub	4.91	2.31	0.38	9.45	0.0338
Huggies One and Done Wipes Soft Pack	Huggies Simply Clean Fragrance Free Wipes Soft Pack	4.86	2.31	0.34	9.39	0.0352
Pampers Baby Fresh Wipes (3 pk)	Pampers Sensitive Wipes (Soft Pack)	4.85	2.23	0.47	9.22	0.03
Huggies One and Done Wipes Soft Pack	Pampers Sensitive Wipes Tub	4.83	2.08	0.76	8.91	0.0202
Pampers Baby Fresh Wipes Soft Pack	Parent's Choice Fresh Scent Wipes Tub	4.78	2.26	0.35	9.22	0.0346
Huggies Simply Clean Fresh Scent Wipes (3 pk)	Huggies Natural Care Wipes Tub	4.72	2.28	0.24	9.21	0.0388
Pampers Baby Fresh Wipes (3 pk)	Pampers Sensitive Wipes Tub	4.41	1.99	0.50	8.32	0.027
Pampers Baby Fresh Wipes (3 pk)	Huggies Simply Clean Fragrance Free Wipes Soft Pack	4.44	2.23	0.07	8.82	0.0465

Battery Pairwise Comparisons

Level	Level	Difference	Std Err Dif	Lower CL	Upper CL	p-Value
Duracell 9V2	Energizer Eco Advanced AA4	14.61	1.96	10.77	18.45	<.0001
Duracell 9V2	Duracell AA 8	13.93	2.32	9.37	18.48	<.0001
Duracell 9V2	Energizer AA16	13.50	1.96	9.65	17.35	<.0001
Duracell 9V2	Energizer AAA8	13.38	2.04	9.37	17.39	<.0001
Duracell 9V2	Duracell AA 16	13.20	2.29	8.70	17.71	<.0001
Duracell 9V2	Energizer AA8	12.70	1.96	8.86	16.54	<.0001
Duracell 9V2	Walgreens AA16	12.66	1.97	8.79	16.52	<.0001
Duracell 9V2	Walgreens AA8	11.55	1.99	7.65	15.45	<.0001
Duracell D2	Energizer Eco Advanced AA4	11.41	2.43	6.64	16.17	<.0001
Duracell D2	Duracell AA 8	10.73	2.73	5.37	16.09	<.0001
Energizer D2	Energizer Eco Advanced AA4	10.45	1.35	7.81	13.09	<.0001
Duracell D2	Energizer AA16	10.30	2.43	5.52	15.07	<.0001
Duracell D2	Energizer AAA8	10.18	2.50	5.27	15.08	<.0001

Duracell D2	Duracell AA 16	10.00	2.71	4.69	15.32	0.0002
Duracell 9V2	Energizer AAA 16	9.84	2.00	5.91	13.77	<.0001
Walgreens D2	Energizer Eco Advanced AA4	9.80	1.54	6.78	12.82	<.0001
Energizer D2	Duracell AA 8	9.77	1.84	6.16	13.38	<.0001
Duracell D2	Energizer AA8	9.50	2.43	4.73	14.27	<.0001
Duracell D2	Walgreens AA16	9.46	2.44	4.67	14.24	0.0001
Energizer D2	Energizer AA16	9.34	1.35	6.68	12.00	<.0001
Energizer D2	Energizer AAA8	9.22	1.47	6.34	12.10	<.0001
Walgreens D2	Duracell AA 8	9.12	1.98	5.22	13.01	<.0001
Energizer D2	Duracell AA 16	9.05	1.80	5.51	12.58	<.0001
Duracell 9V2	Energizer 9V2	9.04	1.99	5.14	12.93	<.0001
Duracell 9V2	Walgreens AAA8	9.01	2.02	5.04	12.98	<.0001
Walgreens D2	Energizer AA16	8.68	1.55	5.65	11.72	<.0001
Walgreens D2	Energizer AAA8	8.57	1.65	5.33	11.80	<.0001
Energizer D2	Energizer AA8	8.54	1.35	5.90	11.19	<.0001
Energizer D2	Walgreens AA16	8.50	1.37	5.82	11.18	<.0001
Duracell AAA16	Energizer Eco Advanced AA4	8.45	1.87	4.78	12.12	<.0001
Walgreens D2	Duracell AA 16	8.39	1.95	4.56	12.22	<.0001
Duracell D2	Walgreens AA8	8.35	2.45	3.53	13.16	0.0007
Duracell 9V2	Energizer C2	8.29	1.99	4.38	12.20	<.0001
Duracell 9V2	Duracell C2	8.26	2.49	3.37	13.16	0.0009
Duracell 9V2	Duracell AAA 8	8.04	2.31	3.51	12.57	0.0005
Walgreens D2	Energizer AA8	7.89	1.54	4.86	10.91	<.0001
Walgreens D2	Walgreens AA16	7.84	1.56	4.79	10.90	<.0001
Duracell AAA16	Duracell AA 8	7.77	2.25	3.35	12.18	0.0006
Walgreens 9V2	Energizer Eco Advanced AA4	7.59	1.38	4.88	10.31	<.0001
Energizer D2	Walgreens AA8	7.39	1.39	4.66	10.12	<.0001
Duracell AAA16	Energizer AA16	7.34	1.87	3.66	11.01	<.0001
Walgreens C2	Energizer Eco Advanced AA4	7.33	1.46	4.47	10.20	<.0001
Duracell 9V2	Walgreens C2	7.28	2.13	3.11	11.45	0.0006
Duracell AAA16	Energizer AAA8	7.22	1.96	3.37	11.06	0.0002
Duracell AAA16	Duracell AA 16	7.04	2.22	2.69	11.40	0.0016
Duracell 9V2	Walgreens 9V2	7.02	2.07	2.95	11.09	0.0007
Walgreens 9V2	Duracell AA 8	6.91	1.87	3.25	10.57	0.0002
Walgreens D2	Walgreens AA8	6.74	1.58	3.64	9.84	<.0001
Walgreens C2	Duracell AA 8	6.65	1.92	2.88	10.42	0.0006
Duracell D2	Energizer AAA 16	6.64	2.47	1.80	11.48	0.0072
Duracell AAA 8	Energizer Eco Advanced AA4	6.57	1.71	3.21	9.93	0.0001
Duracell AAA16	Energizer AA8	6.54	1.87	2.87	10.21	0.0005
Duracell AAA16	Walgreens AA16	6.50	1.88	2.80	10.19	0.0006
Walgreens 9V2	Energizer AA16	6.48	1.39	3.75	9.21	<.0001
Walgreens 9V2	Energizer AAA8	6.36	1.50	3.41	9.31	<.0001

Duracell C2	Energizer Eco Advanced AA4	6.35	1.96	2.51	10.18	0.0012
Energizer C2	Energizer Eco Advanced AA4	6.32	1.26	3.85	8.79	<.0001
Walgreens C2	Energizer AA16	6.22	1.47	3.34	9.10	<.0001
Walgreens 9V2	Duracell AA 16	6.19	1.83	2.59	9.78	0.0008
Duracell 9V2	Duracell AAA16	6.16	2.43	1.40	10.92	0.0112
Walgreens C2	Energizer AAA8	6.10	1.57	3.01	9.19	0.0001
Walgreens C2	Duracell AA 16	5.93	1.89	2.22	9.63	0.0018
Duracell AAA 8	Duracell AA 8	5.89	2.12	1.72	10.05	0.0056
Duracell D2	Energizer 9V2	5.84	2.45	1.02	10.65	0.0175
Duracell D2	Walgreens AAA8	5.81	2.48	0.94	10.68	0.0194
Energizer D2	Energizer AAA 16	5.69	1.41	2.91	8.46	<.0001
Walgreens 9V2	Energizer AA8	5.68	1.39	2.96	8.40	<.0001
Duracell C2	Duracell AA 8	5.66	2.32	1.11	10.22	0.0149
Energizer C2	Duracell AA 8	5.64	1.77	2.16	9.12	0.0015
Walgreens 9V2	Walgreens AA16	5.64	1.40	2.89	8.39	<.0001
Walgreens AAA8	Energizer Eco Advanced AA4	5.60	1.31	3.04	8.16	<.0001
Energizer 9V2	Energizer Eco Advanced AA4	5.57	1.25	3.13	8.02	<.0001
Duracell AAA 8	Energizer AA16	5.46	1.72	2.08	8.83	0.0015
Walgreens C2	Energizer AA8	5.42	1.46	2.55	8.29	0.0002
Duracell AAA16	Walgreens AA8	5.39	1.90	1.66	9.12	0.0047
Walgreens C2	Walgreens AA16	5.38	1.48	2.48	8.28	0.0003
Duracell AAA 8	Energizer AAA8	5.34	1.81	1.78	8.89	0.0033
Duracell C2	Energizer AA16	5.23	1.96	1.38	9.08	0.0077
Energizer C2	Energizer AA16	5.21	1.27	2.72	7.69	<.0001
Duracell AAA 8	Duracell AA 16	5.16	2.09	1.06	9.27	0.0137
Duracell C2	Energizer AAA8	5.11	2.04	1.11	9.12	0.0124
Energizer C2	Energizer AAA8	5.09	1.39	2.36	7.81	0.0003
Duracell D2	Energizer C2	5.09	2.46	0.27	9.91	0.0387
Walgreens D2	Energizer AAA 16	5.03	1.60	1.89	8.17	0.0017
Duracell C2	Duracell AA 16	4.94	2.29	0.44	9.44	0.0315
Walgreens AAA8	Duracell AA 8	4.92	1.81	1.37	8.46	0.0066
Energizer C2	Duracell AA 16	4.91	1.74	1.50	8.32	0.0048
Energizer 9V2	Duracell AA 8	4.89	1.77	1.43	8.36	0.0057
Energizer D2	Energizer 9V2	4.88	1.39	2.15	7.60	0.0005
Energizer D2	Walgreens AAA8	4.85	1.44	2.03	7.68	0.0008
Duracell 9V2	Walgreens D2	4.81	2.18	0.53	9.09	0.0276
Energizer AAA 16	Energizer Eco Advanced AA4	4.77	1.27	2.27	7.26	0.0002
Duracell AAA 8	Energizer AA8	4.66	1.72	1.29	8.03	0.0067
Duracell AAA 8	Walgreens AA16	4.62	1.73	1.23	8.01	0.0077
Walgreens 9V2	Walgreens AA8	4.53	1.43	1.73	7.33	0.0016

Walgreens 9V2	Walgreens AA8	4.53	1.43	1.73	7.33	0.0016
Walgreens AAA8	Energizer AA16	4.48	1.31	1.91	7.06	0.0007
Energizer 9V2	Energizer AA16	4.46	1.26	2.00	6.92	0.0004
Duracell C2	Energizer AA8	4.44	1.96	0.59	8.28	0.0236
Energizer C2	Energizer AA8	4.41	1.26	1.94	6.88	0.0005
Duracell C2	Walgreens AA16	4.39	1.97	0.53	8.26	0.0258
Energizer C2	Walgreens AA16	4.37	1.28	1.86	6.87	0.0006
Walgreens AAA8	Energizer AAA8	4.37	1.43	1.56	7.17	0.0023
Energizer 9V2	Energizer AAA8	4.34	1.38	1.64	7.04	0.0017
Walgreens C2	Walgreens AA8	4.27	1.50	1.32	7.22	0.0045
Walgreens D2	Energizer 9V2	4.22	1.58	1.13	7.32	0.0075
Walgreens D2	Walgreens AAA8	4.20	1.62	1.01	7.39	0.0098
Walgreens AAA8	Duracell AA 16	4.19	1.77	0.71	7.67	0.0182
Energizer 9V2	Duracell AA 16	4.17	1.73	0.77	7.56	0.0162
Duracell 9V2	Energizer D2	4.16	2.05	0.14	8.18	0.0427
Energizer D2	Energizer C2	4.13	1.40	1.39	6.88	0.0032
Energizer D2	Duracell C2	4.11	2.05	0.08	8.13	0.0454
Energizer AAA 16	Duracell AA 8	4.08	1.79	0.58	7.59	0.0223
Energizer D2	Duracell AAA 8	3.88	1.82	0.31	7.45	0.0332
Walgreens AAA8	Energizer AA8	3.69	1.31	1.12	6.25	0.0049
Energizer 9V2	Energizer AA8	3.66	1.25	1.21	6.11	0.0034
Energizer AAA 16	Energizer AA16	3.65	1.28	1.14	6.17	0.0044
Walgreens AAA8	Walgreens AA16	3.64	1.32	1.05	6.24	0.006
Energizer 9V2	Walgreens AA16	3.62	1.27	1.13	6.10	0.0043
Energizer AAA 16	Energizer AAA8	3.53	1.40	0.78	6.29	0.0119
Duracell AAA 8	Walgreens AA8	3.51	1.75	0.07	6.94	0.0452
Walgreens D2	Energizer C2	3.48	1.59	0.36	6.59	0.0286
Energizer C2	Walgreens AA8	3.26	1.31	0.70	5.82	0.0128
Energizer D2	Walgreens C2	3.12	1.58	0.01	6.23	0.049
Walgreens AA8	Energizer Eco Advanced AA4	3.06	1.25	0.61	5.51	0.0145

Chocolate Pairwise Comparisons

Level	Level	Difference	Std Err Dif	Lower CL	Upper CL	p-Value
Old Dominion Dipped Peanuts	Whitman's Sampler	17.42	3.24	11.06	23.77	<.0001
Old Dominion Dipped Peanuts	DeMet's Original Turtles	17.11	3.27	10.69	23.52	<.0001
Old Dominion Dipped Peanuts	Chocolove Dark Chocolate Almonds	16.02	3.26	9.63	22.42	<.0001
Old Dominion Peanut Butter Double Ups	Whitman's Sampler	14.79	3.52	7.88	21.69	<.0001
Old Dominion Peanut Butter Double Ups	DeMet's Original Turtles	14.48	3.55	7.52	21.44	<.0001
Old Dominion Dipped Peanuts	Chocolove Milk Chocolate Almonds	14.00	3.26	7.61	20.40	<.0001
Old Dominion Dipped Peanuts	DeMet's Double Chocolate Turtles	13.84	3.31	7.34	20.35	<.0001
Old Dominion Peanut Butter Double Ups	Chocolove Dark Chocolate Almonds	13.39	3.54	6.45	20.33	0.0002
Riesen	Whitman's Sampler	12.98	3.05	7.00	18.96	<.0001
Riesen	DeMet's Original Turtles	12.67	3.08	6.63	18.71	<.0001
Old Dominion Dipped Peanuts	LC Milk Chocolate Raisins	12.56	3.25	6.18	18.93	0.0001
Old Dominion Dipped Peanuts	Milky Way Snack Size	12.34	3.26	5.95	18.74	0.0002
Old Dominion Dipped Peanuts	Trader Joe's Milk Chocolate	12.10	3.24	5.75	18.46	0.0002

Old Dominion Dipped Peanuts	Hershey's Milk Chocolate Kisses	11.96	3.35	5.38	18.53	0.0004
Old Dominion Dipped Peanuts	Hershey's Milk Chcolate Snack Size	11.91	3.35	5.33	18.48	0.0004
Riesen	Chocolove Dark Chocolate Almonds	11.58	3.07	5.56	17.60	0.0002
Old Dominion Dipped Peanuts	Old Dominion Toffee Peanuts	11.50	3.46	4.72	18.28	0.0009
Old Dominion Peanut Butter Double Ups	Chocolove Milk Chocolate Almonds	11.37	3.54	4.43	18.32	0.0013
Old Dominion Peanut Butter Double Ups	DeMet's Double Chocolate Turtles	11.21	3.59	4.17	18.26	0.0018
All Time Greats Variety Pack	Whitman's Sampler	10.92	3.05	4.94	16.90	0.0004
Old Dominion Dipped Peanuts	Hershey's Milk Chocolate with Almond Kisses	10.74	3.34	4.19	17.29	0.0013
All Time Greats Variety Pack	DeMet's Original Turtles	10.61	3.08	4.57	16.65	0.0006
Old Dominion Dipped Peanuts	Hershey's Minatures	10.18	3.46	3.40	16.96	0.0033
Old Dominion Peanut Butter Double Ups	LC Milk Chocolate Raisins	9.93	3.53	3.00	16.85	0.005
Peanut M&Ms Fun Size	Whitman's Sampler	9.88	2.91	4.18	15.58	0.0007
Old Dominion Sea Salt Brittle	Whitman's Sampler	9.75	2.99	3.89	15.62	0.0011
Old Dominion Peanut Butter Double Ups	Milky Way Snack Size	9.71	3.54	2.77	16.65	0.0061
Old Dominion Dipped Peanuts	Toostie Rolls	9.68	3.31	3.18	16.19	0.0035
Mar's Chocolate Favorites	Whitman's Sampler	9.62	2.99	3.75	15.49	0.0013
Peanut M&Ms Fun Size	DeMet's Original Turtles	9.57	2.94	3.80	15.34	0.0012
Riesen	Chocolove Milk Chocolate Almonds	9.56	3.07	3.54	15.58	0.0019
All Time Greats Variety Pack	Chocolove Dark Chocolate Almonds	9.52	3.07	3.50	15.54	0.002
Old Dominion Peanut Butter Double Ups	Trader Joe's Milk Chocolate	9.48	3.52	2.57	16.38	0.0072
Old Dominion Sea Salt Brittle	DeMet's Original Turtles	9.44	3.02	3.51	15.38	0.0018
Riesen	DeMet's Double Chocolate Turtles	9.40	3.13	3.27	15.54	0.0027
Old Dominion Peanut Butter Double Ups	Hershey's Milk Chocolate Kisses	9.33	3.62	2.22	16.44	0.0102
Mar's Chocolate Favorites	DeMet's Original Turtles	9.31	3.02	3.38	15.24	0.0021
Old Dominion Peanut Butter Double Ups	Hershey's Milk Chcolate Snack Size	9.28	3.62	2.17	16.39	0.0106
Old Dominion Dipped Peanuts	Variety Pack Snack Size	9.21	3.33	2.69	15.74	0.0057
Old Dominion Dipped Peanuts	Old Dominion S'mores Crunch	9.13	3.46	2.35	15.91	0.0084
Old Dominion Dipped Peanuts	LC Milk Chocolate Peanuts	9.09	3.26	2.69	15.48	0.0054
Old Dominion Dipped Peanuts	LC Milk Chocolate Caramels	8.92	2.98	3.07	14.77	0.0028
Old Dominion Peanut Butter Double Ups	Old Dominion Toffee Peanuts	8.87	3.72	1.57	16.17	0.0173
LC Milk Chocolate Caramels	Whitman's Sampler	8.50	2.47	3.65	13.35	0.0006
Peanut M&Ms Fun Size	Chocolove Dark Chocolate Almonds	8.48	2.93	2.74	14.23	0.0038
Old Dominion Sea Salt Brittle	Chocolove Dark Chocolate Almonds	8.36	3.01	2.45	14.27	0.0056
LC Milk Chocolate Peanuts	Whitman's Sampler	8.33	2.80	2.84	13.82	0.003
Old Dominion S'mores Crunch	Whitman's Sampler	8.29	3.03	2.35	14.23	0.0063
Mar's Chocolate Favorites	Chocolove Dark Chocolate Almonds	8.23	3.01	2.32	14.13	0.0064
Variety Pack Snack Size	Whitman's Sampler	8.21	2.88	2.56	13.85	0.0044
LC Milk Chocolate Caramels	DeMet's Original Turtles	8.19	2.51	3.26	13.11	0.0011
Riesen	LC Milk Chocolate Raisins	8.11	3.06	2.12	14.11	0.0081
Old Dominion Peanut Butter Double Ups	Hershey's Milk Chocolate with Almond Kisses	8.11	3.61	1.02	15.19	0.025
LC Milk Chocolate Peanuts	DeMet's Original Turtles	8.02	2.83	2.46	13.58	0.0047
Old Dominion S'mores Crunch	DeMet's Original Turtles	7.98	3.06	1.98	13.98	0.0092
Riesen	Milky Way Snack Size	7.90	3.07	1.88	13.92	0.0101
Variety Pack Snack Size	DeMet's Original Turtles	7.90	2.91	2.18	13.61	0.0068
Old Dominion Dipped Peanuts	Mar's Chocolate Favorites	7.80	3.42	1.08	14.51	0.023
Toostie Rolls	Whitman's Sampler	7.73	2.86	2.12	13.35	0.007
Riesen	Trader Joe's Milk Chocolate	7.66	3.05	1.69	13.64	0.012
Old Dominion Dipped Peanuts	Old Dominion Sea Salt Brittle	7.66	3.42	0.95	14.38	0.0254
Old Dominion Peanut Butter Double Ups	Hershey's Minatures	7.55	3.72	0.25	14.85	0.0427
Old Dominion Dipped Peanuts	Peanut M&Ms Fun Size	7.54	3.35	0.96	14.11	0.0247
Riesen	Hershey's Milk Chocolate Kisses	7.52	3.17	1.30	13.73	0.0178
All Time Greats Variety Pack	Chocolove Milk Chocolate Almonds	7.51	3.07	1.49	13.53	0.0146
Riesen	Hershey's Milk Chcolate Snack Size	7.47	3.17	1.25	13.68	0.0185
Toostie Rolls	DeMet's Original Turtles	7.42	2.90	1.74	13.11	0.0105
All Time Greats Variety Pack	DeMet's Double Chocolate Turtles	7.35	3.13	1.21	13.48	0.019
Hershey's Minatures	Whitman's Sampler	7.24	3.03	1.30	13.18	0.017
LC Milk Chocolate Caramels	Chocolove Dark Chocolate Almonds	7.10	2.50	2.20	12.00	0.0045

Riesen	Old Dominion Toffee Peanuts	7.06	3.28	0.63	13.49	0.0315
Old Dominion Peanut Butter Double Ups	Toostie Rolls	7.05	3.59	0.01	14.10	0.0496
LC Milk Chocolate Peanuts	Chocolove Dark Chocolate Almonds	6.93	2.82	1.40	12.47	0.0142
Hershey's Minatures	DeMet's Original Turtles	6.93	3.06	0.93	12.93	0.0237
Old Dominion S'mores Crunch	Chocolove Dark Chocolate Almonds	6.89	3.05	0.91	12.87	0.0239
Variety Pack Snack Size	Chocolove Dark Chocolate Almonds	6.81	2.90	1.12	12.50	0.019
Hershey's Milk Chocolate with Almond Kiss	Whitman's Sampler	6.68	2.89	1.01	12.36	0.0211
Peanut M&Ms Fun Size	Chocolove Milk Chocolate Almonds	6.47	2.93	0.72	12.21	0.0275
Hershey's Milk Chocolate with Almond Kiss	DeMet's Original Turtles	6.37	2.93	0.63	12.11	0.0296
Old Dominion Sea Salt Brittle	Chocolove Milk Chocolate Almonds	6.34	3.01	0.43	12.25	0.0355
Toostie Rolls	Chocolove Dark Chocolate Almonds	6.34	2.89	0.68	12.00	0.0283
Peanut M&Ms Fun Size	DeMet's Double Chocolate Turtles	6.31	2.99	0.44	12.17	0.0351
Riesen	Hershey's Milk Chocolate with Almond Kisses	6.30	3.15	0.11	12.48	0.0461
Mar's Chocolate Favorites	Chocolove Milk Chocolate Almonds	6.21	3.01	0.30	12.12	0.0395
Old Dominion Sea Salt Brittle	DeMet's Double Chocolate Turtles	6.18	3.07	0.16	12.21	0.0444
All Time Greats Variety Pack	LC Milk Chocolate Raisins	6.06	3.06	0.06	12.06	0.0478
Mar's Chocolate Favorites	DeMet's Double Chocolate Turtles	6.05	3.07	0.02	12.07	0.0491

Coffee Pairwise Comparisons

Level	Level	Difference	Std Err Dif	Lower CL	Upper CL	p-Value
Gevalia 18 cups Dark Royal Roast	Maxwell House House Blend	10.61	1.63	7.42	13.80	<.0001
Donut Shop 18 cups Regular	Maxwell House House Blend	10.42	1.61	7.26	13.57	<.0001
Donut Shop 18 cups Decaf	Maxwell House House Blend	10.27	1.49	7.34	13.20	<.0001
Maxwell House 18 cup Breakfast Blend	Maxwell House House Blend	10.19	1.65	6.96	13.42	<.0001
Eight O'Clock 18 cups French Roast	Laura Lyn House Blend	9.56	1.58	6.47	12.66	<.0001
Eight O'Clock 18 cups French Roast	New England Coffee Breakfast Blend	9.53	1.58	6.42	12.63	<.0001
Gevalia 18 cups Dark Royal Roast	Laura Lyn House Blend	9.53	1.58	6.43	12.62	<.0001
Gevalia 18 cups Dark Royal Roast	New England Coffee Breakfast Blend	9.49	1.58	6.39	12.60	<.0001
Donut Shop 18 cups Regular	Laura Lyn House Blend	9.33	1.56	6.27	12.39	<.0001
Donut Shop 18 cups Regular	New England Coffee Breakfast Blend	9.30	1.57	6.23	12.37	<.0001
Donut Shop 18 cups Decaf	Laura Lyn House Blend	9.18	1.44	6.36	12.01	<.0001
Donut Shop 18 cups Decaf	New England Coffee Breakfast Blend	9.15	1.45	6.31	11.98	<.0001
Maxwell House 18 cup Breakfast Blend	Laura Lyn House Blend	9.10	1.60	5.97	12.24	<.0001
Maxwell House 18 cup Breakfast Blend	New England Coffee Breakfast Blend	9.07	1.60	5.93	12.21	<.0001
Eight O'Clock 18 cups French Roast	Cafe Bustelo Orginial	8.76	1.60	5.63	11.90	<.0001
Gevalia 18 cups Dark Royal Roast	Cafe Bustelo Orginial	8.73	1.60	5.59	11.86	<.0001
Eight O'Clock 18 cups French Roast	Peet's Coffee Dark Roast	8.59	1.57	5.51	11.66	<.0001
Gevalia 18 cups Dark Royal Roast	Peet's Coffee Dark Roast	8.55	1.57	5.47	11.63	<.0001
Donut Shop 18 cups Regular	Cafe Bustelo Orginial	8.53	1.58	5.43	11.63	<.0001
Gevalia 18 cups Signature Blend	Maxwell House House Blend	8.43	1.55	5.40	11.47	<.0001
Donut Shop 18 cups Decaf	Cafe Bustelo Orginial	8.38	1.46	5.51	11.25	<.0001
Donut Shop 18 cups Regular	Peet's Coffee Dark Roast	8.35	1.55	5.31	11.40	<.0001
Maxwell House 18 cup Breakfast Blend	Cafe Bustelo Orginial	8.30	1.62	5.13	11.48	<.0001
Eight O'Clock 18 cups French Roast	Folgers Gourmet	8.30	1.62	5.13	11.47	<.0001
Gevalia 18 cups Dark Royal Roast	Folgers Gourmet	8.26	1.62	5.09	11.43	<.0001
Eight O'Clock 18 cups French Roast	Laura Lynn Donut Shop	8.25	1.59	5.13	11.37	<.0001
Gevalia 18 cups Dark Royal Roast	Laura Lynn Donut Shop	8.22	1.59	5.10	11.33	<.0001
Donut Shop 18 cups Decaf	Peet's Coffee Dark Roast	8.21	1.43	5.40	11.01	<.0001
Eight O'Clock 18 cups French Roast	Laura Lyn French Vanilla	8.18	1.62	4.99	11.36	<.0001
Eight O'Clock 18 cups French Roast	Maxwell House Breakfast Blend	8.15	1.65	4.92	11.39	<.0001
Gevalia 18 cups Dark Royal Roast	Laura Lyn French Vanilla	8.14	1.62	4.96	11.33	<.0001

Eight O'Clock 18 cups French Roast	Harvest Farms French Roast	8.13	1.58	5.03	11.23	<.0001
Maxwell House 18 cup Breakfast Blend	Peet's Coffee Dark Roast	8.13	1.59	5.01	11.24	<.0001
Gevalia 18 cups Dark Royal Roast	Maxwell House Breakfast Blend	8.12	1.65	4.89	11.35	<.0001
Gevalia 18 cups Dark Royal Roast	Harvest Farms French Roast	8.10	1.58	5.00	11.20	<.0001
Donut Shop 18 cups Regular	Folgers Gourmet	8.07	1.60	4.93	11.20	<.0001
Donut Shop 18 cups Regular	Laura Lynn Donut Shop	8.02	1.57	4.94	11.10	<.0001
Donut Shop 18 cups Regular	Laura Lyn French Vanilla	7.95	1.61	4.80	11.10	<.0001
Donut Shop 18 cups Regular	Maxwell House Breakfast Blend	7.92	1.63	4.72	11.12	<.0001
Donut Shop 18 cups Decaf	Folgers Gourmet	7.92	1.48	5.01	10.82	<.0001
Donut Shop 18 cups Regular	Harvest Farms French Roast	7.90	1.56	4.84	10.97	<.0001
Donut Shop 18 cups Decaf	Laura Lynn Donut Shop	7.87	1.45	5.02	10.72	<.0001
Maxwell House 18 cup Breakfast Blend	Folgers Gourmet	7.84	1.64	4.63	11.04	<.0001
Donut Shop 18 cups Decaf	Laura Lyn French Vanilla	7.80	1.49	4.88	10.72	<.0001
Maxwell House 18 cup Breakfast Blend	Laura Lynn Donut Shop	7.79	1.61	4.64	10.95	<.0001
Donut Shop 18 cups Decaf	Maxwell House Breakfast Blend	7.77	1.52	4.80	10.75	<.0001
Donut Shop 18 cups Decaf	Harvest Farms French Roast	7.75	1.44	4.92	10.58	<.0001
Maxwell House 18 cup Breakfast Blend	Laura Lyn French Vanilla	7.72	1.64	4.50	10.94	<.0001
Maxwell House 18 cup Breakfast Blend	Maxwell House Breakfast Blend	7.69	1.67	4.43	10.96	<.0001
Maxwell House 18 cup Breakfast Blend	Harvest Farms French Roast	7.67	1.60	4.54	10.81	<.0001
Maxwell House 18 cup Bold	Maxwell House House Blend	7.62	1.48	4.72	10.52	<.0001
Gevalia 18 cups Signature Blend	Laura Lyn House Blend	7.35	1.50	4.42	10.28	<.0001
Gevalia 18 cups Signature Blend	New England Coffee Breakfast Blend	7.32	1.50	4.37	10.26	<.0001
Tully's Hawaiian Blend	Maxwell House House Blend	7.17	1.68	3.88	10.46	<.0001
Eight O'Clock 18 cups French Roast	New England Coffee French Roast	7.15	1.64	3.94	10.36	<.0001
Gevalia 18 cups Dark Royal Roast	New England Coffee French Roast	7.12	1.64	3.91	10.32	<.0001
Eight O'Clock 18 cups French Roast	Maxwell House French Roast	7.11	1.68	3.82	10.41	<.0001
Gevalia 18 cups Dark Royal Roast	Maxwell House French Roast	7.08	1.68	3.78	10.38	<.0001
Donut Shop 18 cups Regular	New England Coffee French Roast	6.92	1.62	3.75	10.09	<.0001
Donut Shop 18 cups Regular	Maxwell House French Roast	6.88	1.66	3.62	10.15	<.0001
Gevalia 18 cups Colombia	Maxwell House House Blend	6.84	1.49	3.92	9.75	<.0001
KGM 18 cups Half-Calf	Maxwell House House Blend	6.83	1.45	3.98	9.68	<.0001
Donut Shop 18 cups Decaf	New England Coffee French Roast	6.77	1.50	3.83	9.72	<.0001
Donut Shop 18 cups Decaf	Maxwell House French Roast	6.74	1.55	3.69	9.78	<.0001
Maxwell House 18 cup Breakfast Blend	New England Coffee French Roast	6.69	1.65	3.45	9.94	<.0001
Eight O'Clock 18 cups French Roast	New England Coffee Donut Shop Blend	6.67	1.65	3.43	9.91	<.0001
Maxwell House 18 cup Breakfast Blend	Maxwell House French Roast	6.66	1.70	3.32	9.99	<.0001
Gevalia 18 cups Dark Royal Roast	New England Coffee Donut Shop Blend	6.63	1.65	3.39	9.87	<.0001
Gevalia 18 cups Signature Blend	Cafe Bustelo Orginial	6.55	1.52	3.57	9.53	<.0001
Maxwell House 18 cup Bold	Laura Lyn House Blend	6.54	1.42	3.75	9.33	<.0001
Maxwell House 18 cup Bold	New England Coffee Breakfast Blend	6.50	1.43	3.70	9.31	<.0001
Donut Shop 18 cups Regular	New England Coffee Donut Shop Blend	6.44	1.64	3.23	9.64	<.0001
Eight O'Clock 18 cups French Roast	Laura Lyn French Roast	6.40	1.73	3.00	9.80	0.0002

Eight O'Clock 18 cups Dark Italian Roast	Maxwell House House Blend	6.39	1.48	3.49	9.29	<.0001
Gevalia 18 cups Signature Blend	Peet's Coffee Dark Roast	6.37	1.49	3.45	9.29	<.0001
Gevalia 18 cups Dark Royal Roast	Laura Lyn French Roast	6.36	1.73	2.96	9.76	0.0002
Donut Shop 18 cups Decaf	New England Coffee Donut Shop Blend	6.29	1.52	3.30	9.27	<.0001
Maxwell House 18 cup Breakfast Blend	New England Coffee Donut Shop Blend	6.21	1.67	2.93	9.49	0.0002
Maxwell House 18 cup Original	Maxwell House House Blend	6.21	1.43	3.41	9.01	<.0001
Cafe Bustelo 100% Columbian	Maxwell House House Blend	6.17	1.62	2.99	9.34	0.0001
Donut Shop 18 cups Regular	Laura Lyn French Roast	6.17	1.72	2.80	9.53	0.0003
Tully's Hawaiian Blend	Laura Lyn House Blend	6.08	1.63	2.89	9.28	0.0002
Gevalia 18 cups Signature Blend	Folgers Gourmet	6.08	1.54	3.07	9.10	<.0001
Tully's Hawaiian Blend	New England Coffee Breakfast Blend	6.05	1.63	2.84	9.25	0.0002
Gevalia 18 cups Signature Blend	Laura Lynn Donut Shop	6.04	1.51	3.08	9.00	<.0001
Donut Shop 18 cups Decaf	Laura Lyn French Roast	6.02	1.61	2.87	9.17	0.0002

Gevalia 18 cups Signature Blend	Laura Lyn French Vanilla	5.96	1.54	2.93	8.99	0.0001
Maxwell House 18 cup Breakfast Blend	Laura Lyn French Roast	5.94	1.75	2.51	9.37	0.0007
Gevalia 18 cups Signature Blend	Maxwell House Breakfast Blend	5.94	1.57	2.86	9.02	0.0002
Gevalia 18 cups Signature Blend	Harvest Farms French Roast	5.92	1.50	2.98	8.86	<.0001
Eight O'Clock 18 cups French Roast	Snapple Peach Iced Tea	5.92	1.80	2.39	9.45	0.001
Gevalia 18 cups Dark Royal Roast	Snapple Peach Iced Tea	5.88	1.80	2.35	9.41	0.0011
Peet's Medium Roast	Maxwell House House Blend	5.87	1.47	2.99	8.75	<.0001
Eight O'Clock 18 cups French Roast	Chock Full O'Nuts	5.87	1.69	2.56	9.17	0.0005
Eight O'Clock 18 cups Original	Maxwell House House Blend	5.83	1.45	2.98	8.68	<.0001
Gevalia 18 cups Dark Royal Roast	Chock Full O'Nuts	5.83	1.69	2.52	9.14	0.0006
Gevalia 18 cups Colombia	Laura Lyn House Blend	5.75	1.43	2.94	8.56	<.0001
KGM 18 cups Half-Calf	Laura Lyn House Blend	5.74	1.40	3.00	8.49	<.0001
Maxwell House 18 cup Bold	Cafe Bustelo Orginial	5.74	1.45	2.90	8.58	<.0001
Gevalia 18 cups Colombia	New England Coffee Breakfast Blend	5.72	1.44	2.89	8.54	<.0001
KGM 18 cups Half-Calf	New England Coffee Breakfast Blend	5.71	1.40	2.95	8.46	<.0001
Donut Shop 18 cups Regular	Snapple Peach Iced Tea	5.69	1.78	2.19	9.18	0.0015
Donut Shop 18 cups Regular	Chock Full O'Nuts	5.63	1.67	2.36	8.91	0.0007
Harvest Farms Breakfast Blend	Maxwell House House Blend	5.61	1.45	2.76	8.45	0.0001
Maxwell House 18 cup Bold	Peet's Coffee Dark Roast	5.56	1.41	2.79	8.33	<.0001
Donut Shop 18 cups Decaf	Snapple Peach Iced Tea	5.54	1.68	2.24	8.83	0.001
Donut Shop 18 cups Decaf	Chock Full O'Nuts	5.49	1.56	2.43	8.54	0.0004
Maxwell House 18 cup Breakfast Blend	Snapple Peach Iced Tea	5.46	1.82	1.89	9.02	0.0027
Maxwell House 18 cup Breakfast Blend	Chock Full O'Nuts	5.41	1.70	2.06	8.75	0.0015
Eight O'Clock 18 cups French Roast	KGM 18 cups Breakfast Blend	5.39	1.61	2.23	8.54	0.0008
Eight O'Clock 18 cups French Roast	Bigelow English Breakfast.	5.36	1.73	1.97	8.75	0.0019
Gevalia 18 cups Dark Royal Roast	KGM 18 cups Breakfast Blend	5.35	1.61	2.20	8.51	0.0009
Gevalia 18 cups Dark Royal Roast	Bigelow English Breakfast.	5.32	1.73	1.94	8.71	0.0021
Eight O'Clock 18 cups Dark Italian Roast	Laura Lyn House Blend	5.30	1.42	2.51	8.09	0.0002
Bigelow English Breakfast.	Maxwell House House Blend	5.29	1.56	2.24	8.34	0.0007
Tully's Hawaiian Blend	Cafe Bustelo Orginial	5.28	1.65	2.05	8.52	0.0014
Maxwell House 18 cup Bold	Folgers Gourmet	5.27	1.47	2.40	8.15	0.0003
Eight O'Clock 18 cups Dark Italian Roast	New England Coffee Breakfast Blend	5.27	1.43	2.46	8.07	0.0002
KGM 18 cups Breakfast Blend	Maxwell House House Blend	5.26	1.42	2.47	8.05	0.0002
Maxwell House 18 cup Bold	Laura Lynn Donut Shop	5.23	1.44	2.41	8.04	0.0003
Donut Shop 18 cups Regular	KGM 18 cups Breakfast Blend	5.16	1.59	2.04	8.28	0.0012
Maxwell House 18 cup Bold	Laura Lyn French Vanilla	5.15	1.47	2.26	8.04	0.0005
Maxwell House 18 cup Bold	Maxwell House Breakfast Blend	5.13	1.50	2.19	8.07	0.0006
Donut Shop 18 cups Regular	Bigelow English Breakfast.	5.13	1.71	1.78	8.48	0.0027
Maxwell House 18 cup Original	Laura Lyn House Blend	5.12	1.37	2.43	7.81	0.0002
Maxwell House 18 cup Bold	Harvest Farms French Roast	5.11	1.43	2.31	7.91	0.0003
Tully's Hawaiian Blend	Peet's Coffee Dark Roast	5.11	1.62	1.93	8.28	0.0017
Maxwell House 18 cup Original	New England Coffee Breakfast Blend	5.09	1.38	2.39	7.79	0.0002
Cafe Bustelo 100% Columbian	Laura Lyn House Blend	5.08	1.57	2.01	8.16	0.0012
Cafe Bustelo 100% Columbian	New England Coffee Breakfast Blend	5.05	1.57	1.96	8.14	0.0014
Eight O'Clock 18 cups French Roast	Harvest Farms Breakfast Blend	5.04	1.63	1.84	8.24	0.002
Donut Shop 18 cups Decaf	KGM 18 cups Breakfast Blend	5.01	1.47	2.12	7.90	0.0007
Gevalia 18 cups Dark Royal Roast	Harvest Farms Breakfast Blend	5.00	1.63	1.80	8.20	0.0022
Donut Shop 18 cups Decaf	Bigelow English Breakfast.	4.98	1.60	1.84	8.12	0.0019
Gevalia 18 cups Colombia	Cafe Bustelo Orginial	4.95	1.46	2.09	7.81	0.0007
KGM 18 cups Half-Calf	Cafe Bustelo Orginial	4.94	1.42	2.15	7.73	0.0005
Gevalia 18 cups Signature Blend	New England Coffee French Roast	4.94	1.56	1.89	7.99	0.0015
Maxwell House 18 cup Breakfast Blend	KGM 18 cups Breakfast Blend	4.93	1.63	1.73	8.12	0.0025
Gevalia 18 cups Signature Blend	Maxwell House French Roast	4.90	1.60	1.75	8.05	0.0023
Maxwell House 18 cup Breakfast Blend	Bigelow English Breakfast.	4.90	1.74	1.48	8.32	0.005
Tully's Hawaiian Blend	Folgers Gourmet	4.82	1.67	1.55	8.08	0.0039

Eight O'Clock 18 cups French Roast	Eight O'Clock 18 cups Original	4.81	1.64	1.61	8.02	0.0033
Donut Shop 18 cups Regular	Harvest Farms Breakfast Blend	4.81	1.61	1.64	7.97	0.0029
Peet's Medium Roast	Laura Lyn House Blend	4.78	1.41	2.01	7.56	0.0007
Chock Full O'Nuts	Maxwell House House Blend	4.78	1.51	1.82	7.74	0.0016
Gevalia 18 cups Dark Royal Roast	Eight O'Clock 18 cups Original	4.78	1.64	1.57	7.99	0.0035
Eight O'Clock 18 cups French Roast	Peet's Medium Roast	4.78	1.65	1.55	8.01	0.0038
Gevalia 18 cups Colombia	Peet's Coffee Dark Roast	4.77	1.42	1.98	7.57	0.0008
Tully's Hawaiian Blend	Laura Lynn Donut Shop	4.77	1.64	1.55	7.99	0.0037
KGM 18 cups Half-Calf	Peet's Coffee Dark Roast	4.77	1.39	2.04	7.49	0.0006
Peet's Medium Roast	New England Coffee Breakfast Blend	4.75	1.42	1.97	7.53	0.0008
Eight O'Clock 18 cups Original	Laura Lyn House Blend	4.75	1.40	2.01	7.49	0.0007
Gevalia 18 cups Dark Royal Roast	Peet's Medium Roast	4.74	1.65	1.51	7.97	0.004
Snapple Peach Iced Tea	Maxwell House House Blend	4.73	1.64	1.52	7.94	0.0039
Eight O'Clock 18 cups Original	New England Coffee Breakfast Blend	4.71	1.40	1.96	7.47	0.0008
Tully's Hawaiian Blend	Laura Lyn French Vanilla	4.70	1.67	1.41	7.98	0.0051
Tully's Hawaiian Blend	Maxwell House Breakfast Blend	4.67	1.70	1.34	8.00	0.0059
Donut Shop 18 cups Decaf	Harvest Farms Breakfast Blend	4.66	1.50	1.72	7.60	0.0019
Tully's Hawaiian Blend	Harvest Farms French Roast	4.65	1.63	1.45	7.85	0.0044
Donut Shop 18 cups Regular	Eight O'Clock 18 cups Original	4.58	1.62	1.41	7.76	0.0047
Maxwell House 18 cup Breakfast Blend	Harvest Farms Breakfast Blend	4.58	1.65	1.34	7.82	0.0055
Donut Shop 18 cups Regular	Peet's Medium Roast	4.55	1.63	1.35	7.75	0.0053
Harvest Farms Breakfast Blend	Laura Lyn House Blend	4.52	1.39	1.79	7.26	0.0012
Eight O'Clock 18 cups Dark Italian Roast	Cafe Bustelo Orginial	4.50	1.45	1.66	7.34	0.0019
Harvest Farms Breakfast Blend	New England Coffee Breakfast Blend	4.49	1.40	1.74	7.23	0.0014
Gevalia 18 cups Colombia	Folgers Gourmet	4.48	1.48	1.59	7.38	0.0024
Eight O'Clock 18 cups French Roast	Cafe Bustelo 100% Columbian	4.48	1.78	0.98	7.98	0.0121
KGM 18 cups Half-Calf	Folgers Gourmet	4.48	1.44	1.65	7.30	0.0019
Gevalia 18 cups Signature Blend	New England Coffee Donut Shop Blend	4.45	1.58	1.37	7.54	0.0047
Gevalia 18 cups Dark Royal Roast	Cafe Bustelo 100% Columbian	4.44	1.78	0.94	7.94	0.0128
Eight O'Clock 18 cups French Roast	Maxwell House 18 cup Original	4.44	1.61	1.28	7.60	0.006
Gevalia 18 cups Colombia	Laura Lynn Donut Shop	4.44	1.45	1.60	7.28	0.0022
Donut Shop 18 cups Decaf	Eight O'Clock 18 cups Original	4.43	1.50	1.49	7.38	0.0032
KGM 18 cups Half-Calf	Laura Lynn Donut Shop	4.43	1.41	1.66	7.20	0.0017
Gevalia 18 cups Dark Royal Roast	Maxwell House 18 cup Original	4.40	1.61	1.24	7.57	0.0064
Donut Shop 18 cups Decaf	Peet's Medium Roast	4.40	1.52	1.43	7.37	0.0038
Gevalia 18 cups Colombia	Laura Lyn French Vanilla	4.36	1.48	1.45	7.28	0.0033
KGM 18 cups Half-Calf	Laura Lyn French Vanilla	4.36	1.45	1.51	7.20	0.0027
Maxwell House 18 cup Breakfast Blend	Eight O'Clock 18 cups Original	4.36	1.65	1.11	7.60	0.0085
Gevalia 18 cups Colombia	Maxwell House Breakfast Blend	4.34	1.51	1.38	7.30	0.0041
KGM 18 cups Half-Calf	Maxwell House Breakfast Blend	4.33	1.48	1.44	7.23	0.0034
Eight O'Clock 18 cups Dark Italian Roast	Peet's Coffee Dark Roast	4.32	1.41	1.55	7.10	0.0022
Maxwell House 18 cup Original	Cafe Bustelo Orginial	4.32	1.40	1.58	7.06	0.002
Gevalia 18 cups Colombia	Harvest Farms French Roast	4.32	1.44	1.50	7.14	0.0027
Maxwell House 18 cup Breakfast Blend	Peet's Medium Roast	4.32	1.67	1.05	7.59	0.0096
KGM 18 cups Half-Calf	Harvest Farms French Roast	4.31	1.40	1.57	7.06	0.0021
Cafe Bustelo 100% Columbian	Cafe Bustelo Orginial	4.28	1.59	1.17	7.40	0.0071
Eight O'Clock 18 cups French Roast	Eight O'Clock 18 cups Dark Italian Roast	4.26	1.66	1.01	7.51	0.0102
Laura Lyn French Roast	Maxwell House House Blend	4.25	1.56	1.18	7.31	0.0066
Donut Shop 18 cups Regular	Cafe Bustelo 100% Columbian	4.25	1.77	0.78	7.71	0.0163
Gevalia 18 cups Dark Royal Roast	Eight O'Clock 18 cups Dark Italian Roast	4.23	1.66	0.98	7.47	0.0108
Donut Shop 18 cups Regular	Maxwell House 18 cup Original	4.21	1.60	1.08	7.34	0.0084
Bigelow English Breakfast.	Laura Lyn House Blend	4.20	1.50	1.26	7.15	0.0052

Gevalia 18 cups Signature Blend	Laura Lyn French Roast	4.19	1.66	0.93	7.44	0.0117
KGM 18 cups Breakfast Blend	Laura Lyn House Blend	4.18	1.37	1.49	6.86	0.0023
Bigelow English Breakfast.	New England Coffee Breakfast Blend	4.17	1.51	1.21	7.13	0.0058
Maxwell House 18 cup Original	Peet's Coffee Dark Roast	4.15	1.36	1.47	6.82	0.0024
KGM 18 cups Breakfast Blend	New England Coffee Breakfast Blend	4.14	1.37	1.45	6.84	0.0026
Maxwell House 18 cup Bold	New England Coffee French Roast	4.13	1.49	1.21	7.04	0.0055
Cafe Bustelo 100% Columbian	Peet's Coffee Dark Roast	4.11	1.56	1.05	7.17	0.0085
Donut Shop 18 cups Decaf	Cafe Bustelo 100% Columbian	4.10	1.66	0.84	7.36	0.0138
Maxwell House 18 cup Bold	Maxwell House French Roast	4.09	1.54	1.08	7.10	0.0078
Donut Shop 18 cups Decaf	Maxwell House 18 cup Original	4.06	1.48	1.16	6.96	0.0061
Eight O'Clock 18 cups Dark Italian Roast	Folgers Gourmet	4.04	1.47	1.16	6.91	0.006
Donut Shop 18 cups Regular	Eight O'Clock 18 cups Dark Italian Roast	4.03	1.64	0.81	7.25	0.0141
Maxwell House 18 cup Breakfast Blend	Cafe Bustelo 100% Columbian	4.02	1.80	0.49	7.55	0.0257
Eight O'Clock 18 cups Dark Italian Roast	Laura Lynn Donut Shop	3.99	1.44	1.17	6.81	0.0055
Peet's Medium Roast	Cafe Bustelo Orginial	3.98	1.44	1.17	6.80	0.0056
Maxwell House 18 cup Breakfast Blend	Maxwell House 18 cup Original	3.98	1.63	0.78	7.18	0.0148
New England Coffee Donut Shop Blend	Maxwell House House Blend	3.98	1.47	1.09	6.87	0.0069
Eight O'Clock 18 cups Original	Cafe Bustelo Orginial	3.95	1.42	1.16	6.74	0.0056
Eight O'Clock 18 cups Dark Italian Roast	Laura Lyn French Vanilla	3.92	1.47	1.03	6.81	0.008
Eight O'Clock 18 cups Dark Italian Roast	Maxwell House Breakfast Blend	3.89	1.50	0.95	6.84	0.0096
Donut Shop 18 cups Decaf	Eight O'Clock 18 cups Dark Italian Roast	3.88	1.53	0.89	6.87	0.011
Eight O'Clock 18 cups Dark Italian Roast	Harvest Farms French Roast	3.87	1.43	1.07	6.67	0.0067
Maxwell House 18 cup Original	Folgers Gourmet	3.86	1.42	1.08	6.63	0.0065
Eight O'Clock 18 cups French Roast	KGM 18 cups Half-Calf	3.82	1.64	0.61	7.03	0.0196
Cafe Bustelo 100% Columbian	Folgers Gourmet	3.82	1.61	0.67	6.97	0.0176
Eight O'Clock 18 cups French Roast	Gevalia 18 cups Colombia	3.81	1.67	0.54	7.08	0.0223
Maxwell House 18 cup Original	Laura Lynn Donut Shop	3.81	1.39	1.09	6.53	0.006
Peet's Medium Roast	Peet's Coffee Dark Roast	3.81	1.40	1.05	6.56	0.0067
Maxwell House 18 cup Breakfast Blend	Eight O'Clock 18 cups Dark Italian Roast	3.80	1.68	0.52	7.09	0.0234
Gevalia 18 cups Dark Royal Roast	KGM 18 cups Half-Calf	3.78	1.64	0.58	6.99	0.0208
Gevalia 18 cups Dark Royal Roast	Gevalia 18 cups Colombia	3.78	1.67	0.51	7.04	0.0235
Cafe Bustelo 100% Columbian	Laura Lynn Donut Shop	3.77	1.58	0.67	6.87	0.0171
Eight O'Clock 18 cups Original	Peet's Coffee Dark Roast	3.77	1.39	1.05	6.49	0.0067
Maxwell House 18 cup Original	Laura Lyn French Vanilla	3.74	1.42	0.94	6.53	0.0088
Harvest Farms Breakfast Blend	Cafe Bustelo Orginial	3.72	1.42	0.94	6.50	0.0087
Maxwell House 18 cup Original	Maxwell House Breakfast Blend	3.71	1.45	0.87	6.56	0.0106
Gevalia 18 cups Signature Blend	Snapple Peach Iced Tea	3.70	1.73	0.31	7.09	0.0324
Cafe Bustelo 100% Columbian	Laura Lyn French Vanilla	3.70	1.62	0.53	6.87	0.0221
Chock Full O'Nuts	Laura Lyn House Blend	3.70	1.46	0.84	6.55	0.0112
Maxwell House 18 cup Original	Harvest Farms French Roast	3.69	1.37	1.00	6.39	0.0073
Cafe Bustelo 100% Columbian	Maxwell House Breakfast Blend	3.67	1.64	0.46	6.89	0.0251
Tully's Hawaiian Blend	New England Coffee French Roast	3.67	1.69	0.37	6.98	0.0294
Chock Full O'Nuts	New England Coffee Breakfast Blend	3.66	1.46	0.79	6.53	0.0124
Cafe Bustelo 100% Columbian	Harvest Farms French Roast	3.65	1.57	0.57	6.74	0.0202
Gevalia 18 cups Signature Blend	Chock Full O'Nuts	3.65	1.61	0.49	6.81	0.0234
Snapple Peach Iced Tea	Laura Lyn House Blend	3.65	1.59	0.53	6.76	0.0217
Maxwell House 18 cup Bold	New England Coffee Donut Shop Blend	3.64	1.51	0.69	6.60	0.0156
Tully's Hawaiian Blend	Maxwell House French Roast	3.64	1.73	0.24	7.03	0.0357
Snapple Peach Iced Tea	New England Coffee Breakfast Blend	3.61	1.59	0.49	6.74	0.0235
Donut Shop 18 cups Regular	KGM 18 cups Half-Calf	3.59	1.62	0.42	6.76	0.0267
Donut Shop 18 cups Regular	Gevalia 18 cups Colombia	3.58	1.65	0.35	6.81	0.03
Harvest Farms Breakfast Blend	Peet's Coffee Dark Roast	3.54	1.38	0.83	6.26	0.0105
Maxwell House French Roast	Maxwell House House Blend	3.53	1.51	0.58	6.48	0.019
Peet's Medium Roast	Folgers Gourmet	3.52	1.46	0.66	6.37	0.0158

New England Coffee French Roast	Maxwell House House Blend	3.50	1.45	0.64	6.35	0.0163
Eight O'Clock 18 cups Original	Folgers Gourmet	3.48	1.44	0.65	6.31	0.0158
Peet's Medium Roast	Laura Lynn Donut Shop	3.47	1.43	0.68	6.27	0.015
Donut Shop 18 cups Decaf	KGM 18 cups Half-Calf	3.44	1.50	0.49	6.39	0.0222
Eight O'Clock 18 cups Original	Laura Lynn Donut Shop	3.44	1.41	0.67	6.20	0.015
Donut Shop 18 cups Decaf	Gevalia 18 cups Colombia	3.43	1.54	0.42	6.44	0.0255
Bigelow English Breakfast.	Cafe Bustelo Orginial	3.40	1.53	0.41	6.40	0.0259
Peet's Medium Roast	Laura Lyn French Vanilla	3.40	1.46	0.53	6.27	0.0204
Maxwell House 18 cup Bold	Laura Lyn French Roast	3.38	1.59	0.25	6.50	0.0343
Peet's Medium Roast	Maxwell House Breakfast Blend	3.37	1.49	0.45	6.30	0.0237
KGM 18 cups Breakfast Blend	Cafe Bustelo Orginial	3.37	1.39	0.64	6.10	0.0154
Eight O'Clock 18 cups Original	Laura Lyn French Vanilla	3.36	1.45	0.52	6.21	0.0205
Maxwell House 18 cup Breakfast Blend	KGM 18 cups Half-Calf	3.36	1.65	0.12	6.60	0.0424
Peet's Medium Roast	Harvest Farms French Roast	3.35	1.42	0.58	6.13	0.0179
Maxwell House 18 cup Breakfast Blend	Gevalia 18 cups Colombia	3.35	1.68	0.05	6.66	0.0467
Gevalia 18 cups Colombia	New England Coffee French Roast	3.34	1.50	0.40	6.28	0.0258
Eight O'Clock 18 cups Original	Maxwell House Breakfast Blend	3.34	1.48	0.44	6.23	0.0239
KGM 18 cups Half-Calf	New England Coffee French Roast	3.33	1.46	0.46	6.20	0.0228
Eight O'Clock 18 cups Original	Harvest Farms French Roast	3.32	1.40	0.57	6.07	0.018
Gevalia 18 cups Colombia	Maxwell House French Roast	3.30	1.55	0.27	6.34	0.0328
KGM 18 cups Half-Calf	Maxwell House French Roast	3.30	1.51	0.33	6.26	0.0296
Harvest Farms Breakfast Blend	Folgers Gourmet	3.26	1.44	0.44	6.07	0.0236
Bigelow English Breakfast.	Peet's Coffee Dark Roast	3.23	1.49	0.29	6.16	0.031
Harvest Farms Breakfast Blend	Laura Lynn Donut Shop	3.21	1.41	0.45	5.97	0.0226
KGM 18 cups Breakfast Blend	Peet's Coffee Dark Roast	3.20	1.36	0.54	5.86	0.0186
Gevalia 18 cups Signature Blend	KGM 18 cups Breakfast Blend	3.17	1.53	0.17	6.17	0.0381
Laura Lyn French Roast	Laura Lyn House Blend	3.16	1.51	0.20	6.13	0.0364
Harvest Farms Breakfast Blend	Laura Lyn French Vanilla	3.14	1.45	0.30	5.97	0.0301
Laura Lyn French Roast	New England Coffee Breakfast Blend	3.13	1.52	0.15	6.10	0.0392
Harvest Farms Breakfast Blend	Maxwell House Breakfast Blend	3.11	1.47	0.22	6.00	0.0347
Harvest Farms Breakfast Blend	Harvest Farms French Roast	3.09	1.40	0.35	5.83	0.027
KGM 18 cups Breakfast Blend	Folgers Gourmet	2.91	1.41	0.14	5.68	0.0395
New England Coffee Donut Shop Blend	Laura Lyn House Blend	2.90	1.42	0.12	5.68	0.0412
KGM 18 cups Breakfast Blend	Laura Lynn Donut Shop	2.86	1.38	0.15	5.57	0.0383
New England Coffee Donut Shop Blend	New England Coffee Breakfast Blend	2.86	1.42	0.07	5.65	0.0447
KGM 18 cups Breakfast Blend	Laura Lyn French Vanilla	2.79	1.42	0.00	5.57	0.0497
KGM 18 cups Breakfast Blend	Harvest Farms French Roast	2.74	1.37	0.06	5.43	0.0453

Frozen Sausage Pairwise Comparisons

Level	Level	Difference	Std Err Dif	Lower CL	Upper CL	p-Value
Jimmy Dean Turkey Patties	Jimmy Dean Original Links	9.19	2.26	4.77	13.62	<.0001
Banquet Lite Original	Jimmy Dean Original Links	8.44	2.18	4.17	12.71	0.0001
Jimmy Dean Turkey Patties	Applegate Chicken and Maple Patties	7.99	2.29	3.50	12.47	0.0005
Banquet Turkey Patties	Jimmy Dean Original Links	7.61	2.23	3.23	11.99	0.0007
Jimmy Dean Turkey Patties	Applegate Chicken and Maple Links	7.40	2.31	2.87	11.94	0.0014
Jimmy Dean Turkey Patties	JDF Mild Pork Links	7.36	2.73	2.00	12.73	0.0072
Jimmy Dean Turkey Patties	Jimmy Dean Original Patties	7.36	2.35	2.75	11.98	0.0018
JDF Maple Pork Links	Jimmy Dean Original Links	7.29	2.44	2.50	12.08	0.0029
Banquet Lite Original	Applegate Chicken and Maple Patties	7.24	2.21	2.90	11.57	0.0011
Banquet Lite Original	Applegate Chicken and Maple Links	6.65	2.24	2.27	11.04	0.003
Banquet Lite Original	JDF Mild Pork Links	6.61	2.67	1.38	11.85	0.0134
Banquet Lite Original	Jimmy Dean Original Patties	6.61	2.28	2.15	11.08	0.0038
Jimmy Dean Turkey Patties	Applegate Chicken and Sage Links	6.56	2.37	1.90	11.22	0.0058
Banquet Turkey Patties	Applegate Chicken and Maple Patties	6.40	2.27	1.96	10.85	0.0048
Banquet Turkey Links	Jimmy Dean Original Links	6.39	2.18	2.12	10.66	0.0034
JDF Chicken Links	Jimmy Dean Original Links	6.29	2.47	1.43	11.14	0.0112
JDF Light Links	Jimmy Dean Original Links	6.19	2.51	1.27	11.12	0.0137
Jimmy Dean Turkey Patties	Jimmy Dean Turkey Links	6.11	2.37	1.45	10.77	0.0103
JDF Maple Pork Links	Applegate Chicken and Maple Patties	6.09	2.47	1.24	10.93	0.0139
Jimmy Dean Turkey Patties	Applegate Classic Pork Links	6.08	2.52	1.14	11.03	0.016
Banquet Turkey Patties	Applegate Chicken and Maple Links	5.82	2.29	1.32	10.32	0.0112
Banquet Lite Original	Applegate Chicken and Sage Links	5.81	2.30	1.30	10.33	0.0116
Banquet Turkey Patties	JDF Mild Pork Links	5.78	2.72	0.45	11.11	0.0335
Banquet Turkey Patties	Jimmy Dean Original Patties	5.78	2.33	1.21	10.36	0.0133
Jimmy Dean Turkey Patties	Banquet Maple Links	5.71	2.27	1.25	10.16	0.0121
Applegate Chicken and Apple Links	Jimmy Dean Original Links	5.70	2.18	1.43	9.97	0.009
JDF Maple Pork Links	Applegate Chicken and Maple Links	5.50	2.49	0.61	10.40	0.0275
Jimmy Dean Turkey Patties	Banquet Beef Links	5.47	2.39	0.79	10.16	0.022
JDF Maple Pork Links	Jimmy Dean Original Patties	5.46	2.53	0.50	10.43	0.031
Jimmy Dean Turkey Patties	JDF Maple Pork Patties	5.37	2.65	0.17	10.57	0.043
Banquet Lite Original	Jimmy Dean Turkey Links	5.36	2.30	0.84	9.87	0.02
Banquet Lite Original	Applegate Classic Pork Links	5.33	2.45	0.53	10.14	0.0297
Banquet Turkey Links	Applegate Chicken and Maple Patties	5.19	2.21	0.85	9.52	0.0191
JDF Chicken Links	Applegate Chicken and Maple Patties	5.08	2.50	0.17	9.99	0.0425
Applegate Chicken and Apple Patties	Jimmy Dean Original Links	5.05	2.03	1.07	9.04	0.013
JDF Light Links	Applegate Chicken and Maple Patties	4.99	2.54	0.01	9.96	0.0496
Banquet Turkey Patties	Applegate Chicken and Sage Links	4.98	2.35	0.36	9.60	0.0346
Banquet Lite Original	Banquet Maple Links	4.96	2.19	0.65	9.26	0.024
Applegate Peppered Turkey Links	Jimmy Dean Original Links	4.95	2.11	0.81	9.10	0.0192
Banquet Lite Original	Banquet Beef Links	4.72	2.31	0.19	9.26	0.0412
Banquet Original Patties	Jimmy Dean Original Links	4.66	2.10	0.55	8.77	0.0265
Applegate Peppered Turkey Patties	Jimmy Dean Original Links	4.66	1.95	0.83	8.48	0.0171
Banquet Turkey Links	Applegate Chicken and Maple Links	4.60	2.24	0.22	8.99	0.0398
Banquet Turkey Links	Jimmy Dean Original Patties	4.56	2.28	0.09	9.03	0.0453
Jimmy Dean Turkey Patties	Applegate Peppered Turkey Patties	4.54	2.27	0.08	8.99	0.046
Applegate Chicken and Apple Links	Applegate Chicken and Maple Patties	4.49	2.21	0.16	8.83	0.0423

Frozen Treats Pairwise Comparisons

Level	Level	Difference	Std Err Dif	Lower CL	Upper CL	p-Value
Magnum Classic Ice Cream Bar	Weight Watchers Belgian Eclairs	3.25	1.05	1.19	5.31	0.0021
PET Crunch Bar	Weight Watchers Belgian Eclairs	3.09	1.06	1.01	5.16	0.0037
Blue Bunny Chocolate Lovers Sandwiches	Weight Watchers Belgian Eclairs	2.66	1.03	0.63	4.69	0.0103

Hot Sauce Pairwise Comparisons

Level	Level	Difference	Std Err Dif	Lower CL	Upper CL	p-Value
Tabasco Green Pepper	Texas Pete	6.94	1.08	4.82	9.06	<.0001
Tabasco Green Pepper	Franks	6.63	1.09	4.50	8.76	<.0001
Tabasco Green Pepper	Texas Pete Wing Sauce	6.15	1.12	3.96	8.35	<.0001
Tabasco Green Pepper	Franks Red Hot Wing Sauce	6.12	1.12	3.92	8.31	<.0001
Tabasco Green Pepper	Franks Red Hot	5.64	1.16	3.36	7.93	<.0001
Tabasco Original	Texas Pete	5.58	1.17	3.27	7.89	<.0001
Tabasco Original	Franks	5.27	1.18	2.95	7.59	<.0001
Tabasco Green Pepper	Texas Pete Hot Sauce	5.08	1.13	2.87	7.30	<.0001
Tabasco Chipotle	Texas Pete	4.83	1.08	2.71	6.95	<.0001
Tabasco Original	Texas Pete Wing Sauce	4.80	1.21	2.42	7.18	<.0001
Tabasco Original	Franks Red Hot Wing Sauce	4.76	1.21	2.38	7.14	<.0001
Tabasco Green Pepper	Sweet Baby Rays	4.63	1.15	2.37	6.88	<.0001
Tabasco Green Pepper	Great Value Louisiana Hot Sauce	4.58	1.21	2.20	6.95	0.0002
Tabasco Chipotle	Franks	4.52	1.09	2.39	6.65	<.0001
Tabasco Green Pepper	Hoy Fung Sriracha	4.32	1.22	1.92	6.72	0.0004
Tabasco Original	Franks Red Hot	4.29	1.25	1.82	6.75	0.0007
Tabasco Green Pepper	Texas Pete Hotter Hot Sauce	4.20	1.20	1.84	6.56	0.0005
Texas Pete Hot Pepper Sauce	Texas Pete	4.16	1.28	1.64	6.67	0.0012
Tabasco Chipotle	Texas Pete Wing Sauce	4.05	1.12	1.85	6.24	0.0003
Tabasco Green Pepper	Moores Buffalo Sauce	4.04	1.16	1.76	6.33	0.0005
Tabasco Chipotle	Franks Red Hot Wing Sauce	4.01	1.12	1.81	6.20	0.0004
Tabasco Green Pepper	Tabasco Chili Sauce	3.95	1.16	1.68	6.22	0.0007
Tabasco Green Pepper	Tabasco	3.94	1.11	1.76	6.11	0.0004
Texas Pete Hot Pepper Sauce	Franks	3.85	1.29	1.32	6.37	0.0029
Tabasco Original	Texas Pete Hot Sauce	3.73	1.22	1.33	6.13	0.0024
Tabasco Green Pepper	Crystal Hot Sauce	3.64	1.20	1.28	5.99	0.0026
Tabasco Chipotle	Franks Red Hot	3.53	1.16	1.25	5.82	0.0025
Tabasco Green Pepper	Louisiana Hot Sauce	3.52	1.16	1.25	5.79	0.0025
Louisiana Hot Sauce	Texas Pete	3.42	0.93	1.60	5.25	0.0003
Texas Pete Hot Pepper Sauce	Texas Pete Wing Sauce	3.37	1.31	0.79	5.95	0.0105
Texas Pete Hot Pepper Sauce	Franks Red Hot Wing Sauce	3.34	1.31	0.75	5.92	0.0114
Crystal Hot Sauce	Texas Pete	3.30	0.98	1.37	5.23	0.0008
Tabasco Original	Sweet Baby Rays	3.27	1.24	0.84	5.71	0.0085
Tabasco Original	Great Value Louisiana Hot Sauce	3.22	1.30	0.67	5.77	0.0134
Louisiana Hot Sauce	Franks	3.11	0.94	1.27	4.96	0.001
Tabasco	Texas Pete	3.00	0.87	1.30	4.71	0.0006
Crystal Hot Sauce	Franks	2.99	0.99	1.05	4.94	0.0026
Tabasco Chili Sauce	Texas Pete	2.99	0.93	1.16	4.81	0.0014
Tabasco Chipotle	Texas Pete Hot Sauce	2.97	1.13	0.76	5.19	0.0087
Tabasco Original	Hoy Fung Sriracha	2.96	1.31	0.39	5.53	0.0239
Moores Buffalo Sauce	Texas Pete	2.89	0.94	1.05	4.74	0.0022

Texas Pete Hot Pepper Sauce	Franks Red Hot	2.86	1.35	0.20	5.52	0.0348
Tabasco Original	Texas Pete Hotter Hot Sauce	2.84	1.29	0.31	5.37	0.0276
Texas Pete Hotter Hot Sauce	Texas Pete	2.74	0.98	0.81	4.67	0.0055
Tabasco	Franks	2.69	0.88	0.97	4.42	0.0023
Tabasco Original	Moores Buffalo Sauce	2.69	1.25	0.22	5.15	0.0325
Tabasco Chili Sauce	Franks	2.68	0.94	0.83	4.52	0.0045
Louisiana Hot Sauce	Texas Pete Wing Sauce	2.64	0.97	0.73	4.55	0.007
Hoy Fung Sriracha	Texas Pete	2.62	1.01	0.63	4.60	0.0098
Louisiana Hot Sauce	Franks Red Hot Wing Sauce	2.60	0.97	0.69	4.52	0.0078
Tabasco Original	Tabasco Chili Sauce	2.60	1.25	0.15	5.04	0.0378
Moores Buffalo Sauce	Franks	2.58	0.95	0.72	4.44	0.0066
Tabasco Original	Tabasco	2.58	1.20	0.22	4.94	0.0323
Tabasco Chipotle	Sweet Baby Rays	2.52	1.15	0.26	4.78	0.0286
Crystal Hot Sauce	Texas Pete Wing Sauce	2.52	1.03	0.50	4.53	0.0144
Crystal Hot Sauce	Franks Red Hot Wing Sauce	2.48	1.03	0.47	4.50	0.0159
Tabasco Chipotle	Great Value Louisiana Hot Sauce	2.47	1.21	0.09	4.84	0.042
Texas Pete Hotter Hot Sauce	Franks	2.43	0.99	0.48	4.38	0.0146
Great Value Louisiana Hot Sauce	Texas Pete	2.36	1.00	0.41	4.32	0.0181
Hoy Fung Sriracha	Franks	2.31	1.02	0.31	4.31	0.0237
Sweet Baby Rays	Texas Pete	2.31	0.92	0.50	4.12	0.0124
Tabasco	Texas Pete Wing Sauce	2.22	0.92	0.42	4.02	0.0159
Tabasco Chili Sauce	Texas Pete Wing Sauce	2.20	0.97	0.29	4.12	0.0242
Tabasco	Franks Red Hot Wing Sauce	2.18	0.92	0.38	3.98	0.0177
Tabasco Chili Sauce	Franks Red Hot Wing Sauce	2.16	0.97	0.25	4.08	0.0267
Louisiana Hot Sauce	Franks Red Hot	2.13	1.03	0.11	4.14	0.0385
Moores Buffalo Sauce	Texas Pete Wing Sauce	2.11	0.98	0.18	4.04	0.0323
Moores Buffalo Sauce	Franks Red Hot Wing Sauce	2.07	0.98	0.14	4.00	0.0355
Great Value Louisiana Hot Sauce	Franks	2.05	1.00	0.08	4.03	0.0413
Texas Pete Hot Sauce	Texas Pete	1.85	0.90	0.10	3.61	0.0389
Sweet Baby Rays	Franks	2.00	0.93	0.18	3.82	0.0317

Olive Oil Pairwise Comparisons

Level	Level	Difference	Std Err Dif	Lower CL	Upper CL	p-Value
Georgia Olive Farms Extra Virgin Olive Oil	Pompeian Extra Virgin Olive Oil Large	5.27	1.63	2.06	8.47	0.0013
Georgia Olive Farms Extra Virgin Olive Oil	Bertolli Extra Virgin Olive Oil Small	5.21	1.60	2.07	8.36	0.0012
Georgia Olive Farms Extra Virgin Olive Oil	Bertolli Extra Virgin Olive Oil Large	4.99	1.60	1.85	8.14	0.0019
Lucini Estate Select Extra Virgin Olive Oil	Pompeian Extra Virgin Olive Oil Large	4.69	1.57	1.60	7.78	0.0031
Lucini Estate Select Extra Virgin Olive Oil	Bertolli Extra Virgin Olive Oil Small	4.64	1.54	1.61	7.66	0.0028
Filippo Berio Organic Extra Virgin Olive Oil	Pompeian Extra Virgin Olive Oil Large	4.56	1.60	1.41	7.71	0.0046
Georgia Olive Farms Extra Virgin Olive Oil	Colvativa Extra Virgin Olive Oil Small	4.52	1.61	1.35	7.68	0.0052
Filippo Berio Organic Extra Virgin Olive Oil	Bertolli Extra Virgin Olive Oil Small	4.50	1.57	1.42	7.59	0.0043
Lucini Estate Select Extra Virgin Olive Oil	Bertolli Extra Virgin Olive Oil Large	4.42	1.54	1.39	7.44	0.0043
Filippo Berio Organic Extra Virgin Olive Oil	Bertolli Extra Virgin Olive Oil Large	4.29	1.57	1.20	7.37	0.0065
Lucini Estate Select Extra Virgin Olive Oil	Colvativa Extra Virgin Olive Oil Small	3.94	1.55	0.89	6.99	0.0114
Filippo Berio Organic Extra Virgin Olive Oil	Colvativa Extra Virgin Olive Oil Small	3.81	1.58	0.71	6.91	0.0162
Olivari Mediterranean Extra Virgin Olive Oil Small	Pompeian Extra Virgin Olive Oil Large	3.23	1.57	0.14	6.32	0.0406
Olivari Mediterranean Extra Virgin Olive Oil Small	Bertolli Extra Virgin Olive Oil Small	3.18	1.54	0.15	6.20	0.0397
Georgia Olive Farms Extra Virgin Olive Oil	Crisco Extra Virgin Olive Oil Large	3.17	1.61	0.01	6.34	0.0492

Organic Cereal Pairwise Comparisons

Level	Level	Difference	Std Err Dif	Lower CL	Upper CL	p-Value
Greenwise Organic Honey Nut	365 Organic Brown Rice Crisps	5.41	1.55	2.35	8.47	0.0006
Greenwise Organic Honey Nut	Pure Vida Organic Cereal	3.19	1.54	0.14	6.24	0.0402

Rice Pairwise Comparisons

Level	Level	Difference	Std Err Dif	Lower CL	Upper CL	p-Value
Rice Select Texmati Brown Rice	365 Organic Rice Pilaf	10.24	1.93	6.46	14.03	<.0001
Zatarain's Dirty Rice	365 Organic Rice Pilaf	9.91	1.87	6.24	13.58	<.0001
Rice Select Texmati Brown Rice	Southern Home Long Grain and Wild Rice	9.06	1.93	5.28	12.85	<.0001
Rice Select Texmati Brown Rice	Organic Grains Brown Rice Pilaf	8.84	1.92	5.07	12.62	<.0001
Zatarain's Dirty Rice	Southern Home Long Grain and Wild Rice	8.73	1.87	5.07	12.40	<.0001
Rice Select Texmati Brown Rice	Blue Ribbon Bagged Rice	8.72	1.94	4.91	12.53	<.0001
Rice Select Texmati Brown Rice	Southern Home Boil-in-Bag	8.63	1.93	4.83	12.43	<.0001
Zatarain's Dirty Rice	Organic Grains Brown Rice Pilaf	8.51	1.86	4.86	12.17	<.0001
Rice Select Texmati Brown Rice	Success Basmati Rice	8.47	1.92	4.70	12.24	<.0001
Zatarain's Dirty Rice	Blue Ribbon Bagged Rice	8.39	1.88	4.69	12.08	<.0001
Rice Select Sushi Rice	365 Organic Rice Pilaf	8.36	1.91	4.62	12.10	<.0001
Zatarain's Dirty Rice	Southern Home Boil-in-Bag	8.30	1.87	4.62	11.98	<.0001
Rice Select Texmati Brown Rice	Zatarain's Jambayla Mix Family Size	8.25	1.95	4.43	12.08	<.0001
Zatarain's Dirty Rice	Success Basmati Rice	8.14	1.86	4.49	11.80	<.0001
Zatarain's Dirty Rice	Zatarain's Jambayla Mix Family Size	7.92	1.89	4.22	11.63	<.0001
Rice Select Texmati Brown Rice	Mahatma Yellow Rice	7.87	1.94	4.06	11.68	<.0001
Rice Select Texmati Brown Rice	Southern Home Bagged Rice	7.77	1.98	3.89	11.65	<.0001
Zatarain's Dirty Rice	Mahatma Yellow Rice	7.54	1.88	3.84	11.23	<.0001
Zatarain's Dirty Rice	Southern Home Bagged Rice	7.44	1.92	3.67	11.21	0.0001
Rice Select Texmati Brown Rice	Lunberg Organic Whole Grain Rice	7.30	1.95	3.48	11.12	0.0002
Rice Select Arborio Rice	365 Organic Rice Pilaf	7.29	1.77	3.81	10.77	<.0001
Rice Select Sushi Rice	Southern Home Long Grain and Wild Rice	7.18	1.91	3.44	10.92	0.0002
Zatarain's Dirty Rice	Lunberg Organic Whole Grain Rice	6.97	1.89	3.26	10.68	0.0002
Rice Select Sushi Rice	Organic Grains Brown Rice Pilaf	6.96	1.90	3.23	10.69	0.0003
Rice Select Sushi Rice	Blue Ribbon Bagged Rice	6.84	1.92	3.07	10.60	0.0004
Rice Select Sushi Rice	Southern Home Boil-in-Bag	6.75	1.91	2.99	10.50	0.0004
Rice Select Sushi Rice	Success Basmati Rice	6.59	1.90	2.86	10.32	0.0006
Rice Select Sushi Rice	Zatarain's Jambayla Mix Family Size	6.37	1.93	2.59	10.15	0.001
Zatarain's Jambayla Mix	365 Organic Rice Pilaf	6.12	1.66	2.86	9.38	0.0002
Rice Select Arborio Rice	Southern Home Long Grain and Wild Rice	6.11	1.77	2.63	9.59	0.0006
Rice Select Sushi Rice	Mahatma Yellow Rice	5.98	1.92	2.22	9.75	0.0019
Rice Select Texmati Brown Rice	Southern Home Orginial	5.98	1.95	2.14	9.81	0.0023
Rice Select Arborio Rice	Organic Grains Brown Rice Pilaf	5.89	1.77	2.42	9.36	0.0009
Rice Select Sushi Rice	Southern Home Bagged Rice	5.89	1.96	2.05	9.73	0.0027
Rice Select Arborio Rice	Blue Ribbon Bagged Rice	5.76	1.79	2.25	9.27	0.0013
Rice Select Arborio Rice	Southern Home Boil-in-Bag	5.68	1.78	2.18	9.17	0.0015
Zatarain's Dirty Rice	Southern Home Orginial	5.65	1.90	1.93	9.37	0.003
Rice Select Arborio Rice	Success Basmati Rice	5.52	1.77	2.05	8.99	0.0019
Rice Select Sushi Rice	Lunberg Organic Whole Grain Rice	5.42	1.93	1.64	9.20	0.0051
Rice Select Arborio Rice	Zatarain's Jambayla Mix Family Size	5.30	1.79	1.78	8.82	0.0032
Zatarain's Jambayla Mix	Southern Home Long Grain and Wild Rice	4.94	1.66	1.68	8.20	0.003

Rice Select Arborio Rice	Mahatma Yellow Rice	4.91	1.79	1.40	8.42	0.0061
Rice Select Arborio Rice	Southern Home Bagged Rice	4.81	1.83	1.23	8.40	0.0086
Zatarain's Jambayla Mix	Organic Grains Brown Rice Pilaf	4.72	1.65	1.47	7.97	0.0044
Zatarain's Jambayla Mix	Blue Ribbon Bagged Rice	4.59	1.68	1.30	7.88	0.0063
Zatarain's Jambayla Mix	Southern Home Boil-in-Bag	4.51	1.67	1.23	7.78	0.0071
Zatarain's Jambayla Mix	Success Basmati Rice	4.35	1.65	1.10	7.59	0.0087
Rice Select Arborio Rice	Lunberg Organic Whole Grain Rice	4.34	1.79	0.82	7.87	0.0157
Southern Home Orginial	365 Organic Rice Pilaf	4.26	1.64	1.04	7.49	0.0097
Zatarain's Jambayla Mix	Zatarain's Jambayla Mix Family Size	4.13	1.68	0.82	7.43	0.0144
Rice Select Texmati Brown Rice	Zatarain's Jambayla Mix	4.13	1.97	0.26	7.99	0.0365
Rice Select Sushi Rice	Southern Home Orginial	4.10	1.93	0.30	7.89	0.0345
Zatarain's Dirty Rice	Zatarain's Jambayla Mix	3.80	1.91	0.04	7.55	0.0474
Zatarain's Jambayla Mix	Mahatma Yellow Rice	3.74	1.68	0.45	7.03	0.0259
Zatarain's Jambayla Mix	Southern Home Bagged Rice	3.64	1.72	0.27	7.02	0.0343

Ready-to-eat Pasta Pairwise Comparisons

Level	Level	Difference	Std Err Dif	Lower CL	Upper CL	p-Value
Campbells Spaghetti Original	Velveeta Cheesy Bowls Buffalo Style Chicken Mac	20.92	7.05	7.05	34.78	0.0032
Campbells Spaghetti Original	Chef Boyardee Lasagna	20.68	8.72	3.53	37.82	0.0182
Chef Boyardee Beefaroni	Velveeta Cheesy Bowls Buffalo Style Chicken Mac	19.36	6.01	7.55	31.17	0.0014
Campbells Spaghetti Original	Pace Ready Meals Santa Fe Style Steak	19.32	6.94	5.68	32.97	0.0056
Campbells Spaghetti Original	Chef Boyardee Beefaroni Small	19.27	7.44	4.64	33.91	0.01
Chef Boyardee Beefaroni	Chef Boyardee Lasagna	19.12	7.90	3.59	34.65	0.016
Campbells Spaghetti Original	Barilla Sausage and Tomato Rotini	18.96	6.93	5.34	32.57	0.0065
Campbells Spaghetti Original	Chef Boyardee Pasta in Tomato Sauce Super Hero	18.92	7.44	4.28	33.55	0.0114
Campbells Spaghetti Original	Pace Ready Meals Cheesy Chicken Quesadilla	18.86	6.99	5.11	32.60	0.0073
Campbells Spaghetti Original	Barilla Meat Sauce Gemelli	18.14	6.97	4.43	31.85	0.0097
Chef Boyardee Beefaroni	Pace Ready Meals Santa Fe Style Steak	17.77	5.88	6.21	29.32	0.0027
Chef Boyardee Beefaroni	Chef Boyardee Beefaroni Small	17.71	6.46	5.01	30.42	0.0064
Chef Boyardee Beefaroni	Barilla Sausage and Tomato Rotini	17.40	5.86	5.88	28.92	0.0032
Chef Boyardee Beefaroni	Chef Boyardee Pasta in Tomato Sauce Super Hero	17.36	6.46	4.66	30.07	0.0075
Chef Boyardee Beefaroni	Pace Ready Meals Cheesy Chicken Quesadilla	17.30	5.94	5.63	28.97	0.0038
Great Value Mini Beef Ravioli	Velveeta Cheesy Bowls Buffalo Style Chicken Mac	16.64	5.26	6.30	26.99	0.0017
Campbells Spaghetti Original	Pace Ready Meals Southwest Style Mac and Cheese	16.64	7.05	2.77	30.50	0.0188
Campbells Spaghetti Original	Velveeta Cheesy Bowls Bean and Rice Burrito Bowl	16.59	7.03	2.77	30.41	0.0188
Chef Boyardee Beefaroni	Barilla Meat Sauce Gemelli	16.58	5.91	4.95	28.21	0.0053
Great Value Mini Beef Ravioli	Chef Boyardee Lasagna	16.41	7.35	1.96	30.85	0.0262
Campbells Spaghetti Original	Chef Boyardee Mini ABC's and 123's with meatballs	16.38	7.50	1.62	31.13	0.0297
Campbells Spaghetti Original	Velveeta Cheesy Bowls Bacon Mac and Cheese	16.35	6.94	2.70	30.00	0.019
Chef Boyardee Beefaroni	Pace Ready Meals Southwest Style Mac and Cheese	15.08	6.01	3.27	26.89	0.0125
Great Value Mini Beef Ravioli	Pace Ready Meals Santa Fe Style Steak	15.05	5.11	5.00	25.10	0.0034
Chef Boyardee Beefaroni	Velveeta Cheesy Bowls Bean and Rice Burrito Bowl	15.03	5.98	3.27	26.79	0.0124
Great Value Mini Beef Ravioli	Chef Boyardee Beefaroni Small	15.00	5.78	3.64	26.35	0.0098
Chef Boyardee Beefaroni	Chef Boyardee Mini ABC's and 123's with meatballs	14.82	6.53	1.98	27.66	0.0238
Chef Boyardee Beefaroni	Velveeta Cheesy Bowls Bacon Mac and Cheese	14.79	5.88	3.24	26.35	0.0122
Great Value Mini Beef Ravioli	Barilla Sausage and Tomato Rotini	14.68	5.09	4.67	24.69	0.0041
Great Value Mini Beef Ravioli	Chef Boyardee Pasta in Tomato Sauce Super Hero	14.65	5.78	3.29	26.00	0.0116
Great Value Mini Beef Ravioli	Pace Ready Meals Cheesy Chicken Quesadilla	14.58	5.18	4.40	24.77	0.0051
Great Value Mini Beef Ravioli	Barilla Meat Sauce Gemelli	13.86	5.16	3.73	24.00	0.0075
Chef Boyardee Chicken Alfredo	Velveeta Cheesy Bowls Buffalo Style Chicken Mac	12.43	6.28	0.08	24.79	0.0486
Great Value Mini Beef Ravioli	Pace Ready Meals Southwest Style Mac and Cheese	12.37	5.26	2.02	22.71	0.0192
Great Value Mini Beef Ravioli	Velveeta Cheesy Bowls Bean and Rice Burrito Bowl	12.32	5.23	2.03	22.61	0.0191
Great Value Mini Beef Ravioli	Chef Boyardee Mini ABC's and 123's with meatballs	12.11	5.85	0.60	23.61	0.0393
Great Value Mini Beef Ravioli	Velveeta Cheesy Bowls Bacon Mac and Cheese	12.08	5.11	2.03	22.13	0.0186
Great Value Macaroni and Beef	Velveeta Cheesy Bowls Buffalo Style Chicken Mac	11.84	5.58	0.88	22.81	0.0344

Seasoned Breading Pairwise Comparisons

Level	Level	Difference	Std Err Dif	Lower CL	Upper CL	p-Value
French's Chitpotle BBQ Coating Mix	Oven Fry Extra Crispy Pork Seasoned Coating Mix	11.39	2.43	6.61	16.17	<.0001
MCC Fish Fry Seafood Fry Mix	Oven Fry Extra Crispy Pork Seasoned Coating Mix	11.22	2.43	6.44	16.00	<.0001
French's Chitpotle BBQ Coating Mix	Oven Fry Extra Crispy Chicken Seasoned Coating Mix	11.17	2.45	6.36	15.97	<.0001
MCC Fish Fry Seafood Fry Mix	Oven Fry Extra Crispy Chicken Seasoned Coating Mix	11.00	2.45	6.19	15.80	<.0001
French's Chitpotle BBQ Coating Mix	Progresso Lemon Pepper Panko Bread Crumbs	10.78	2.63	5.62	15.94	<.0001
French's Chitpotle BBQ Coating Mix	House Autry Seafood Seasoned Breading Mix	10.72	2.50	5.82	15.62	<.0001
MCC Fish Fry Seafood Fry Mix	Progresso Lemon Pepper Panko Bread Crumbs	10.61	2.63	5.45	15.78	<.0001
MCC Fish Fry Seafood Fry Mix	House Autry Seafood Seasoned Breading Mix	10.55	2.50	5.65	15.45	<.0001
French's Chitpotle BBQ Coating Mix	House Autry One-Step Baking Tray Chicken Seasoned Coating Mix	10.51	2.48	5.65	15.38	<.0001
MCC Fish Fry Seafood Fry Mix	House Autry One-Step Baking Tray Chicken Seasoned Coating Mix	10.35	2.48	5.48	15.21	<.0001
French's Chitpotle BBQ Coating Mix	Shake 'n Bake Parmesan Crusted Seasoned Coating Mix	9.98	2.43	5.20	14.75	<.0001
House Autry Oven Baked GF Extra Crispy Pork Seasoned Coating Mix	Oven Fry Extra Crispy Pork Seasoned Coating Mix	9.89	2.35	5.28	14.50	<.0001
French's Chitpotle BBQ Coating Mix	Kikkoman Panko Bread Crumbs	9.87	2.50	4.97	14.77	<.0001
MCC Fish Fry Seafood Fry Mix	Shake 'n Bake Parmesan Crusted Seasoned Coating Mix	9.81	2.43	5.03	14.58	<.0001
French's Chitpotle BBQ Coating Mix	4C Seasoned	9.76	2.97	3.93	15.59	0.0011
MCC Fish Fry Seafood Fry Mix	Kikkoman Panko Bread Crumbs	9.70	2.50	4.80	14.60	0.0001
House Autry Oven Baked GF Extra Crispy Pork Seasoned Coating Mix	Oven Fry Extra Crispy Chicken Seasoned Coating Mix	9.66	2.36	5.02	14.31	<.0001
MCC Fish Fry Seafood Fry Mix	4C Seasoned	9.59	2.97	3.76	15.42	0.0013
French's Chitpotle BBQ Coating Mix	Progresso Plain Panko Bread Crumbs	9.55	2.60	4.44	14.67	0.0003
Shake 'n Bake Extra Crispt Seasoned Coating Mix	Oven Fry Extra Crispy Pork Seasoned Coating Mix	9.51	2.28	5.04	13.98	<.0001
MCC Fish Fry Seafood Fry Mix	Progresso Plain Panko Bread Crumbs	9.39	2.60	4.27	14.50	0.0003
Shake 'n Bake Extra Crispt Seasoned Coating Mix	Oven Fry Extra Crispy Chicken Seasoned Coating Mix	9.29	2.29	4.78	13.79	<.0001
House Autry Oven Baked GF Extra Crispy Pork Seasoned Coating Mix	Progresso Lemon Pepper Panko Bread Crumbs	9.28	2.55	4.27	14.29	0.0003
House Autry Oven Baked GF Extra Crispy Pork Seasoned Coating Mix	House Autry Seafood Seasoned Breading Mix	9.22	2.41	4.48	13.96	0.0001
French's Chitpotle BBQ Coating Mix	House Autry Oven Baked GF Extra Crispy Chicken Seasoned Coating	9.15	2.60	4.04	14.26	0.0005
French's Buffalo Coating Mix	Oven Fry Extra Crispy Pork Seasoned Coating Mix	9.03	2.22	4.68	13.39	<.0001
House Autry Oven Baked GF Extra Crispy Pork Seasoned Coating Mix	House Autry One-Step Baking Tray Chicken Seasoned Coating Mix	9.01	2.40	4.31	13.72	0.0002
MCC Fish Fry Seafood Fry Mix	House Autry Oven Baked GF Extra Crispy Chicken Seasoned Coating	8.98	2.60	3.87	14.09	0.0006
French's Chitpotle BBQ Coating Mix	House Autry Pork Seasoned Breading Mix	8.98	2.50	4.07	13.88	0.0003
Shake 'n Bake Extra Crispt Seasoned Coating Mix	Progresso Lemon Pepper Panko Bread Crumbs	8.90	2.49	4.02	13.79	0.0004
French's Chitpotle BBQ Coating Mix	Great Value Seasoning and Coating Mix Chicken	8.88	2.42	4.13	13.63	0.0003
Shake 'n Bake Extra Crispt Seasoned Coating Mix	House Autry Seafood Seasoned Breading Mix	8.84	2.35	4.24	13.45	0.0002
French's Buffalo Coating Mix	Oven Fry Extra Crispy Chicken Seasoned Coating Mix	8.81	2.23	4.42	13.20	<.0001
Lawry's Seasoned Crispy Oven Bake Homestyle Chicken	Oven Fry Extra Crispy Pork Seasoned Coating Mix	8.81	2.08	4.72	12.90	<.0001
MCC Fish Fry Seafood Fry Mix	House Autry Pork Seasoned Breading Mix	8.81	2.50	3.91	13.71	0.0004
MCC Fish Fry Seafood Fry Mix	Great Value Seasoning and Coating Mix Chicken	8.71	2.42	3.96	13.46	0.0003
Shake 'n Bake Extra Crispt Seasoned Coating Mix	House Autry One-Step Baking Tray Chicken Seasoned Coating Mix	8.64	2.33	4.07	13.21	0.0002
Lawry's Seasoned Crispy Oven Bake Homestyle Chicken	Oven Fry Extra Crispy Chicken Seasoned Coating Mix	8.58	2.10	4.46	12.71	<.0001
French's Chitpotle BBQ Coating Mix	4C Panko	8.54	2.69	3.25	13.82	0.0016
House Autry Oven Baked GF Extra Crispy Pork Seasoned Coating Mix	Shake 'n Bake Parmesan Crusted Seasoned Coating Mix	8.48	2.35	3.86	13.09	0.0003
French's Buffalo Coating Mix	Progresso Lemon Pepper Panko Bread Crumbs	8.42	2.43	3.65	13.20	0.0006
House Autry Oven Baked GF Extra Crispy Pork Seasoned Coating Mix	Kikkoman Panko Bread Crumbs	8.37	2.41	3.63	13.11	0.0006
MCC Fish Fry Seafood Fry Mix	4C Panko	8.37	2.69	3.08	13.65	0.0019
French's Buffalo Coating Mix	House Autry Seafood Seasoned Breading Mix	8.37	2.29	3.88	12.86	0.0003
House Autry Oven Baked GF Extra Crispy Pork Seasoned Coating Mix	4C Seasoned	8.26	2.90	2.56	13.96	0.0045
Lawry's Seasoned Crispy Oven Bake Homestyle Chicken	Progresso Lemon Pepper Panko Bread Crumbs	8.20	2.31	3.66	12.73	0.0004
French's Buffalo Coating Mix	House Autry One-Step Baking Tray Chicken Seasoned Coating Mix	8.16	2.27	3.70	12.61	0.0003
Lawry's Seasoned Crispy Oven Bake Homestyle Chicken	House Autry Seafood Seasoned Breading Mix	8.14	2.16	3.91	12.37	0.0002
Shake 'n Bake Extra Crispt Seasoned Coating Mix	Shake 'n Bake Parmesan Crusted Seasoned Coating Mix	8.10	2.28	3.63	12.57	0.0004
House Autry Oven Baked GF Extra Crispy Pork Seasoned Coating Mix	Progresso Plain Panko Bread Crumbs	8.05	2.53	3.10	13.01	0.0015
Shake 'n Bake Extra Crispt Seasoned Coating Mix	Kikkoman Panko Bread Crumbs	7.99	2.35	3.39	12.60	0.0007
Lawry's Seasoned Crispy Oven Bake Homestyle Chicken	House Autry One-Step Baking Tray Chicken Seasoned Coating Mix	7.93	2.14	3.74	12.13	0.0002
Shake 'n Bake Extra Crispt Seasoned Coating Mix	4C Seasoned	7.88	2.85	2.30	13.47	0.0057
Shake 'n Bake Extra Crispt Seasoned Coating Mix	Progresso Plain Panko Bread Crumbs	7.68	2.46	2.85	12.51	0.0019
House Autry Oven Baked GF Extra Crispy Pork Seasoned Coating Mix	House Autry Oven Baked GF Extra Crispy Chicken Seasoned Coating	7.65	2.53	2.69	12.61	0.0025
French's Buffalo Coating Mix	Shake 'n Bake Parmesan Crusted Seasoned Coating Mix	7.62	2.22	3.27	11.98	0.0006
French's Buffalo Coating Mix	Kikkoman Panko Bread Crumbs	7.51	2.29	3.02	12.01	0.0011
French's Chitpotle BBQ Coating Mix	Shake 'n Bake Crispy Buffalo Seasoned Coating Mix	7.50	2.45	2.70	12.31	0.0023
House Autry Oven Baked GF Extra Crispy Pork Seasoned Coating Mix	House Autry Pork Seasoned Breading Mix	7.47	2.41	2.73	12.21	0.002

French's Chitpotle BBQ Coating Mix	4C Plain	7.45	2.91	1.74	13.17	0.0106
Zatarain's Chicken Frying Mix	Oven Fry Extra Crispy Pork Seasoned Coating Mix	7.43	2.12	3.26	11.59	0.0005
French's Buffalo Coating Mix	4C Seasoned	7.41	2.80	1.91	12.90	0.0083
Lawry's Seasoned Crispy Oven Bake Homestyle Chicken	Shake 'n Bake Parmesan Crusted Seasoned Coating Mix	7.40	2.08	3.31	11.48	0.0004
Zatarain's All Purpose Batter	Oven Fry Extra Crispy Pork Seasoned Coating Mix	7.39	2.14	3.18	11.60	0.0006
House Autry Oven Baked GF Extra Crispy Pork Seasoned Coating Mix	Great Value Seasoning and Coating Mix Chicken	7.38	2.34	2.79	11.96	0.0016
MCC Fish Fry Seafood Fry Mix	Shake 'n Bake Crispy Buffalo Seasoned Coating Mix	7.33	2.45	2.53	12.14	0.0028
Lawry's Seasoned Crispy Oven Bake Homestyle Chicken	Kikkoman Panko Bread Crumbs	7.29	2.16	3.06	11.52	0.0008
MCC Fish Fry Seafood Fry Mix	4C Plain	7.29	2.91	1.57	13.00	0.0125
Shake 'n Bake Extra Crispt Seasoned Coating Mix	House Autry Oven Baked GF Extra Crispy Chicken Seasoned Coating	7.27	2.46	2.45	12.10	0.0032
Zatarain's Chicken Frying Mix	Oven Fry Extra Crispy Chicken Seasoned Coating Mix	7.20	2.14	3.00	11.40	0.0008
French's Buffalo Coating Mix	Progresso Plain Panko Bread Crumbs	7.20	2.40	2.48	11.92	0.0028
Lawry's Seasoned Crispy Oven Bake Homestyle Chicken	4C Seasoned	7.18	2.69	1.90	12.46	0.0078
Zatarain's All Purpose Batter	Oven Fry Extra Crispy Chicken Seasoned Coating Mix	7.17	2.16	2.93	11.41	0.0009
French's Chitpotle BBQ Coating Mix	Great Value Seasoning and Coating Mix Pork	7.11	2.43	2.33	11.88	0.0036
Shake 'n Bake Extra Crispt Seasoned Coating Mix	House Autry Pork Seasoned Breading Mix	7.10	2.35	2.49	11.70	0.0026
House Autry Oven Baked GF Extra Crispy Pork Seasoned Coating Mix	4C Panko	7.04	2.62	1.90	12.17	0.0073
Shake 'n Bake Extra Crispt Seasoned Coating Mix	Great Value Seasoning and Coating Mix Chicken	7.00	2.26	2.56	11.45	0.0021
Lawry's Seasoned Crispy Oven Bake Homestyle Chicken	Progresso Plain Panko Bread Crumbs	6.97	2.28	2.50	11.45	0.0023
MCC Fish Fry Seafood Fry Mix	Great Value Seasoning and Coating Mix Pork	6.94	2.43	2.16	11.72	0.0045
MCC Cajun Seafood Fry Mix	Oven Fry Extra Crispy Pork Seasoned Coating Mix	6.84	2.22	2.48	11.19	0.0021
Zatarain's Chicken Frying Mix	Progresso Lemon Pepper Panko Bread Crumbs	6.82	2.35	2.21	11.42	0.0038
French's Buffalo Coating Mix	House Autry Oven Baked GF Extra Crispy Chicken Seasoned Coating	6.80	2.40	2.08	11.52	0.0048
Zatarain's All Purpose Batter	Progresso Lemon Pepper Panko Bread Crumbs	6.79	2.37	2.14	11.43	0.0042
Zatarain's Chicken Frying Mix	House Autry Seafood Seasoned Breading Mix	6.76	2.19	2.45	11.07	0.0021
Zatarain's All Purpose Batter	House Autry Seafood Seasoned Breading Mix	6.73	2.22	2.38	11.08	0.0025
Shake 'n Bake Extra Crispt Seasoned Coating Mix	4C Panko	6.66	2.55	1.65	11.67	0.0093
French's Buffalo Coating Mix	House Autry Pork Seasoned Breading Mix	6.62	2.29	2.13	11.11	0.0039
MCC Cajun Seafood Fry Mix	Oven Fry Extra Crispy Chicken Seasoned Coating Mix	6.62	2.23	2.23	11.00	0.0032
Lawry's Seasoned Crispy Oven Bake Homestyle Chicken	House Autry Oven Baked GF Extra Crispy Chicken Seasoned Coating	6.57	2.28	2.10	11.05	0.0041
Zatarain's Chicken Frying Mix	House Autry One-Step Baking Tray Chicken Seasoned Coating Mix	6.55	2.17	2.28	10.82	0.0027
French's Buffalo Coating Mix	Great Value Seasoning and Coating Mix Chicken	6.53	2.20	2.20	10.85	0.0032
Zatarain's All Purpose Batter	House Autry One-Step Baking Tray Chicken Seasoned Coating Mix	6.52	2.20	2.21	10.83	0.0031
French's Chitpotle BBQ Coating Mix	House Autry Chicken Fried Steak Breading Mix	6.49	2.50	1.59	11.39	0.0095
Lawry's Seasoned Crispy Oven Bake Homestyle Chicken	House Autry Pork Seasoned Breading Mix	6.39	2.16	2.16	10.63	0.0031
MCC Fish Fry Seafood Fry Mix	House Autry Chicken Fried Steak Breading Mix	6.32	2.50	1.42	11.23	0.0115
Lawry's Seasoned Crispy Oven Bake Homestyle Chicken	Great Value Seasoning and Coating Mix Chicken	6.30	2.07	2.24	10.36	0.0024
French's Chitpotle BBQ Coating Mix	MCC Beer Batter Seasoned Batter Mix	6.27	2.51	1.34	11.21	0.0128
House Autry Chicken Seasoned Breading Mix	Oven Fry Extra Crispy Pork Seasoned Coating Mix	6.24	2.22	1.89	10.60	0.005
MCC Cajun Seafood Fry Mix	Progresso Lemon Pepper Panko Bread Crumbs	6.23	2.43	1.45	11.01	0.0107
French's Buffalo Coating Mix	4C Panko	6.18	2.50	1.27	11.09	0.0136
MCC Cajun Seafood Fry Mix	House Autry Seafood Seasoned Breading Mix	6.17	2.29	1.68	10.66	0.0071
Shake 'n Bake Original Pork Seasoned Coating Mix	Oven Fry Extra Crispy Pork Seasoned Coating Mix	6.10	2.05	2.08	10.12	0.003
MCC Fish Fry Seafood Fry Mix	MCC Beer Batter Seasoned Batter Mix	6.10	2.51	1.17	11.04	0.0155
Zatarain's Fish Fry	Oven Fry Extra Crispy Pork Seasoned Coating Mix	6.02	2.22	1.66	10.38	0.0068
House Autry Chicken Seasoned Breading Mix	Oven Fry Extra Crispy Chicken Seasoned Coating Mix	6.02	2.23	1.63	10.41	0.0072
Zatarain's Chicken Frying Mix	Shake 'n Bake Parmesan Crusted Seasoned Coating Mix	6.01	2.12	1.85	10.18	0.0047
House Autry Oven Baked GF Extra Crispy Pork Seasoned Coating Mix	Shake 'n Bake Crispy Buffalo Seasoned Coating Mix	6.00	2.36	1.36	10.64	0.0113
Zatarain's All Purpose Batter	Shake 'n Bake Parmesan Crusted Seasoned Coating Mix	5.98	2.14	1.77	10.19	0.0054
MCC Cajun Seafood Fry Mix	House Autry One-Step Baking Tray Chicken Seasoned Coating Mix	5.96	2.27	1.51	10.42	0.0088
Lawry's Seasoned Crispy Oven Bake Homestyle Chicken	4C Panko	5.96	2.38	1.28	10.63	0.0125
House Autry Oven Baked GF Extra Crispy Pork Seasoned Coating Mix	4C Plain	5.95	2.84	0.38	11.53	0.0364
Zatarain's Chicken Frying Mix	Kikkoman Panko Bread Crumbs	5.91	2.19	1.60	10.22	0.0073
Shake 'n Bake Original Pork Seasoned Coating Mix	Oven Fry Extra Crispy Chicken Seasoned Coating Mix	5.88	2.07	1.83	9.94	0.0045
Zatarain's All Purpose Batter	Kikkoman Panko Bread Crumbs	5.87	2.22	1.53	10.22	0.0082
Zatarain's Chicken Frying Mix	4C Seasoned	5.80	2.72	0.46	11.14	0.0334
Zatarain's Fish Fry	Oven Fry Extra Crispy Chicken Seasoned Coating Mix	5.80	2.23	1.41	10.18	0.0097
Zatarain's All Purpose Batter	4C Seasoned	5.77	2.74	0.39	11.14	0.0356
French's Chitpotle BBQ Coating Mix	Shake 'n Bake Original Chicken	5.74	2.46	0.90	10.57	0.0201
Shake 'n Bake Ranch and Herb Seasoned Coating Mix	Oven Fry Extra Crispy Pork Seasoned Coating Mix	5.70	2.08	1.61	9.79	0.0063
French's Chitpotle BBQ Coating Mix	Shake 'n Bake Ranch and Herb Seasoned Coating Mix	5.69	2.46	0.85	10.52	0.0212
Shake 'n Bake Original Chicken	Oven Fry Extra Crispy Pork Seasoned Coating Mix	5.65	2.08	1.56	9.74	0.0068
House Autry Chicken Seasoned Breading Mix	Progresso Lemon Pepper Panko Bread Crumbs	5.63	2.43	0.86	10.41	0.0209
Shake 'n Bake Extra Crispt Seasoned Coating Mix	Shake 'n Bake Crispy Buffalo Seasoned Coating Mix	5.62	2.29	1.12	10.13	0.0144
House Autry Oven Baked GF Extra Crispy Pork Seasoned Coating Mix	Great Value Seasoning and Coating Mix Pork	5.61	2.35	0.99	10.22	0.0173
Zatarain's Chicken Frying Mix	Progresso Plain Panko Bread Crumbs	5.59	2.32	1.05	10.14	0.016
House Autry Chicken Seasoned Breading Mix	House Autry Seafood Seasoned Breading Mix	5.58	2.29	1.09	10.07	0.015
Shake 'n Bake Extra Crispt Seasoned Coating Mix	4C Plain	5.58	2.78	0.11	11.04	0.0454
MCC Fish Fry Seafood Fry Mix	Shake 'n Bake Original Chicken	5.57	2.46	0.73	10.40	0.0241
Zatarain's All Purpose Batter	Progresso Plain Panko Bread Crumbs	5.56	2.34	0.97	10.15	0.0175

MCC Fish Fry Seafood Fry Mix	Shake 'n Bake Ranch and Herb Seasoned Coating Mix	5.52	2.46	0.68	10.35	0.0254
Shake 'n Bake Original Pork Seasoned Coating Mix	Progresso Lemon Pepper Panko Bread Crumbs	5.50	2.28	1.02	9.97	0.0161
Shake 'n Bake Ranch and Herb Seasoned Coating Mix	Oven Fry Extra Crispy Chicken Seasoned Coating Mix	5.48	2.10	1.36	9.60	0.0092
Shake 'n Bake Original Pork Seasoned Coating Mix	House Autry Seafood Seasoned Breading Mix	5.44	2.12	1.27	9.60	0.0106
Shake 'n Bake Original Chicken	Oven Fry Extra Crispy Chicken Seasoned Coating Mix	5.43	2.10	1.31	9.55	0.0099
MCC Cajun Seafood Fry Mix	Shake 'n Bake Parmesan Crusted Seasoned Coating Mix	5.43	2.22	1.07	9.78	0.0147
Zatarain's Fish Fry	Progresso Lemon Pepper Panko Bread Crumbs	5.41	2.43	0.63	10.19	0.0264
House Autry Chicken Seasoned Breading Mix	House Autry One-Step Baking Tray Chicken Seasoned Coating Mix	5.37	2.27	0.91	9.82	0.0182
French's Chitpotle BBQ Coating Mix	Zatarain's Fish Fry	5.37	2.58	0.31	10.43	0.0377
Zatarain's Fish Fry	House Autry Seafood Seasoned Breading Mix	5.35	2.29	0.86	9.85	0.0195
MCC Cajun Seafood Fry Mix	Kikkoman Panko Bread Crumbs	5.32	2.29	0.83	9.81	0.0203
French's Chitpotle BBQ Coating Mix	Shake 'n Bake Original Pork Seasoned Coating Mix	5.28	2.43	0.51	10.06	0.0302
Shake 'n Bake Extra Crispt Seasoned Coating Mix	Great Value Seasoning and Coating Mix Pork	5.23	2.28	0.76	9.70	0.022
Shake 'n Bake Original Pork Seasoned Coating Mix	House Autry One-Step Baking Tray Chicken Seasoned Coating Mix	5.23	2.10	1.10	9.36	0.0131
MCC Fish Fry Seafood Fry Mix	Zatarain's Fish Fry	5.20	2.58	0.14	10.26	0.0442
Zatarain's Chicken Frying Mix	House Autry Oven Baked GF Extra Crispy Chicken Seasoned Coating	5.19	2.32	0.64	9.74	0.0253
Zatarain's All Purpose Batter	House Autry Oven Baked GF Extra Crispy Chicken Seasoned Coating	5.16	2.34	0.57	9.74	0.0275
French's Buffalo Coating Mix	Shake 'n Bake Crispy Buffalo Seasoned Coating Mix	5.15	2.23	0.76	9.53	0.0215
Zatarain's Fish Fry	House Autry One-Step Baking Tray Chicken Seasoned Coating Mix	5.15	2.27	0.69	9.60	0.0236
French's Chitpotle BBQ Coating Mix	House Autry Chicken Seasoned Breading Mix	5.15	2.58	0.08	10.21	0.0464
MCC Beer Batter Seasoned Batter Mix	Oven Fry Extra Crispy Pork Seasoned Coating Mix	5.12	2.14	0.91	9.33	0.0173
MCC Fish Fry Seafood Fry Mix	Shake 'n Bake Original Pork Seasoned Coating Mix	5.12	2.43	0.34	9.89	0.0359
Shake 'n Bake Ranch and Herb Seasoned Coating Mix	Progresso Lemon Pepper Panko Bread Crumbs	5.09	2.31	0.56	9.63	0.0278
Shake 'n Bake Original Chicken	Progresso Lemon Pepper Panko Bread Crumbs	5.05	2.31	0.51	9.58	0.0293
Shake 'n Bake Ranch and Herb Seasoned Coating Mix	House Autry Seafood Seasoned Breading Mix	5.04	2.16	0.80	9.27	0.0198
Zatarain's Chicken Frying Mix	House Autry Pork Seasoned Breading Mix	5.01	2.19	0.70	9.32	0.0226
MCC Cajun Seafood Fry Mix	Progresso Plain Panko Bread Crumbs	5.00	2.40	0.28	9.72	0.0377
House Autry Oven Baked GF Extra Crispy Pork Seasoned Coating Mix	House Autry Chicken Fried Steak Breading Mix	4.99	2.41	0.25	9.73	0.039
Shake 'n Bake Original Chicken	House Autry Seafood Seasoned Breading Mix	4.99	2.16	0.75	9.22	0.021
Zatarain's All Purpose Batter	House Autry Pork Seasoned Breading Mix	4.98	2.22	0.63	9.33	0.0249
Lawry's Seasoned Crispy Oven Bake Homestyle Chicken	Shake 'n Bake Crispy Buffalo Seasoned Coating Mix	4.92	2.10	0.80	9.04	0.0193
Zatarain's Chicken Frying Mix	Great Value Seasoning and Coating Mix Chicken	4.92	2.11	0.78	9.05	0.0199
House Autry Chicken Fried Steak Breading Mix	Oven Fry Extra Crispy Pork Seasoned Coating Mix	4.89	2.12	0.73	9.06	0.0214
MCC Beer Batter Seasoned Batter Mix	Oven Fry Extra Crispy Chicken Seasoned Coating Mix	4.89	2.16	0.65	9.13	0.0238
Zatarain's All Purpose Batter	Great Value Seasoning and Coating Mix Chicken	4.89	2.13	0.71	9.07	0.022
House Autry Chicken Seasoned Breading Mix	Shake 'n Bake Parmesan Crusted Seasoned Coating Mix	4.83	2.22	0.47	9.19	0.0298
Shake 'n Bake Ranch and Herb Seasoned Coating Mix	House Autry One-Step Baking Tray Chicken Seasoned Coating Mix	4.83	2.14	0.63	9.02	0.0241
Shake 'n Bake Original Chicken	House Autry One-Step Baking Tray Chicken Seasoned Coating Mix	4.78	2.14	0.59	8.97	0.0256
Shake 'n Bake Original Chicken	House Autry One-Step Baking Tray Chicken Seasoned Coating Mix	4.78	2.14	0.59	8.97	0.0256
French's Buffalo Coating Mix	Great Value Seasoning and Coating Mix Pork	4.75	2.22	0.40	9.11	0.0325
House Autry Chicken Seasoned Breading Mix	Kikkoman Panko Bread Crumbs	4.72	2.29	0.23	9.22	0.0393
Shake 'n Bake Original Pork Seasoned Coating Mix	Shake 'n Bake Parmesan Crusted Seasoned Coating Mix	4.69	2.05	0.67	8.71	0.0222
House Autry Chicken Fried Steak Breading Mix	Oven Fry Extra Crispy Chicken Seasoned Coating Mix	4.67	2.14	0.47	8.87	0.0292
Shake 'n Bake Extra Crispt Seasoned Coating Mix	House Autry Chicken Fried Steak Breading Mix	4.62	2.35	0.01	9.22	0.0495
Zatarain's Fish Fry	Shake 'n Bake Parmesan Crusted Seasoned Coating Mix	4.61	2.22	0.25	8.96	0.0381
Shake 'n Bake Original Pork Seasoned Coating Mix	Kikkoman Panko Bread Crumbs	4.59	2.12	0.42	8.75	0.0311
Lawry's Seasoned Crispy Oven Bake Homestyle Chicken	Great Value Seasoning and Coating Mix Pork	4.53	2.08	0.44	8.62	0.0301
Zatarain's Fish Fry	Kikkoman Panko Bread Crumbs	4.50	2.29	0.01	8.99	0.0495
MCC Beer Batter Seasoned Batter Mix	House Autry Seafood Seasoned Breading Mix	4.45	2.22	0.10	8.80	0.0449
MCC Cajun Seafood Fry Mix	Great Value Seasoning and Coating Mix Chicken	4.33	2.20	0.00	8.66	0.0498
Shake 'n Bake Ranch and Herb Seasoned Coating Mix	Shake 'n Bake Parmesan Crusted Seasoned Coating Mix	4.29	2.08	0.20	8.38	0.0398
Shake 'n Bake Original Chicken	Shake 'n Bake Parmesan Crusted Seasoned Coating Mix	4.24	2.08	0.15	8.33	0.0421
Great Value Seasoning and Coating Mix Pork	Oven Fry Extra Crispy Chicken Seasoned Coating Mix	4.06	2.07	0.00	8.11	0.0498

Snack Bar Pairwise Comparisons

Level	Level	Difference	Std Err Dif	Lower CL	Upper CL	p-Value
Nature Valley Protein Peanut Butter Dark Choc	Kind Healthy Grains Salted Caramel	26.78	6.33	14.34	39.23	<.0001
Nature Valley Protein Peanut Butter Dark Choc	Kind Breakfast Blueberry Almond	26.22	6.33	13.78	38.67	<.0001
Nature Valley Protein Peanut Butter Dark Choc	Nature Valley Protein Honey Peanut Almond	26.17	6.33	13.72	38.61	<.0001
Nature Valley Protein Peanut Butter Dark Choc	Jif Bars Crunchy Peanut Butter	25.41	6.33	12.96	37.85	<.0001
Nature Valley Protein Peanut Butter Dark Choc	Kind Healthy Grains Dark Choc Mocha	25.33	6.33	12.88	37.77	<.0001
Nature Valley Protein Peanut Butter Dark Choc	Kind Breakfast Peanut Butter	25.25	6.49	12.50	38.00	0.0001
Nature Valley Protein Peanut Butter Dark Choc	Nature Valley Crunchy Granola Peanut Butter	24.83	6.41	12.24	37.42	0.0001
Nature Valley Protein Peanut Butter Dark Choc	Special K Protein Trail Mix Bars Choc Peanut Pecan	23.90	6.33	11.46	36.35	0.0002
Nature Valley Protein Peanut Butter Dark Choc	Kind Healthy Grains Vanilla Blueberry	23.88	6.27	11.56	36.20	0.0002
Nature Valley Protein Peanut Butter Dark Choc	Jif Bars Peanut Butter and Choc	23.71	6.33	11.27	36.16	0.0002
Nature Valley Protein Peanut Butter Dark Choc	Zone Pefect Choc Almond Raisin	23.43	6.27	11.10	35.75	0.0002
Nature Valley Protein Peanut Butter Dark Choc	Special K Protein Meal Bar Double Choc	23.04	6.33	10.59	35.48	0.0003
Nature Valley Protein Peanut Butter Dark Choc	Kind Breakfast Dark Chocolate Cocoa	22.63	6.49	9.87	35.38	0.0005
Nature Valley Protein Peanut Butter Dark Choc	Clif Bar Choc Chip	22.59	6.27	10.27	34.91	0.0003
Nature Valley Protein Peanut Butter Dark Choc	Fiber One Protein Coconut Almond	22.22	6.27	9.90	34.54	0.0004
Nature Valley Protein Peanut Butter Dark Choc	Nature Valley Granola Cups Amond Butter	22.21	6.33	9.77	34.66	0.0005
Nature Valley Protein Peanut Butter Dark Choc	Clif Bar Crunchy Peanut Butter	22.21	6.33	9.76	34.65	0.0005
Nature Valley Protein Peanut Butter Dark Choc	Nature Valley Soft Baked Oatmeal Cinnamon Brown Sugar	22.05	6.71	8.86	35.24	0.0011
Nature Valley Protein Peanut Butter Dark Choc	Atkins Triple Choc Bar	21.60	6.41	9.01	34.19	0.0008
Nature Valley Protein Peanut Butter Dark Choc	Fiber One Chewy Oats and Choc	21.59	6.41	9.00	34.18	0.0008
Nature Valley Protein Peanut Butter Dark Choc	Nature Valley Protein Coconut Almond	21.26	6.41	8.67	33.85	0.001
Nature Valley Protein Peanut Butter Dark Choc	Southern Home Chewy Granola	20.66	6.27	8.34	32.98	0.0011
Nature Valley Protein Peanut Butter Dark Choc	Special K Protein Meal Bar Choc Dipped Mint	20.58	6.33	8.13	33.02	0.0012
Nature Valley Protein Peanut Butter Dark Choc	Nature Valley Crunchy Granola Cinnamon	20.56	6.33	8.12	33.01	0.0012
Nature Valley Protein Peanut Butter Dark Choc	Special K Chewy Snack Bars Berry Medley	20.51	6.49	7.75	33.26	0.0017
Nature Valley Protein Peanut Butter Dark Choc	Cascadian Farms Vanilla Chip	20.15	6.33	7.71	32.59	0.0016
Nature Valley Protein Peanut Butter Dark Choc	Nature Valley Granola Cups Peanut Butter Choc	20.13	6.49	7.37	32.88	0.002
Nature Valley Protein Peanut Butter Dark Choc	Special K Protein Trail Mix Bars Fruit & Nut	20.03	6.49	7.27	32.78	0.0022
Nature Valley Protein Peanut Butter Dark Choc	NutriGrain Apple Cinnamon	19.99	6.41	7.40	32.57	0.0019
Nature Valley Protein Peanut Butter Dark Choc	Fiber One Protein Caramel Nut	19.02	6.27	6.70	31.34	0.0025
Nature Valley Protein Peanut Butter Dark Choc	Annie's Organic Chewy Oatmeal Raisin	18.97	6.49	6.22	31.73	0.0036
Nature Valley Protein Peanut Butter Dark Choc	Clif Bar Nut Butter Filled Energy Bar Peanut Butter	18.73	6.41	6.15	31.32	0.0036
Nature Valley Protein Peanut Butter Dark Choc	Nature Valley XL Bar Choc Nut and Seed	18.03	6.59	5.07	30.98	0.0065
Nature Valley Protein Peanut Butter Dark Choc	Atkins Caramel Double Choc Crunch Bar	17.95	7.05	4.10	31.79	0.0112
Nature Valley Protein Peanut Butter Dark Choc	Nature Valley XL Bar Pretzel Peanut Choc	17.57	6.33	5.12	30.01	0.0058
Nature Valley Protein Peanut Butter Dark Choc	Special K Protein Meal Bar Strawberry	17.24	6.27	4.92	29.56	0.0062
Nature Valley Chewy Trail Mix Dark Choc Cherry	Kind Healthy Grains Salted Caramel	16.71	5.22	6.45	26.96	0.0015
Nature Valley Chewy Trail Mix Dark Choc Cherry	Kind Breakfast Blueberry Almond	16.15	5.22	5.90	26.40	0.0021
Nature Valley Protein Peanut Butter Dark Choc	Special K Protein Meal Bar Choc Chip	16.10	6.59	3.15	29.05	0.0149
Nature Valley Chewy Trail Mix Dark Choc Cherry	Nature Valley Protein Honey Peanut Almond	16.09	5.22	5.84	26.35	0.0022
Special K Protein Meal Bar Choc Peanut Butter	Kind Healthy Grains Salted Caramel	15.82	4.72	6.54	25.09	0.0009
Nature Valley Protein Peanut Butter Dark Choc	Cascadian Farms Protein Peanut Butter Choc Chip	15.67	6.41	3.08	28.26	0.0148
Nature Valley Protein Peanut Butter Dark Choc	Nature Valley Crunchy Granola Oats and Dark Choc	15.46	6.59	2.51	28.41	0.0194
Nature Valley Chewy Trail Mix Dark Choc Cherry	Jif Bars Crunchy Peanut Butter	15.34	5.22	5.08	25.59	0.0035
Special K Protein Meal Bar Choc Peanut Butter	Kind Breakfast Blueberry Almond	15.26	4.72	5.98	24.53	0.0013
Nature Valley Chewy Trail Mix Dark Choc Cherry	Kind Healthy Grains Dark Choc Mocha	15.25	5.22	5.00	25.51	0.0036
Special K Protein Meal Bar Choc Peanut Butter	Nature Valley Protein Honey Peanut Almond	15.20	4.72	5.93	24.48	0.0014
Nature Valley Chewy Trail Mix Dark Choc Cherry	Kind Breakfast Peanut Butter	15.18	5.41	4.55	25.81	0.0052
Nature Valley Chewy Trail Mix Dark Choc Cherry	Nature Valley Crunchy Granola Peanut Butter	14.76	5.31	4.33	25.18	0.0056
Special K Protein Meal Bar Choc Peanut Butter	Jif Bars Crunchy Peanut Butter	14.44	4.72	5.17	23.72	0.0023
Nature Valley Protein Peanut Butter Dark Choc	Clif Bar Nut Butter Filled Energy Bar Choc Peanut Butter	14.44	6.86	0.96	27.92	0.0358
Nature Valley Protein Peanut Butter Dark Choc	Special K Chewy Nut Bars Cranberry Almond	14.41	6.71	1.22	27.60	0.0323

Special K Protein Meal Bar Choc Peanut Butter	Kind Healthy Grains Dark Choc Mocha	14.36	4.72	5.09	23.64	0.0025
Special K Protein Meal Bar Choc Peanut Butter	Kind Breakfast Peanut Butter	14.28	4.93	4.60	23.97	0.0039
Nature Valley Protein Peanut Butter Dark Choc	Nature Valley Soft Baked Oatmeal Banana Bread and Dark (	13.97	8.07	-1.89	29.84	0.0842
Nature Valley Protein Peanut Butter Dark Choc	Nature Valley Soft Baked Oatmeal Peanut Butter	13.89	7.05	0.04	27.73	0.0493
Special K Protein Meal Bar Choc Peanut Butter	Nature Valley Crunchy Granola Peanut Butter	13.86	4.82	4.40	23.33	0.0042
Nature Valley Chewy Trail Mix Dark Choc Cherry	Special K Protein Trail Mix Bars Choc Peanut Pecan	13.83	5.22	3.57	24.08	0.0083
Nature Valley Chewy Trail Mix Dark Choc Cherry	Kind Healthy Grains Vanilla Blueberry	13.81	5.14	3.70	23.91	0.0075
Nature Valley Chewy Trail Mix Dark Choc Cherry	Jif Bars Peanut Butter and Choc	13.64	5.22	3.39	23.90	0.0092
Nature Valley Protein Salted Caramel Nut	Kind Healthy Grains Salted Caramel	13.47	5.41	2.84	24.09	0.0131
Nature Valley Chewy Trail Mix Dark Choc Cherry	Zone Pefect Choc Almond Raisin	13.35	5.14	3.25	23.46	0.0097
Nature Valley Chewy Trail Mix Dark Choc Cherry	Special K Protein Meal Bar Double Choc	12.96	5.22	2.71	23.22	0.0133
Special K Protein Meal Bar Choc Peanut Butter	Special K Protein Trail Mix Bars Choc Peanut Pecan	12.94	4.72	3.66	22.21	0.0064
Special K Protein Meal Bar Choc Peanut Butter	Kind Healthy Grains Vanilla Blueberry	12.91	4.64	3.80	22.02	0.0055
Nature Valley Protein Salted Caramel Nut	Kind Breakfast Blueberry Almond	12.91	5.41	2.28	23.54	0.0174
Nature Valley Soft Baked Oatmeal Peanut Butter	Kind Healthy Grains Salted Caramel	12.90	5.64	1.81	23.98	0.0227
Nature Valley Protein Salted Caramel Nut	Nature Valley Protein Honey Peanut Almond	12.85	5.41	2.23	23.48	0.0179
Special K Protein Meal Bar Choc Peanut Butter	Jif Bars Peanut Butter and Choc	12.75	4.72	3.47	22.02	0.0072
Nature Valley Chewy Trail Mix Dark Choc Cherry	Kind Breakfast Dark Chocolate Cocoa	12.55	5.41	1.92	23.18	0.0207
Nature Valley Chewy Trail Mix Dark Choc Cherry	Clif Bar Choc Chip	12.51	5.14	2.41	22.62	0.0153
Special K Protein Meal Bar Choc Peanut Butter	Zone Pefect Choc Almond Raisin	12.46	4.64	3.35	21.57	0.0074
Special K Chewy Nut Bars Cranberry Almond	Kind Healthy Grains Salted Caramel	12.37	5.22	2.12	22.63	0.0181
Clif Bar Nut Butter Filled Energy Bar Choc Peanut Butter	Kind Healthy Grains Salted Caramel	12.34	5.41	1.71	22.97	0.0229
Nature Valley Soft Baked Oatmeal Peanut Butter	Kind Breakfast Blueberry Almond	12.34	5.64	1.25	23.42	0.0293
Nature Valley Soft Baked Oatmeal Peanut Butter	Nature Valley Protein Honey Peanut Almond	12.28	5.64	1.19	23.37	0.03
Nature Valley Chewy Trail Mix Dark Choc Cherry	Fiber One Protein Coconut Almond	12.15	5.14	2.04	22.25	0.0186
Nature Valley Chewy Trail Mix Dark Choc Cherry	Nature Valley Granola Cups Amond Butter	12.14	5.22	1.88	22.39	0.0204
Nature Valley Chewy Trail Mix Dark Choc Cherry	Clif Bar Crunchy Peanut Butter	12.13	5.22	1.88	22.39	0.0205
Nature Valley Protein Salted Caramel Nut	Jif Bars Crunchy Peanut Butter	12.09	5.41	1.47	22.72	0.0258
Special K Protein Meal Bar Choc Peanut Butter	Special K Protein Meal Bar Double Choc	12.07	4.72	2.80	21.35	0.0109
Nature Valley Protein Salted Caramel Nut	Kind Healthy Grains Dark Choc Mocha	12.01	5.41	1.39	22.64	0.0268
Nature Valley Chewy Trail Mix Dark Choc Cherry	Nature Valley Soft Baked Oatmeal Cinnamon Brown Sugar	11.98	5.67	0.83	23.13	0.0353
Nature Valley Protein Salted Caramel Nut	Kind Breakfast Peanut Butter	11.94	5.59	0.95	22.92	0.0333
Special K Chewy Nut Bars Cranberry Almond	Kind Breakfast Blueberry Almond	11.81	5.22	1.56	22.07	0.024
Clif Bar Nut Butter Filled Energy Bar Choc Peanut Butter	Kind Breakfast Blueberry Almond	11.78	5.41	1.16	22.41	0.0298
Special K Chewy Nut Bars Cranberry Almond	Nature Valley Protein Honey Peanut Almond	11.76	5.22	1.50	22.01	0.0247
Clif Bar Nut Butter Filled Energy Bar Choc Peanut Butter	Nature Valley Protein Honey Peanut Almond	11.73	5.41	1.10	22.35	0.0306
Special K Protein Meal Bar Choc Peanut Butter	Kind Breakfast Dark Chocolate Cocoa	11.66	4.93	1.97	21.35	0.0184
Special K Protein Meal Bar Choc Peanut Butter	Clif Bar Choc Chip	11.62	4.64	2.51	20.73	0.0125
Nature Valley Chewy Trail Mix Dark Choc Cherry	Atkins Triple Choc Bar	11.53	5.31	1.10	21.95	0.0304
Nature Valley Soft Baked Oatmeal Peanut Butter	Jif Bars Crunchy Peanut Butter	11.52	5.64	0.44	22.61	0.0417
Nature Valley Chewy Trail Mix Dark Choc Cherry	Fiber One Chewy Oats and Choc	11.52	5.31	1.09	21.95	0.0305
Nature Valley Protein Salted Caramel Nut	Nature Valley Crunchy Granola Peanut Butter	11.52	5.49	0.72	22.31	0.0366

Nature Valley Soft Baked Oatmeal Peanut Butter	Kind Healthy Grains Dark Choc Mocha	11.44	5.64	0.35	22.53	0.0431
Nature Valley Crunchy Granola Oats and Dark Choc	Kind Healthy Grains Salted Caramel	11.32	5.06	1.38	21.27	0.0257
Special K Protein Meal Bar Choc Peanut Butter	Fiber One Protein Coconut Almond	11.25	4.64	2.15	20.36	0.0155
Special K Protein Meal Bar Choc Peanut Butter	Nature Valley Granola Cups Amond Butter	11.24	4.72	1.97	20.52	0.0176
Special K Protein Meal Bar Choc Peanut Butter	Clif Bar Crunchy Peanut Butter	11.24	4.72	1.97	20.52	0.0176
Nature Valley Chewy Trail Mix Dark Choc Cherry	Nature Valley Protein Coconut Almond	11.18	5.31	0.76	21.61	0.0356
Cascadian Farms Protein Peanut Butter Choc Chip	Kind Healthy Grains Salted Caramel	11.11	4.82	1.64	20.58	0.0215
Special K Protein Meal Bar Choc Peanut Butter	Nature Valley Soft Baked Oatmeal Cinnamon Brown Sugar	11.08	5.22	0.83	21.34	0.0342
Special K Chewy Nut Bars Cranberry Almond	Jif Bars Crunchy Peanut Butter	11.00	5.22	0.74	21.25	0.0356
Clif Bar Nut Butter Filled Energy Bar Choc Peanut Butter	Jif Bars Crunchy Peanut Butter	10.97	5.41	0.34	21.59	0.0431
Special K Chewy Nut Bars Cranberry Almond	Kind Healthy Grains Dark Choc Mocha	10.92	5.22	0.66	21.17	0.037
Clif Bar Nut Butter Filled Energy Bar Choc Peanut Butter	Kind Healthy Grains Dark Choc Mocha	10.89	5.41	0.26	21.51	0.0447
Special K Chewy Nut Bars Cranberry Almond	Kind Breakfast Peanut Butter	10.84	5.41	0.21	21.47	0.0456
Nature Valley Crunchy Granola Oats and Dark Choc	Kind Breakfast Blueberry Almond	10.77	5.06	0.82	20.71	0.034
Nature Valley Crunchy Granola Oats and Dark Choc	Nature Valley Protein Honey Peanut Almond	10.71	5.06	0.76	20.66	0.0349
Special K Protein Meal Bar Choc Chip	Kind Healthy Grains Salted Caramel	10.68	5.06	0.74	20.63	0.0354
Special K Protein Meal Bar Choc Peanut Butter	Atkins Triple Choc Bar	10.63	4.82	1.17	20.10	0.0278
Special K Protein Meal Bar Choc Peanut Butter	Fiber One Chewy Oats and Choc	10.62	4.82	1.16	20.09	0.0279
Nature Valley Chewy Trail Mix Dark Choc Cherry	Southern Home Chewy Granola	10.58	5.14	0.48	20.69	0.0401
Nature Valley Protein Salted Caramel Nut	Kind Healthy Grains Vanilla Blueberry	10.56	5.33	0.08	21.05	0.0482
Cascadian Farms Protein Peanut Butter Choc Chip	Kind Breakfast Blueberry Almond	10.55	4.82	1.09	20.02	0.029
Nature Valley Chewy Trail Mix Dark Choc Cherry	Special K Protein Meal Bar Choc Dipped Mint	10.51	5.22	0.25	20.76	0.0447
Cascadian Farms Protein Peanut Butter Choc Chip	Nature Valley Protein Honey Peanut Almond	10.50	4.82	1.03	19.96	0.0298
Nature Valley Chewy Trail Mix Dark Choc Cherry	Nature Valley Crunchy Granola Cinnamon	10.49	5.22	0.23	20.74	0.045
Special K Protein Meal Bar Choc Peanut Butter	Nature Valley Protein Coconut Almond	10.29	4.82	0.82	19.76	0.0332
Special K Protein Meal Bar Choc Chip	Kind Breakfast Blueberry Almond	10.12	5.06	0.18	20.07	0.0461
Special K Protein Meal Bar Choc Chip	Nature Valley Protein Honey Peanut Almond	10.07	5.06	0.12	20.01	0.0473
Nature Valley Crunchy Granola Oats and Dark Choc	Jif Bars Crunchy Peanut Butter	9.95	5.06	0.00	19.90	0.0499
Cascadian Farms Protein Peanut Butter Choc Chip	Jif Bars Crunchy Peanut Butter	9.74	4.82	0.27	19.20	0.0438
Special K Protein Meal Bar Choc Peanut Butter	Southern Home Chewy Granola	9.69	4.64	0.58	18.80	0.0371
Cascadian Farms Protein Peanut Butter Choc Chip	Kind Healthy Grains Dark Choc Mocha	9.66	4.82	0.19	19.12	0.0456
Special K Protein Meal Bar Choc Peanut Butter	Special K Protein Meal Bar Choc Dipped Mint	9.61	4.72	0.34	18.89	0.0423
Special K Protein Meal Bar Choc Peanut Butter	Nature Valley Crunchy Granola Cinnamon	9.59	4.72	0.32	18.87	0.0426

Appendix C

FC Significant Differences Full Report by Category

Product Category Pairwise Comparisons

Level	Level	Difference	Std Err Dif	Lower CL	Upper CL	p-Value
Organic Cereal	Canned Beans	6.19	0.59	5.03	7.34	<.0001
Sunscreen	Canned Beans	5.90	0.59	4.74	7.05	<.0001
Organic Cereal	Spaghetti Sauce	5.89	0.60	4.72	7.07	<.0001
Organic Cereal	Snack Cakes	5.83	0.61	4.63	7.02	<.0001
Organic Cereal	RTE Pasta	5.72	0.59	4.56	6.88	<.0001
Organic Cereal	Snack Bars	5.66	0.58	4.51	6.80	<.0001
Organic Cereal	Cookies	5.62	0.64	4.35	6.88	<.0001
Sunscreen	Spaghetti Sauce	5.60	0.60	4.43	6.78	<.0001
Sunscreen	Snack Cakes	5.54	0.61	4.34	6.73	<.0001
Organic Cereal	Tissues	5.51	0.61	4.31	6.72	<.0001
Organic Cereal	Baby Food	5.50	0.59	4.34	6.66	<.0001
Organic Cereal	Olive Oil	5.43	0.63	4.20	6.66	<.0001
Sunscreen	RTE Pasta	5.43	0.59	4.27	6.59	<.0001
Organic Cereal	Tuna	5.40	0.59	4.23	6.57	<.0001
Organic Cereal	Natural Fruit Drinks	5.39	0.62	4.18	6.60	<.0001
Sunscreen	Snack Bars	5.37	0.58	4.22	6.51	<.0001
Organic Cereal	Hot Sauce	5.36	0.61	4.17	6.55	<.0001
Sunscreen	Cookies	5.33	0.64	4.06	6.59	<.0001
Organic Cereal	Cold Brew	5.28	0.62	4.06	6.50	<.0001
Sunscreen	Tissues	5.22	0.61	4.02	6.43	<.0001
Organic Cereal	Rice	5.22	0.64	3.97	6.47	<.0001
Sunscreen	Baby Food	5.21	0.59	4.05	6.37	<.0001
Organic Cereal	Seasoned Breading	5.19	0.59	4.02	6.35	<.0001
Sunscreen	Olive Oil	5.14	0.63	3.91	6.37	<.0001
Organic Cereal	Chocolate	5.14	0.60	3.97	6.31	<.0001
Sunscreen	Tuna	5.11	0.59	3.94	6.28	<.0001
Sunscreen	Natural Fruit Drinks	5.10	0.62	3.89	6.31	<.0001
Sunscreen	Hot Sauce	5.07	0.61	3.88	6.27	<.0001
Organic Cereal	Baby Wipes	5.06	0.59	3.90	6.22	<.0001
Organic Cereal	Sour Cream	5.05	0.67	3.72	6.37	<.0001
Organic Cereal	Batteries	5.01	0.60	3.83	6.20	<.0001
Sunscreen	Cold Brew	4.99	0.62	3.77	6.21	<.0001
Sunscreen	Rice	4.93	0.64	3.68	6.18	<.0001
Sunscreen	Seasoned Breading	4.90	0.59	3.73	6.06	<.0001
Sunscreen	Chocolate	4.85	0.60	3.68	6.02	<.0001
Sunscreen	Baby Wipes	4.77	0.59	3.61	5.93	<.0001
Organic Cereal	Frozen Sausage	4.77	0.60	3.59	5.94	<.0001
Sunscreen	Sour Cream	4.76	0.67	3.43	6.08	<.0001
Vegetables	Canned Beans	4.74	0.59	3.59	5.90	<.0001
Sunscreen	Batteries	4.72	0.60	3.54	5.91	<.0001
Organic Cereal	Dish Soap	4.50	0.71	3.10	5.91	<.0001
Sunscreen	Frozen Sausage	4.48	0.60	3.30	5.66	<.0001
Organic Cereal	Frozen Treats	4.48	0.66	3.18	5.78	<.0001
Vegetables	Spaghetti Sauce	4.45	0.60	3.27	5.62	<.0001
Vegetables	Snack Cakes	4.38	0.61	3.19	5.57	<.0001
Vegetables	RTE Pasta	4.27	0.59	3.11	5.44	<.0001

Sunscreen	Dish Soap	4.21	0.71	2.81	5.62	<.0001
Vegetables	Snack Bars	4.21	0.58	3.07	5.35	<.0001
Sunscreen	Frozen Treats	4.19	0.66	2.89	5.49	<.0001
Vegetables	Cookies	4.17	0.64	2.91	5.44	<.0001
Vegetables	Tissues	4.07	0.61	2.86	5.27	<.0001
Vegetables	Baby Food	4.05	0.59	2.90	5.21	<.0001
Vegetables	Olive Oil	3.99	0.63	2.76	5.22	<.0001
Vegetables	Tuna	3.96	0.59	2.79	5.12	<.0001
Vegetables	Natural Fruit Drinks	3.94	0.62	2.74	5.15	<.0001
Vegetables	Hot Sauce	3.91	0.61	2.72	5.11	<.0001
Vegetables	Cold Brew	3.83	0.62	2.61	5.05	<.0001
Vegetables	Rice	3.78	0.64	2.52	5.03	<.0001
Vegetables	Seasoned Breading	3.74	0.59	2.57	4.91	<.0001
Organic Cereal	Detergent	3.71	0.66	2.41	5.01	<.0001
Vegetables	Chocolate	3.69	0.60	2.52	4.86	<.0001
Muesli	Canned Beans	3.69	0.51	2.68	4.70	<.0001
Vegetables	Baby Wipes	3.61	0.59	2.45	4.78	<.0001
Vegetables	Sour Cream	3.60	0.67	2.28	4.93	<.0001
Vegetables	Batteries	3.57	0.60	2.38	4.75	<.0001
Sunscreen	Detergent	3.42	0.66	2.12	4.72	<.0001
Muesli	Spaghetti Sauce	3.39	0.53	2.36	4.43	<.0001
Muesli	Snack Cakes	3.33	0.54	2.27	4.39	<.0001
Vegetables	Frozen Sausage	3.32	0.60	2.14	4.50	<.0001
Muesli	RTE Pasta	3.22	0.52	2.20	4.25	<.0001
Muesli	Snack Bars	3.16	0.51	2.16	4.16	<.0001
Muesli	Cookies	3.12	0.58	1.98	4.26	<.0001
Vegetables	Dish Soap	3.06	0.71	1.65	4.46	<.0001
Vegetables	Frozen Treats	3.03	0.66	1.73	4.33	<.0001
Muesli	Tissues	3.02	0.54	1.95	4.09	<.0001
Muesli	Baby Food	3.00	0.52	1.99	4.02	<.0001
Muesli	Olive Oil	2.94	0.56	1.84	4.03	<.0001
Muesli	Tuna	2.90	0.52	1.88	3.93	<.0001
Muesli	Natural Fruit Drinks	2.89	0.55	1.82	3.97	<.0001
Muesli	Hot Sauce	2.86	0.54	1.81	3.92	<.0001
Muesli	Cold Brew	2.78	0.55	1.69	3.87	<.0001
Muesli	Rice	2.72	0.57	1.60	3.85	<.0001
Muesli	Seasoned Breading	2.69	0.52	1.66	3.71	<.0001
Muesli	Chocolate	2.64	0.52	1.61	3.67	<.0001
Muesli	Baby Wipes	2.56	0.52	1.54	3.59	<.0001
Muesli	Sour Cream	2.55	0.61	1.35	3.76	<.0001
Muesli	Batteries	2.52	0.53	1.47	3.56	<.0001
Organic Cereal	Muesli	2.50	0.75	1.03	3.96	0.0009
Detergent	Canned Beans	2.48	0.38	1.73	3.23	<.0001
Muesli	Frozen Sausage	2.27	0.53	1.23	3.31	<.0001
Vegetables	Detergent	2.26	0.66	0.96	3.57	0.0007
Sunscreen	Muesli	2.21	0.75	0.74	3.68	0.0033
Detergent	Spaghetti Sauce	2.18	0.40	1.40	2.96	<.0001

Detergent	Snack Cakes	2.12	0.41	1.31	2.93	<.0001
Detergent	RTE Pasta	2.01	0.39	1.24	2.77	<.0001
Muesli	Dish Soap	2.01	0.66	0.72	3.30	0.0023
Muesli	Frozen Treats	1.98	0.60	0.80	3.16	0.001
Detergent	Snack Bars	1.95	0.37	1.21	2.68	<.0001
Detergent	Cookies	1.91	0.46	0.99	2.82	<.0001
Detergent	Tissues	1.80	0.42	0.98	2.63	<.0001
Detergent	Baby Food	1.79	0.38	1.04	2.54	<.0001
Detergent	Olive Oil	1.72	0.44	0.86	2.59	0.0001
Frozen Treats	Canned Beans	1.71	0.38	0.96	2.46	<.0001
Detergent	Tuna	1.69	0.39	0.92	2.46	<.0001
Dish Soap	Canned Beans	1.68	0.47	0.77	2.60	0.0003
Detergent	Natural Fruit Drinks	1.68	0.42	0.85	2.51	<.0001
Detergent	Hot Sauce	1.65	0.41	0.84	2.46	<.0001
Detergent	Cold Brew	1.57	0.43	0.72	2.42	0.0003
Detergent	Rice	1.51	0.45	0.62	2.40	0.001
Detergent	Seasoned Breading	1.48	0.39	0.71	2.24	0.0002
Detergent	Chocolate	1.43	0.39	0.66	2.20	0.0003
Frozen Sausage	Canned Beans	1.42	0.26	0.92	1.92	<.0001
Frozen Treats	Spaghetti Sauce	1.41	0.40	0.63	2.19	0.0004
Dish Soap	Spaghetti Sauce	1.39	0.48	0.45	2.33	0.004
Detergent	Baby Wipes	1.35	0.39	0.59	2.12	0.0006
Frozen Treats	Snack Cakes	1.35	0.41	0.54	2.16	0.0011
Detergent	Sour Cream	1.34	0.51	0.34	2.33	0.0085
Dish Soap	Snack Cakes	1.32	0.49	0.36	2.29	0.0074
Detergent	Batteries	1.30	0.41	0.50	2.10	0.0014
Frozen Treats	RTE Pasta	1.24	0.39	0.48	2.01	0.0015
Dish Soap	RTE Pasta	1.22	0.47	0.29	2.14	0.0104
Muesli	Detergent	1.21	0.60	0.04	2.39	0.0433
Frozen Treats	Snack Bars	1.18	0.37	0.44	1.91	0.0017
Batteries	Canned Beans	1.18	0.27	0.65	1.70	<.0001
Sunscreen	Vegetables	1.16	0.80	-0.41	2.73	0.1482
Dish Soap	Snack Bars	1.15	0.46	0.25	2.06	0.0126
Sour Cream	Canned Beans	1.14	0.40	0.35	1.93	0.0049
Frozen Treats	Cookies	1.14	0.46	0.23	2.05	0.0144
Baby Wipes	Canned Beans	1.13	0.24	0.65	1.60	<.0001
Frozen Sausage	Spaghetti Sauce	1.12	0.28	0.57	1.67	<.0001
Dish Soap	Cookies	1.11	0.54	0.06	2.16	0.0384
Frozen Sausage	Snack Cakes	1.06	0.30	0.47	1.65	0.0005
Detergent	Frozen Sausage	1.06	0.40	0.27	1.84	0.0084
Chocolate	Canned Beans	1.05	0.25	0.56	1.53	<.0001
Frozen Treats	Tissues	1.04	0.42	0.21	1.86	0.0138
Frozen Treats	Baby Food	1.02	0.38	0.27	1.78	0.0079
Dish Soap	Tissues	1.01	0.50	0.03	1.99	0.0429
Seasoned Breading	Canned Beans	1.00	0.24	0.53	1.48	<.0001
Dish Soap	Baby Food	1.00	0.47	0.08	1.91	0.0338
Rice	Canned Beans	0.97	0.34	0.31	1.63	0.0042

Frozen Treats	Olive Oil	0.96	0.44	0.09	1.82	0.0302
Frozen Sausage	RTE Pasta	0.95	0.27	0.43	1.48	0.0004
Frozen Treats	Tuna	0.92	0.39	0.15	1.69	0.0188
Frozen Treats	Natural Fruit Drinks	0.91	0.42	0.08	1.75	0.0315
Cold Brew	Canned Beans	0.91	0.31	0.31	1.51	0.0032
Frozen Sausage	Snack Bars	0.89	0.25	0.41	1.37	0.0003
Frozen Treats	Hot Sauce	0.88	0.41	0.07	1.69	0.0326
Batteries	Spaghetti Sauce	0.88	0.29	0.31	1.45	0.0025
Frozen Sausage	Cookies	0.85	0.37	0.13	1.57	0.0216
Sour Cream	Spaghetti Sauce	0.84	0.42	0.02	1.67	0.0441
Baby Wipes	Spaghetti Sauce	0.83	0.26	0.31	1.35	0.0018
Hot Sauce	Canned Beans	0.83	0.28	0.28	1.37	0.0029
Batteries	Snack Cakes	0.81	0.31	0.21	1.42	0.0088
Natural Fruit Drinks	Canned Beans	0.80	0.29	0.22	1.37	0.0067
Tuna	Canned Beans	0.79	0.24	0.31	1.27	0.0014
Baby Wipes	Snack Cakes	0.77	0.29	0.20	1.33	0.0078
Chocolate	Spaghetti Sauce	0.75	0.27	0.22	1.29	0.0058
Frozen Sausage	Tissues	0.75	0.31	0.14	1.36	0.0165
Frozen Sausage	Baby Food	0.73	0.26	0.22	1.24	0.005
Batteries	RTE Pasta	0.71	0.28	0.16	1.25	0.0114
Seasoned Breading	Spaghetti Sauce	0.71	0.27	0.18	1.23	0.0085
Baby Food	Canned Beans	0.69	0.23	0.24	1.14	0.003
Chocolate	Snack Cakes	0.69	0.29	0.11	1.26	0.0192
Tissues	Canned Beans	0.67	0.29	0.11	1.24	0.0192
Frozen Sausage	Olive Oil	0.66	0.34	0.00	1.33	0.049
Baby Wipes	RTE Pasta	0.66	0.25	0.16	1.16	0.0094
Batteries	Snack Bars	0.64	0.26	0.14	1.15	0.0125
Seasoned Breading	Snack Cakes	0.64	0.29	0.07	1.21	0.0267
Frozen Sausage	Natural Fruit Drinks	0.62	0.32	0.00	1.24	0.0491
Baby Wipes	Snack Bars	0.60	0.23	0.15	1.04	0.0095
Frozen Sausage	Hot Sauce	0.59	0.30	0.00	1.18	0.049
Seasoned Breading	RTE Pasta	0.53	0.25	0.03	1.03	0.0366
Snack Bars	Canned Beans	0.53	0.21	0.11	0.95	0.0137
Seasoned Breading	Snack Bars	0.47	0.23	0.02	0.92	0.0422

Baby Food Pairwise Comparisons

Level	Level	Difference	Std Err Dif	Lower CL	Upper CL	p-Value
Beech Nut Banana, Apple, Strawberry Puree	Gerber Macaroni and Cheese with Vegetables	2.73	0.82	1.13	4.34	0.0009
Beech Nut Banana, Apple, Strawberry Puree	Beech Nut Green Beans Jar	2.64	0.90	0.87	4.40	0.0035
Beech Nut Banana, Apple, Strawberry Puree	Beech Nut Banana, Pear, Sweet Potato Puree	2.46	0.85	0.78	4.14	0.0041
Beech Nut Banana, Apple, Strawberry Puree	Beech Nut Sweet Carrots Jar	2.45	0.90	0.69	4.22	0.0066
Beech Nut Banana, Apple, Strawberry Puree	Gerber Pear, Zuccini, Corn	2.45	0.90	0.69	4.22	0.0066
Beech Nut Banana, Apple, Strawberry Puree	Beech Nut Apple, Mango, Kiwi Jar	2.36	0.90	0.60	4.13	0.0089
Beech Nut Banana, Apple, Strawberry Puree	Beech Nut Sweet Potatoes Jar	2.31	0.85	0.63	3.98	0.0071
Gerber Orchard Fruit Medley	Gerber Macaroni and Cheese with Vegetables	2.28	0.80	0.71	3.84	0.0044
Beech Nut Banana, Apple, Strawberry Puree	Beech Nut Mango Jar	2.25	1.01	0.28	4.22	0.0256
Parent's Choice Pear, Apple, Strawberry, and Pineapple	Gerber Macaroni and Cheese with Vegetables	2.25	0.76	0.75	3.74	0.0032
Beech Nut Pear Jar	Gerber Macaroni and Cheese with Vegetables	2.23	0.94	0.39	4.07	0.0175
Beech Nut Banana, Apple, Strawberry Puree	Beech Nut Sweet Peas Jar	2.23	0.71	0.84	3.62	0.0018
Gerber Orchard Fruit Medley	Beech Nut Green Beans Jar	2.18	0.88	0.45	3.91	0.0137
Beech Nut Banana, Apple, Strawberry Puree	Beech Nut Apple and Blueberry Jar	2.17	0.78	0.64	3.69	0.0055
Parent's Choice Pear, Apple, Strawberry, and Pineapple	Beech Nut Green Beans Jar	2.15	0.85	0.48	3.82	0.0115
Beech Nut Banana, Apple, Strawberry Puree	Parent's Choice Mango and Pumpkin	2.15	0.70	0.77	3.53	0.0024
Beech Nut Pear Jar	Beech Nut Green Beans Jar	2.14	1.01	0.15	4.12	0.0348
Beech Nut Banana, Apple, Strawberry Puree	Beech Nut Squash Jar	2.13	0.82	0.53	3.74	0.0093
Beech Nut Banana, Apple, Strawberry Puree	Parent's Choice Banana, Apple, and Blueberry	2.11	0.70	0.73	3.49	0.0028
Gerber Orchard Fruit Medley	Beech Nut Banana, Pear, Sweet Potato Puree	2.00	0.83	0.37	3.64	0.0165
Beech Nut Banana, Apple, Strawberry Puree	Gerber Chicken Noodle	2.00	0.79	0.45	3.55	0.0115
Gerber Orchard Fruit Medley	Gerber Pear, Zuccini, Corn	2.00	0.88	0.27	3.73	0.0238
Gerber Orchard Fruit Medley	Beech Nut Sweet Carrots Jar	2.00	0.88	0.27	3.73	0.0238
Parent's Choice Pear, Apple, Strawberry, and Pineapple	Beech Nut Banana, Pear, Sweet Potato Puree	1.98	0.80	0.41	3.55	0.0136
Parent's Choice Pear, Apple, Strawberry, and Pineapple	Gerber Pear, Zuccini, Corn	1.97	0.85	0.30	3.64	0.0206
Parent's Choice Pear, Apple, Strawberry, and Pineapple	Beech Nut Sweet Carrots Jar	1.97	0.85	0.30	3.64	0.0206
Beech Nut Pear Jar	Beech Nut Banana, Pear, Sweet Potato Puree	1.96	0.97	0.06	3.86	0.0433
Gerber Orchard Fruit Medley	Beech Nut Apple, Mango, Kiwi Jar	1.91	0.88	0.18	3.64	0.031
Parent's Choice Pear, Apple, Strawberry, and Pineapple	Beech Nut Apple, Mango, Kiwi Jar	1.88	0.85	0.21	3.55	0.0272
Beech Nut Pear, Banana, Raspberry Puree	Gerber Macaroni and Cheese with Vegetables	1.86	0.80	0.29	3.42	0.0199
Gerber Orchard Fruit Medley	Beech Nut Sweet Potatoes Jar	1.85	0.83	0.21	3.49	0.0268
Beech Nut Banana, Apple, Strawberry Puree	Plum Apple and Broccoli	1.85	0.85	0.17	3.52	0.031
Parent's Choice Pear, Apple, Strawberry, and Pineapple	Beech Nut Sweet Potatoes Jar	1.82	0.80	0.25	3.39	0.0229
Beech Nut Apple, Mango, Carrot Puree	Gerber Macaroni and Cheese with Vegetables	1.81	0.78	0.27	3.35	0.0214
Beech Nut Banana, Apple, Strawberry Puree	Plum Banana and Pumpkin	1.80	0.82	0.19	3.41	0.0281
Beech Nut Banana, Apple, Strawberry Puree	Parent's Choice Strawberry, Banana, and Yogurt	1.79	0.68	0.46	3.11	0.0083
Gerber Orchard Fruit Medley	Beech Nut Sweet Peas Jar	1.77	0.68	0.43	3.12	0.0099
Beech Nut Pear, Banana, Raspberry Puree	Beech Nut Green Beans Jar	1.76	0.88	0.03	3.49	0.046
Parent's Choice Pear, Apple, Strawberry, and Pineapple	Beech Nut Sweet Peas Jar	1.75	0.64	0.48	3.01	0.0068
Beech Nut Pear Jar	Beech Nut Sweet Peas Jar	1.73	0.84	0.07	3.39	0.0408
Beech Nut Apple, Mango, Carrot Puree	Beech Nut Green Beans Jar	1.71	0.87	0.00	3.42	0.0494
Gerber Orchard Fruit Medley	Beech Nut Apple and Blueberry Jar	1.71	0.75	0.23	3.19	0.0239
Parent's Choice Mango, Banana, and Kale	Gerber Macaroni and Cheese with Vegetables	1.69	0.79	0.14	3.25	0.0325
Gerber Orchard Fruit Medley	Parent's Choice Mango and Pumpkin	1.69	0.68	0.36	3.02	0.0131
Parent's Choice Pear, Apple, Strawberry, and Pineapple	Beech Nut Apple and Blueberry Jar	1.68	0.72	0.27	3.09	0.0192
Beech Nut Banana, Apple, Strawberry Puree	Beech Nut Pear, Mango, Squash Puree	1.68	0.72	0.27	3.09	0.0193
Gerber Orchard Fruit Medley	Beech Nut Squash Jar	1.68	0.80	0.11	3.24	0.0359
Beech Nut Banana, Apple, Strawberry Puree	Beech Nut Apple, Sweet Potato, Pineapple Puree	1.67	0.69	0.31	3.02	0.0158
Parent's Choice Pear, Apple, Strawberry, and Pineapple	Parent's Choice Mango and Pumpkin	1.66	0.64	0.41	2.92	0.0092
Gerber Orchard Fruit Medley	Parent's Choice Banana, Apple, and Blueberry	1.65	0.68	0.32	2.99	0.0152
Parent's Choice Pear, Apple, Strawberry, and Pineapple	Beech Nut Squash Jar	1.65	0.76	0.15	3.14	0.0306
Gerber Vegetable Beef	Gerber Macaroni and Cheese with Vegetables	1.65	0.80	0.07	3.22	0.0408
Beech Nut Peach, Apple, Banana Puree	Gerber Macaroni and Cheese with Vegetables	1.64	0.76	0.14	3.13	0.0319
Parent's Choice Pear, Apple, Strawberry, and Pineapple	Parent's Choice Banana, Apple, and Blueberry	1.63	0.64	0.38	2.88	0.0109

Baby Wipe Pairwise Comparisons

Level	Level	Difference	Std Err Dif	Lower CL	Upper CL	p-Value
Water Wipes Soft Pack	Parent's Choice Potty Training Wipes Soft Pack	5.50	1.34	2.87	8.13	<.0001
Water Wipes Soft Pack	Parent's Choice Refreshing Cucumber Wipes (Case 800ct)	5.44	1.89	1.73	9.16	0.0041
Water Wipes Soft Pack	Huggies Natural Care Wipes (Case)	5.39	1.34	2.76	8.02	<.0001
Water Wipes Soft Pack	Huggies Simply Clean Fragrance Free Wipes (3 pk)	5.37	0.87	3.67	7.07	<.0001
Water Wipes Soft Pack	Huggies Simply Clean Fresh Scent Wipes (3 pk)	5.32	0.90	3.56	7.08	<.0001
Water Wipes Soft Pack	Parent's Choice Fresh Scent Wipes (3 pk)	4.94	1.20	2.59	7.29	<.0001
Water Wipes Soft Pack	Huggies One and Done Wipes Soft Pack	4.78	0.93	2.95	6.62	<.0001
Water Wipes Soft Pack	Pampers Baby Fresh Wipes Soft Pack	4.71	0.86	3.02	6.39	<.0001
Water Wipes Soft Pack	Huggies One and Done Cucumber Green Tea Wipes (Case)	4.69	1.08	2.58	6.81	<.0001
Water Wipes Soft Pack	Huggies Natural Care Wipes (3 pk)	4.61	0.91	2.82	6.41	<.0001
Water Wipes Soft Pack	Pampers Baby Fresh Wipes (3 pk)	4.60	0.90	2.84	6.36	<.0001
Huggies One and Done Wipes (Case)	Parent's Choice Potty Training Wipes Soft Pack	4.56	2.00	0.62	8.49	0.0232
Water Wipes Soft Pack	Pampers Sensitive Wipes (3 pk)	4.53	0.95	2.67	6.39	<.0001
Water Wipes Soft Pack	Parent's Choice Fragrance Free Wipes (Case 800ct)	4.50	1.34	1.87	7.13	0.0008
Huggies One and Done Wipes (Case)	Huggies Natural Care Wipes (Case)	4.44	2.00	0.51	8.38	0.0268
Huggies One and Done Wipes (Case)	Huggies Simply Clean Fragrance Free Wipes (3 pk)	4.42	1.72	1.04	7.81	0.0104
Water Wipes Soft Pack	Parent's Choice Sensitive Wipes (3 pk)	4.41	1.16	2.13	6.69	0.0002
Water Wipes Soft Pack	Huggies Natural Care Wipes (Soft Pack)	4.40	0.88	2.67	6.12	<.0001
Huggies One and Done Wipes (Case)	Huggies Simply Clean Fresh Scent Wipes (3 pk)	4.38	1.74	0.97	7.79	0.012
Water Wipes Soft Pack	Pampers Sensitive Wipes (Soft Pack)	4.30	0.83	2.67	5.93	<.0001
Water Wipes Soft Pack	Parent's Choice Fragrance Free Wipes (3 pk)	4.24	1.06	2.16	6.31	<.0001
Water Wipes Soft Pack	Parent's Choice Fresh Scent Wipes Tub	4.21	0.92	2.40	6.03	<.0001
Water Wipes Soft Pack	Huggies Simply Clean Fragrance Free Wipes Soft Pack	4.15	0.84	2.52	5.79	<.0001
Water Wipes Soft Pack	Parent's Choice Fresh Scent Wipes (500 ct Case)	4.07	1.40	1.31	6.82	0.0039
Water Wipes Soft Pack	Huggies Natural Care Wipes Tub	4.00	0.85	2.34	5.66	<.0001
Huggies One and Done Wipes (Case)	Parent's Choice Fresh Scent Wipes (3 pk)	4.00	1.91	0.25	7.75	0.0367
Water Wipes Soft Pack	Huggies One and Done Wipes (3 pk)	3.94	1.02	1.95	5.94	0.0001
Water Wipes Soft Pack	Pampers Sensitive Wipes (Case)	3.92	0.85	2.24	5.59	<.0001
Huggies One and Done Wipes (Case)	Huggies One and Done Wipes Soft Pack	3.84	1.76	0.39	7.29	0.0294
Water Wipes Soft Pack	Parent's Choice Fresh Scent Wipes (Soft Pack)	3.81	1.10	1.64	5.98	0.0006
Huggies One and Done Wipes (Case)	Pampers Baby Fresh Wipes Soft Pack	3.76	1.72	0.39	7.14	0.0289
Huggies One and Done Wipes (Case)	Huggies One and Done Cucumber Green Tea Wipes (Case)	3.75	1.84	0.14	7.36	0.0419
Water Wipes Soft Pack	Parent's Choice Fragrance Free Wipes Tub	3.74	0.93	1.91	5.58	<.0001
Huggies One and Done Wipes (Case)	Huggies Natural Care Wipes (3 pk)	3.67	1.75	0.23	7.10	0.0363
Huggies One and Done Wipes (Case)	Pampers Baby Fresh Wipes (3 pk)	3.66	1.74	0.24	7.07	0.0359
Huggies One and Done Wipes (Case)	Pampers Sensitive Wipes (3 pk)	3.58	1.76	0.12	7.05	0.0427
Water Wipes Soft Pack	Huggies Natural Care Wipes w/ Pooh Bear Tub	3.56	0.92	1.75	5.37	0.0001
Huggies One and Done Wipes (Case)	Huggies Natural Care Wipes (Soft Pack)	3.45	1.73	0.05	6.85	0.0465
Huggies One and Done Wipes (Case)	Pampers Sensitive Wipes (Soft Pack)	3.36	1.71	0.01	6.71	0.0493
Water Wipes Soft Pack	Pampers Sensitive Wipes Tub	3.14	0.74	1.68	4.60	<.0001
Water Wipes Soft Pack	Parent's Choice Fragrance Free Wipes (500ct Case)	3.04	1.28	0.52	5.56	0.018

Battery Pairwise Comparisons

Level	Level	Difference	Std Err Dif	Lower CL	Upper CL	p-Value
Duracell AA8	Energizer D2	5.77	1.67	2.47	9.06	0.0006
Duracell AA8	Duracell D2	5.77	2.22	1.40	10.13	0.0097
Duracell AA8	Walgreens C2	5.52	1.74	2.09	8.95	0.0017
Duracell AA8	Energizer C2	5.50	1.45	2.65	8.35	0.0002
Duracell AA8	Duracell AAA16	5.23	1.34	2.59	7.87	0.0001
Duracell AA8	Energizer 9V2	5.04	1.52	2.05	8.04	0.001
Duracell AA8	Duracell C2	4.88	1.57	1.81	7.96	0.002
Duracell AA8	Duracell 9V2	4.88	1.62	1.70	8.05	0.0027
Duracell AA8	Energizer AAA4	4.77	1.32	2.17	7.36	0.0003
Duracell AA8	Walgreens AAA8	4.63	1.57	1.56	7.71	0.0033
Duracell AA8	Energizer AAA16	4.50	1.39	1.76	7.23	0.0013
Energizer AA4	Energizer D2	4.38	1.71	1.01	7.75	0.011
Duracell AA8	Energizer AAA8	4.18	1.20	1.82	6.54	0.0006
Energizer AA4	Walgreens C2	4.13	1.78	0.63	7.63	0.0209
Energizer AA4	Energizer C2	4.11	1.49	1.17	7.05	0.0062
Duracell AA8	Walgreens AA16	4.01	1.24	1.57	6.44	0.0013
Energizer AA4	Duracell AAA16	3.84	1.39	1.11	6.57	0.006
Duracell AA8	Duracell AAA8	3.69	1.24	1.25	6.12	0.0031
Energizer AA4	Energizer 9V2	3.65	1.56	0.58	6.73	0.02
Duracell AA8	Energizer AA16	3.65	1.24	1.21	6.08	0.0034
Duracell AA16	Energizer D2	3.63	1.68	0.33	6.94	0.0313
Energizer AA8	Energizer D2	3.56	1.69	0.24	6.88	0.0358
Energizer AA4	Duracell C2	3.49	1.61	0.33	6.65	0.0303
Energizer AA4	Duracell 9V2	3.49	1.66	0.23	6.74	0.036
Duracell AA8	Walgreens 9V2	3.42	1.28	0.90	5.95	0.008
Energizer AA4	Energizer AAA4	3.38	1.37	0.68	6.07	0.0141
Duracell AA16	Energizer C2	3.37	1.46	0.50	6.23	0.0213
Energizer AA8	Energizer C2	3.29	1.46	0.41	6.17	0.0252
Energizer AA4	Walgreens AAA8	3.24	1.61	0.08	6.40	0.0443
Energizer AA4	Energizer AAA16	3.11	1.44	0.28	5.93	0.0312
Duracell AA16	Duracell AAA16	3.10	1.35	0.44	5.75	0.0224
Energizer AA8	Walgreens D2	3.09	2.79	-2.40	8.58	0.2689
Energizer AA8	Duracell AAA16	3.02	1.36	0.35	5.69	0.0268
Duracell AA16	Energizer AAA4	2.63	1.33	0.02	5.25	0.0483
Energizer AA4	Walgreens AA16	2.62	1.29	0.08	5.15	0.0432
Energizer AA4	Energizer AAA8	2.79	1.25	0.33	5.26	0.0266

Canned Bean Pairwise Comparisons

Level	Level	Difference	Std Err Dif	Lower CL	Upper CL	p-Value
Whiskey Hollow Moonshine Bacon Baked Beans	Great Value Cannellini Beans	1.71	0.60	0.53	2.89	0.0047
Whiskey Hollow Moonshine Bacon Baked Beans	Great Value Navy Beans	1.71	0.60	0.53	2.89	0.0047
Whiskey Hollow Moonshine Bacon Baked Beans	Bush's Organic Pinto Beans	1.67	0.45	0.79	2.56	0.0002
Whiskey Hollow Moonshine Bacon Baked Beans	Bush's Smokehouse Tradition Baked Beans	1.67	0.42	0.84	2.50	<.0001
Whiskey Hollow Moonshine Bacon Baked Beans	Great Value Organic Black Beans	1.66	0.46	0.76	2.56	0.0003
Whiskey Hollow Moonshine Bacon Baked Beans	Great Value Chili Beans	1.60	0.46	0.70	2.50	0.0005
Whiskey Hollow Moonshine Bacon Baked Beans	Bush's Onion Baked Beans	1.55	0.43	0.70	2.40	0.0004
Whiskey Hollow Moonshine Bacon Baked Beans	Bush's Vegetarian Baked Beans	1.54	0.46	0.64	2.44	0.0009
Whiskey Hollow Moonshine Bacon Baked Beans	Hanover Brown Sugar and Bacon Baked Beans	1.52	0.44	0.64	2.39	0.0007
Whiskey Hollow Moonshine Bacon Baked Beans	Bush's Organic Black Beans	1.52	0.41	0.70	2.33	0.0003
Whiskey Hollow Moonshine Bacon Baked Beans	Bush's Organic Honey Beans	1.48	0.46	0.57	2.38	0.0014
Whiskey Hollow Moonshine Bacon Baked Beans	Great Value Baked Beans	1.44	0.45	0.55	2.33	0.0015
Whiskey Hollow Moonshine Bacon Baked Beans	Great Value Organic Garbanzos Chick Peas	1.41	0.46	0.51	2.31	0.0022
Whiskey Hollow Moonshine Bacon Baked Beans	Great Value Garbanzos Chick Peas	1.38	0.47	0.46	2.30	0.0032
Whiskey Hollow Moonshine Bacon Baked Beans	Bush's Garbanzos Chick Peas	1.38	0.44	0.51	2.24	0.0018
Whiskey Hollow Moonshine Bacon Baked Beans	Bush's Southern Pit BBQ Baked Beans	1.32	0.44	0.46	2.19	0.0027
Whiskey Hollow Moonshine Bacon Baked Beans	Bush's Sriracha Baked Beans	1.30	0.51	0.30	2.31	0.0114
Whiskey Hollow Moonshine Bacon Baked Beans	Van Camp's Hickory Baked Beans	1.29	0.44	0.42	2.17	0.0037
Whiskey Hollow Moonshine Bacon Baked Beans	Van Camp's Orginial Baked Beans	1.23	0.49	0.28	2.19	0.0116
Whiskey Hollow Moonshine Bacon Baked Beans	Great Value No Salt Added Black Beans	1.20	0.45	0.32	2.09	0.0079
Whiskey Hollow Moonshine Bacon Baked Beans	Bush's Steakhouse Recipe Baked Beans	1.16	0.46	0.26	2.06	0.0116
Bush's Black Beans	Great Value Cannellini Beans	1.16	0.59	0.00	2.32	0.0499
Bush's Black Beans	Great Value Navy Beans	1.16	0.59	0.00	2.32	0.0499
Whiskey Hollow Moonshine Bacon Baked Beans	KC Masterpiece Applewood Smoked Bacon Baked Beans	1.15	0.40	0.35	1.94	0.0047
Bush's Black Beans	Bush's Organic Pinto Beans	1.13	0.44	0.27	1.99	0.0102
Whiskey Hollow Moonshine Bacon Baked Beans	Bush's Honey Baked Beans	1.13	0.40	0.34	1.91	0.0048
Bush's Black Beans	Bush's Smokehouse Tradition Baked Beans	1.12	0.41	0.32	1.92	0.0061
Bush's Black Beans	Great Value Organic Black Beans	1.12	0.45	0.24	1.99	0.0125
Whiskey Hollow Moonshine Bacon Baked Beans	Luck's Pinto Beans	1.11	0.44	0.25	1.97	0.0114
Bush's Brown Sugar Hickory Baked Beans	Bush's Organic Pinto Beans	1.11	0.45	0.23	1.99	0.0133
Bush's Brown Sugar Hickory Baked Beans	Bush's Smokehouse Tradition Baked Beans	1.10	0.42	0.28	1.92	0.0084
Bush's Brown Sugar Hickory Baked Beans	Great Value Organic Black Beans	1.10	0.45	0.21	1.99	0.0159
Bush's Country Style Baked Beans	Bush's Organic Pinto Beans	1.10	0.44	0.23	1.96	0.0134
Bush's Country Style Baked Beans	Bush's Smokehouse Tradition Baked Beans	1.09	0.41	0.28	1.90	0.0084
Bush's Country Style Baked Beans	Great Value Organic Black Beans	1.09	0.45	0.20	1.97	0.0161
Whiskey Hollow Brown Sugar Baked Beans	Bush's Organic Pinto Beans	1.08	0.44	0.22	1.94	0.0135
Whiskey Hollow Brown Sugar Baked Beans	Bush's Smokehouse Tradition Baked Beans	1.08	0.41	0.28	1.88	0.0084
Whiskey Hollow Brown Sugar Baked Beans	Great Value Organic Black Beans	1.07	0.45	0.20	1.95	0.0163
Bush's Black Beans	Great Value Chili Beans	1.05	0.45	0.18	1.93	0.0183
Whiskey Hollow Moonshine Bacon Baked Beans	Luck's Black Beans	1.05	0.43	0.20	1.90	0.0156
Bush's Brown Sugar Hickory Baked Beans	Great Value Chili Beans	1.04	0.45	0.14	1.93	0.023
Bush's Country Style Baked Beans	Great Value Chili Beans	1.02	0.45	0.14	1.91	0.0234
Whiskey Hollow Brown Sugar Baked Beans	Great Value Chili Beans	1.01	0.45	0.14	1.89	0.0237
Bush's Black Beans	Bush's Onion Baked Beans	1.00	0.42	0.18	1.83	0.0167
Whiskey Hollow Moonshine Bacon Baked Beans	Bush's Original Baked Beans	1.00	0.40	0.20	1.79	0.0137
Bush's Black Beans	Bush's Vegetarian Baked Beans	0.99	0.45	0.12	1.87	0.0264
Bush's Brown Sugar Hickory Baked Beans	Bush's Onion Baked Beans	0.99	0.43	0.15	1.83	0.0215
Bush's Brown Sugar Hickory Baked Beans	Bush's Vegetarian Baked Beans	0.97	0.45	0.08	1.87	0.0326
Bush's Country Style Baked Beans	Bush's Onion Baked Beans	0.97	0.42	0.14	1.80	0.0218
Bush's Black Beans	Hanover Brown Sugar and Bacon Baked Beans	0.97	0.43	0.12	1.82	0.0246
Bush's Black Beans	Bush's Organic Black Beans	0.97	0.40	0.19	1.76	0.0154
Whiskey Hollow Brown Sugar Baked Beans	Bush's Onion Baked Beans	0.96	0.42	0.14	1.78	0.0221
Bush's Country Style Baked Beans	Bush's Vegetarian Baked Beans	0.96	0.45	0.08	1.84	0.0332
Bush's Brown Sugar Hickory Baked Beans	Hanover Brown Sugar and Bacon Baked Beans	0.95	0.44	0.09	1.82	0.0307
Bush's Brown Sugar Hickory Baked Beans	Bush's Organic Black Beans	0.95	0.41	0.15	1.76	0.0202
Whiskey Hollow Brown Sugar Baked Beans	Bush's Vegetarian Baked Beans	0.95	0.45	0.07	1.82	0.0338
Whiskey Hollow Moonshine Bacon Baked Beans	Bush's Bourbon and Brown Sugar Baked Beans	0.94	0.42	0.11	1.77	0.0265
Bush's Country Style Baked Beans	Hanover Brown Sugar and Bacon Baked Beans	0.94	0.44	0.08	1.79	0.0313
Bush's Country Style Baked Beans	Bush's Organic Black Beans	0.94	0.40	0.15	1.73	0.0204
Bush's Black Beans	Bush's Organic Honey Beans	0.93	0.45	0.05	1.80	0.0375
Whiskey Hollow Brown Sugar Baked Beans	Hanover Brown Sugar and Bacon Baked Beans	0.93	0.43	0.08	1.77	0.0317
Whiskey Hollow Brown Sugar Baked Beans	Bush's Organic Black Beans	0.93	0.40	0.14	1.71	0.0206
Whiskey Hollow Moonshine Bacon Baked Beans	Bush's Maple Cured Bacon Baked Beans	0.92	0.40	0.13	1.72	0.0225
Bush's Brown Sugar Hickory Baked Beans	Bush's Organic Honey Beans	0.91	0.45	0.02	1.80	0.0455
Bush's Country Style Baked Beans	Bush's Organic Honey Beans	0.90	0.45	0.01	1.78	0.0464
KC Masterpiece Hickory Brown Sugar Baked Beans	Great Value Organic Black Beans	0.90	0.44	0.03	1.76	0.0431
Bush's Black Beans	Great Value Baked Beans	0.89	0.44	0.03	1.75	0.042
Whiskey Hollow Brown Sugar Baked Beans	Bush's Organic Honey Beans	0.89	0.45	0.01	1.76	0.0473
Bush's Organc Garbanzos Chick Peas	Bush's Smokehouse Tradition Baked Beans	0.87	0.42	0.04	1.70	0.0406
Bush's Homestyle Baked Beans	Bush's Organic Pinto Beans	0.87	0.44	0.01	1.73	0.0482
Bush's Homestyle Baked Beans	Bush's Smokehouse Tradition Baked Beans	0.86	0.41	0.06	1.66	0.0352

Chocolate Pairwise Comparisons

Level	Level	Difference	Std Err Dif	Lower CL	Upper CL	p-Value
Belgian Collection	Hershey's Milk Chocolate with Almond Kisses	5.85	0.74	4.39	7.31	<.0001
Belgian Collection	Riesen	5.73	0.74	4.27	7.19	<.0001
Belgian Collection	Peanut M&Ms Fun Size	5.69	0.76	4.20	7.18	<.0001
Belgian Collection	LC Milk Chocolate Peanuts	5.61	0.69	4.26	6.96	<.0001
Belgian Collection	Old Dominion Peanut Butter Double Ups	5.38	0.97	3.47	7.29	<.0001
Belgian Collection	Hershey's Minatures	5.32	0.74	3.86	6.78	<.0001
Belgian Collection	Old Dominion S'mores Crunch	5.32	0.74	3.86	6.78	<.0001
Belgian Collection	LC Milk Chocolate Caramels	5.28	0.60	4.11	6.45	<.0001
Belgian Collection	DeMet's Double Chocolate Turtles	5.26	0.74	3.80	6.72	<.0001
Belgian Collection	Hershey's Milk Chcolate Snack Size	5.23	0.71	3.84	6.62	<.0001
Belgian Collection	Old Dominion Sea Salt Brittle	5.19	0.76	3.70	6.68	<.0001
Belgian Collection	Milky Way Snack Size	5.19	0.70	3.82	6.56	<.0001
Belgian Collection	Tootsie Rolls	5.18	0.77	3.66	6.70	<.0001
Belgian Collection	Old Dominion Toffee Peanuts	5.13	0.76	3.64	6.62	<.0001
Belgian Collection	All Time Greats Variety Pack	4.99	0.81	3.40	6.59	<.0001
Belgian Collection	Hershey's Milk Chocolate Kisses	4.97	0.69	3.62	6.32	<.0001
Belgian Collection	Variety Pack Snack Size	4.88	0.79	3.32	6.43	<.0001
Belgian Collection	Old Dominion Dipped Peanuts	4.63	0.83	2.99	6.27	<.0001
Belgian Collection	LC Milk Chocolate Raisins	4.60	0.68	3.26	5.93	<.0001
Belgian Collection	Mar's Chocolate Favorites	4.53	0.81	2.94	6.13	<.0001
Belgian Collection	Chocolove Dark Chocolate Almonds	4.21	0.68	2.87	5.54	<.0001
Belgian Collection	Trader Joe's Milk Chocolate	4.19	0.65	2.92	5.47	<.0001
Belgian Collection	Chocolove Milk Chocolate Almonds	4.14	0.66	2.84	5.44	<.0001
Belgian Collection	DeMet's Original Turtles	3.94	0.66	2.64	5.24	<.0001
Swiss Chocolate	Hershey's Milk Chocolate with Almond Kisses	3.78	0.76	2.29	5.27	<.0001
Swiss Chocolate	Riesen	3.66	0.76	2.17	5.15	<.0001
Swiss Chocolate	Peanut M&Ms Fun Size	3.62	0.77	2.10	5.14	<.0001
Swiss Chocolate	LC Milk Chocolate Peanuts	3.53	0.70	2.15	4.92	<.0001
Swiss Chocolate	Old Dominion Peanut Butter Double Ups	3.31	0.98	1.38	5.24	0.0008
Swiss Chocolate	Old Dominion S'mores Crunch	3.25	0.76	1.76	4.74	<.0001
Swiss Chocolate	Hershey's Minatures	3.25	0.76	1.76	4.74	<.0001
Belgian Collection	Whitman's Sampler	3.21	0.64	1.95	4.46	<.0001
Swiss Chocolate	LC Milk Chocolate Caramels	3.21	0.62	2.00	4.41	<.0001
Swiss Chocolate	DeMet's Double Chocolate Turtles	3.19	0.76	1.70	4.68	<.0001
Swiss Chocolate	Hershey's Milk Chcolate Snack Size	3.16	0.72	1.74	4.58	<.0001
Swiss Chocolate	Old Dominion Sea Salt Brittle	3.12	0.77	1.60	4.64	<.0001
Swiss Chocolate	Milky Way Snack Size	3.12	0.71	1.72	4.52	<.0001
Swiss Chocolate	Tootsie Rolls	3.11	0.79	1.56	4.66	<.0001
Swiss Chocolate	Old Dominion Toffee Peanuts	3.06	0.77	1.54	4.58	<.0001
Swiss Chocolate	All Time Greats Variety Pack	2.92	0.83	1.30	4.55	0.0004
Swiss Chocolate	Hershey's Milk Chocolate Kisses	2.90	0.70	1.51	4.28	<.0001
Swiss Chocolate	Variety Pack Snack Size	2.81	0.81	1.22	4.39	0.0005
Whitman's Sampler	Hershey's Milk Chocolate with Almond Kisses	2.64	0.74	1.18	4.10	0.0004
Swiss Chocolate	Old Dominion Dipped Peanuts	2.56	0.85	0.89	4.23	0.0027
Whitman's Sampler	Riesen	2.53	0.74	1.07	3.98	0.0007
Swiss Chocolate	LC Milk Chocolate Raisins	2.53	0.70	1.16	3.89	0.0003
Whitman's Sampler	Peanut M&Ms Fun Size	2.48	0.76	1.00	3.97	0.0011
Swiss Chocolate	Mar's Chocolate Favorites	2.46	0.83	0.84	4.08	0.003
Whitman's Sampler	LC Milk Chocolate Peanuts	2.40	0.69	1.05	3.75	0.0005
Whitman's Sampler	Old Dominion Peanut Butter Double Ups	2.17	0.97	0.26	4.08	0.0257
Swiss Chocolate	Chocolove Dark Chocolate Almonds	2.13	0.70	0.77	3.50	0.0023
Swiss Chocolate	Trader Joe's Milk Chocolate	2.12	0.67	0.81	3.44	0.0016
Whitman's Sampler	Old Dominion S'mores Crunch	2.11	0.74	0.65	3.57	0.0046
Whitman's Sampler	Hershey's Minatures	2.11	0.74	0.65	3.57	0.0046

Belgian Collection	Swiss Chocolate	2.07	0.66	0.78	3.36	0.0017
Whitman's Sampler	LC Milk Chocolate Caramels	2.07	0.60	0.90	3.24	0.0006
Swiss Chocolate	Chocolove Milk Chocolate Almonds	2.07	0.68	0.73	3.41	0.0025
Whitman's Sampler	DeMet's Double Chocolate Turtles	2.05	0.74	0.60	3.51	0.0059
Whitman's Sampler	Hershey's Milk Chcolate Snack Size	2.02	0.71	0.63	3.41	0.0044
Whitman's Sampler	Old Dominion Sea Salt Brittle	1.98	0.76	0.50	3.47	0.009
Whitman's Sampler	Milky Way Snack Size	1.98	0.70	0.61	3.35	0.0046
Whitman's Sampler	Tootsie Rolls	1.97	0.77	0.45	3.49	0.0111
Whitman's Sampler	Old Dominion Toffee Peanuts	1.92	0.76	0.43	3.41	0.0114
DeMet's Original Turtles	Hershey's Milk Chocolate with Almond Kisses	1.91	0.76	0.41	3.41	0.0128
Swiss Chocolate	DeMet's Original Turtles	1.87	0.68	0.53	3.21	0.0063
DeMet's Original Turtles	Riesen	1.79	0.76	0.29	3.30	0.0194
Whitman's Sampler	All Time Greats Variety Pack	1.79	0.81	0.19	3.38	0.0281
Whitman's Sampler	Hershey's Milk Chocolate Kisses	1.76	0.69	0.41	3.11	0.0106
DeMet's Original Turtles	Peanut M&Ms Fun Size	1.75	0.78	0.22	3.28	0.0248
Chocolove Milk Chocolate Almonds	Hershey's Milk Chocolate with Almond Kisses	1.71	0.76	0.21	3.21	0.0257
Whitman's Sampler	Variety Pack Snack Size	1.67	0.79	0.12	3.23	0.0351
DeMet's Original Turtles	LC Milk Chocolate Peanuts	1.67	0.71	0.27	3.06	0.0194
Trader Joe's Milk Chocolate	Hershey's Milk Chocolate with Almond Kisses	1.66	0.75	0.18	3.14	0.0283
Chocolove Dark Chocolate Almonds	Hershey's Milk Chocolate with Almond Kisses	1.64	0.78	0.12	3.17	0.035
Chocolove Milk Chocolate Almonds	Riesen	1.59	0.76	0.09	3.10	0.0377
Chocolove Milk Chocolate Almonds	Peanut M&Ms Fun Size	1.55	0.78	0.02	3.08	0.0467
Trader Joe's Milk Chocolate	Riesen	1.54	0.75	0.06	3.02	0.0416
Chocolove Milk Chocolate Almonds	LC Milk Chocolate Peanuts	1.47	0.71	0.07	2.86	0.0395
Trader Joe's Milk Chocolate	LC Milk Chocolate Peanuts	*1.41*	*0.70*	0.04	*2.78*	0.0437
Whitman's Sampler	LC Milk Chocolate Raisins	1.39	0.68	0.06	2.72	0.0412
DeMet's Original Turtles	LC Milk Chocolate Caramels	1.34	0.62	0.11	2.56	0.0323

Frozen Sausage Pairwise Comparisons

Level	Level	Difference	Std Err Dif	Lower CL	Upper CL	p-Value
JDF Mild Pork Patties	Banquet Beef Links	5.16	0.94	3.31	7.01	<.0001
JDF Mild Pork Patties	Jimmy Dean Turkey Patties	5.14	0.91	3.35	6.93	<.0001
JDF Mild Pork Patties	Banquet Lite Original	5.08	1.03	3.05	7.11	<.0001
JDF Mild Pork Patties	Banquet Turkey Patties	5.03	0.95	3.16	6.90	<.0001
JDF Mild Pork Patties	Banquet Original Patties	4.94	0.86	3.25	6.63	<.0001
JDF Mild Pork Patties	Banquet Turkey Links	4.93	0.95	3.06	6.80	<.0001
JDF Mild Pork Patties	Applegate Chicken and Apple Patties	4.68	0.88	2.96	6.41	<.0001
JDF Mild Pork Patties	Banquet Maple Links	4.54	0.83	2.90	6.18	<.0001
JDF Mild Pork Patties	Jimmy Dean Turkey Links	4.44	0.87	2.73	6.15	<.0001
JDF Mild Pork Patties	Applegate Chicken and Maple Patties	4.37	0.82	2.76	5.99	<.0001
JDF Mild Pork Patties	Applegate Chicken and Apple Links	4.25	0.88	2.53	5.98	<.0001
Jimmy Dean Original Patties	Banquet Beef Links	4.01	0.88	2.29	5.73	<.0001
Jimmy Dean Original Patties	Jimmy Dean Turkey Patties	3.99	0.84	2.33	5.65	<.0001
Jimmy Dean Original Patties	Banquet Lite Original	3.93	0.98	2.02	5.85	<.0001
Jimmy Dean Original Patties	Banquet Turkey Patties	3.88	0.89	2.13	5.63	<.0001
Jimmy Dean Original Patties	Banquet Original Patties	3.79	0.79	2.24	5.34	<.0001
Jimmy Dean Original Patties	Banquet Turkey Links	3.78	0.89	2.03	5.53	<.0001
JDF Mild Pork Patties	JDF Maple Pork Patties	3.72	0.89	1.97	5.48	<.0001
Jimmy Dean Original Links	Banquet Beef Links	3.65	0.81	2.06	5.24	<.0001
Jimmy Dean Original Links	Jimmy Dean Turkey Patties	3.63	0.77	2.11	5.15	<.0001
JDF Mild Pork Patties	Applegate Peppered Turkey Links	3.61	0.87	1.90	5.33	<.0001
Jimmy Dean Original Links	Banquet Lite Original	3.57	0.91	1.77	5.37	0.0001
Jimmy Dean Original Patties	Applegate Chicken and Apple Patties	3.53	0.81	1.94	5.13	<.0001
Jimmy Dean Original Links	Banquet Turkey Patties	3.52	0.82	1.90	5.14	<.0001
JDF Mild Pork Patties	Applegate Peppered Turkey Patties	3.48	0.87	1.78	5.18	<.0001
Jimmy Dean Original Links	Banquet Original Patties	3.43	0.71	2.03	4.83	<.0001
Jimmy Dean Original Links	Banquet Turkey Links	3.42	0.82	1.80	5.04	<.0001
JDF Mild Pork Patties	JDF Turkey Links	3.41	0.93	1.58	5.24	0.0003

Jimmy Dean Original Patties	Banquet Maple Links	3.39	0.76	1.90	4.89	<.0001
JDF Mild Pork Patties	Applegate Chicken and Sage Links	3.35	0.89	1.61	5.09	0.0002
Jimmy Dean Original Patties	Jimmy Dean Turkey Links	3.29	0.80	1.71	4.87	<.0001
Jimmy Dean Original Patties	Applegate Chicken and Maple Patties	3.23	0.75	1.75	4.70	<.0001
Jimmy Dean Original Links	Applegate Chicken and Apple Patties	3.17	0.74	1.72	4.62	<.0001
JDF Mild Pork Patties	JDF Chicken Links	3.12	1.01	1.13	5.11	0.0022
Jimmy Dean Original Patties	Applegate Chicken and Apple Links	3.10	0.81	1.51	4.70	0.0001
Jimmy Dean Original Links	Banquet Maple Links	3.03	0.68	1.69	4.37	<.0001
Jimmy Dean Original Links	Jimmy Dean Turkey Links	2.93	0.73	1.50	4.36	<.0001
Jimmy Dean Original Links	Applegate Chicken and Maple Patties	2.86	0.67	1.55	4.17	<.0001
Jimmy Dean Original Links	Applegate Chicken and Apple Links	2.74	0.74	1.30	4.19	0.0002
Applegate Classic Pork Links	Banquet Beef Links	2.68	0.96	0.78	4.57	0.0057
JDF Mild Pork Links	Banquet Beef Links	2.66	1.02	0.65	4.67	0.0095
Applegate Classic Pork Links	Jimmy Dean Turkey Patties	2.66	0.93	0.82	4.49	0.0046
JDF Mild Pork Links	Jimmy Dean Turkey Patties	2.65	1.00	0.69	4.60	0.0081
JDF Mild Pork Patties	JDF Maple Pork Links	2.63	0.98	0.70	4.55	0.0076
Applegate Classic Pork Links	Banquet Lite Original	2.60	1.05	0.53	4.67	0.0139
Applegate Chicken and Maple Links	Banquet Beef Links	2.59	0.86	0.91	4.28	0.0026
JDF Mild Pork Links	Banquet Lite Original	2.59	1.11	0.41	4.76	0.0199
Applegate Chicken and Maple Links	Jimmy Dean Turkey Patties	2.58	0.82	0.96	4.19	0.0018
Jimmy Dean Original Patties	JDF Maple Pork Patties	2.57	0.83	0.95	4.19	0.0019
JDF Mild Pork Patties	Applegate Chicken and Maple Links	2.56	0.84	0.91	4.22	0.0025
Applegate Classic Pork Links	Banquet Turkey Patties	2.55	0.98	0.63	4.47	0.0092
JDF Mild Pork Links	Banquet Turkey Patties	2.54	1.03	0.51	4.57	0.0145
JDF Maple Pork Links	Banquet Beef Links	2.53	0.99	0.59	4.48	0.0109
Applegate Chicken and Maple Links	Banquet Lite Original	2.52	0.96	0.64	4.40	0.0087
JDF Maple Pork Links	Jimmy Dean Turkey Patties	2.51	0.96	0.63	4.40	0.0092
JDF Mild Pork Patties	JDF Mild Pork Links	2.49	1.01	0.50	4.48	0.0141
JDF Mild Pork Patties	Applegate Classic Pork Links	2.48	0.95	0.61	4.35	0.0094
Applegate Chicken and Maple Links	Banquet Turkey Patties	2.47	0.87	0.76	4.17	0.0047
Jimmy Dean Original Patties	Applegate Peppered Turkey Links	2.46	0.80	0.89	4.04	0.0023
Applegate Classic Pork Links	Banquet Original Patties	2.46	0.88	0.72	4.20	0.0056
JDF Maple Pork Links	Banquet Lite Original	2.46	1.08	0.34	4.57	0.0231
Applegate Classic Pork Links	Banquet Turkey Links	2.45	0.98	0.53	4.37	0.0123
JDF Mild Pork Links	Banquet Original Patties	2.45	0.95	0.58	4.31	0.0102
JDF Mild Pork Links	Banquet Turkey Links	2.44	1.03	0.41	4.47	0.0188
JDF Maple Pork Links	Banquet Turkey Patties	2.41	1.00	0.44	4.37	0.0167
Applegate Chicken and Maple Links	Banquet Original Patties	2.38	0.77	0.87	3.88	0.002
Applegate Chicken and Maple Links	Banquet Turkey Links	2.37	0.87	0.66	4.07	0.0066
Jimmy Dean Original Patties	Applegate Peppered Turkey Patties	2.33	0.80	0.77	3.90	0.0035
JDF Maple Pork Links	Banquet Original Patties	2.31	0.91	0.52	4.11	0.0116
JDF Maple Pork Links	Banquet Turkey Links	2.31	1.00	0.34	4.27	0.0218
Jimmy Dean Original Patties	JDF Turkey Links	2.26	0.87	0.56	3.96	0.0093
Jimmy Dean Original Links	JDF Maple Pork Patties	2.21	0.75	0.73	3.69	0.0035
Jimmy Dean Original Patties	Applegate Chicken and Sage Links	2.20	0.82	0.59	3.81	0.0074
Applegate Classic Pork Links	Applegate Chicken and Apple Patties	2.20	0.90	0.43	3.97	0.0151
JDF Mild Pork Links	Applegate Chicken and Apple Patties	2.19	0.97	0.29	4.09	0.024
Applegate Chicken and Maple Links	Applegate Chicken and Apple Patties	2.12	0.79	0.57	3.66	0.0073
Jimmy Dean Original Links	Applegate Peppered Turkey Links	2.10	0.73	0.67	3.53	0.0041
Applegate Classic Pork Links	Banquet Maple Links	2.06	0.86	0.37	3.75	0.0169
JDF Maple Pork Links	Applegate Chicken and Apple Patties	2.06	0.93	0.23	3.89	0.0278
JDF Mild Pork Links	Banquet Maple Links	2.05	0.93	0.23	3.87	0.0274
JDF Chicken Links	Banquet Beef Links	2.04	1.02	0.03	4.05	0.0469
JDF Chicken Links	Jimmy Dean Turkey Patties	2.02	1.00	0.07	3.98	0.0428

Applegate Chicken and Maple Links	Banquet Maple Links	1.98	0.74	0.53	3.43	0.0075
Jimmy Dean Original Patties	JDF Chicken Links	1.97	0.95	0.10	3.85	0.0394
Jimmy Dean Original Links	Applegate Peppered Turkey Patties	1.97	0.72	0.55	3.39	0.0065
Applegate Classic Pork Links	Jimmy Dean Turkey Links	1.96	0.90	0.20	3.72	0.0293
JDF Mild Pork Links	Jimmy Dean Turkey Links	1.95	0.96	0.06	3.83	0.0432
JDF Maple Pork Links	Banquet Maple Links	1.92	0.89	0.17	3.67	0.0318
Jimmy Dean Original Links	JDF Turkey Links	1.90	0.80	0.33	3.46	0.0176
Applegate Classic Pork Links	Applegate Chicken and Maple Patties	1.89	0.85	0.23	3.56	0.0261
JDF Mild Pork Links	Applegate Chicken and Maple Patties	1.88	0.92	0.08	3.68	0.0405
Applegate Chicken and Maple Links	Jimmy Dean Turkey Links	1.88	0.78	0.35	3.41	0.0164
Applegate Chicken and Maple Links	Applegate Chicken and Maple Patties	1.81	0.72	0.39	3.23	0.0127
Applegate Chicken and Sage Links	Banquet Beef Links	1.81	0.90	0.05	3.57	0.0442
Applegate Chicken and Sage Links	Jimmy Dean Turkey Patties	1.79	0.87	0.09	3.49	0.0388
JDF Maple Pork Links	Applegate Chicken and Maple Patties	1.75	0.88	0.02	3.47	0.0472
Applegate Chicken and Maple Links	Applegate Chicken and Apple Links	1.69	0.79	0.14	3.24	0.0323

Frozen Treat Pairwise Comparisons

Level	Level	Difference	Std Err Dif	Lower CL	Upper CL	p-Value
Weight Watchers Belgian Eclairs	PET Crunch Bar	4.62	0.79	3.06	6.18	<.0001
Weight Watchers Belgian Eclairs	Milky Wy Chocolate Ice Cream Bar	4.32	0.79	2.77	5.88	<.0001
Weight Watchers Belgian Eclairs	Blue Bunny Chocolate Lovers Sandwiches	3.82	0.77	2.30	5.34	<.0001
Weight Watchers Belgian Eclairs	Cadbury Vanilla chocolate Bar	3.77	0.76	2.28	5.25	<.0001
Weight Watchers Belgian Eclairs	Magnum Classic Ice Cream Bar	3.57	0.78	2.02	5.11	<.0001
Weight Watchers Belgian Eclairs	Popsicle Jolly Rancher Awesome Twosome	3.51	0.76	2.01	5.01	<.0001
Weight Watchers Belgian Eclairs	Twix Ice Cream Bar	3.44	0.76	1.95	4.93	<.0001

Hot Sauce Pairwise Comparisons

Level	Level	Difference	Std Err Dif	Lower CL	Upper CL	p-Value
Texas Pete	Texas Pete Hot Pepper Sauce	4.38	0.89	2.63	6.14	<.0001
Texas Pete	Tabasco Green Pepper	4.05	0.75	2.57	5.53	<.0001
Texas Pete	Tabasco Chipotle	4.05	0.75	2.57	5.53	<.0001
Tabasco	Texas Pete Hot Pepper Sauce	3.76	0.91	1.97	5.55	<.0001
Texas Pete	Louisiana Hot Sauce	3.60	0.65	2.33	4.87	<.0001
Texas Pete	Great Value Louisiana Hot Sauce	3.59	0.70	2.22	4.96	<.0001
Texas Pete	Texas Pete Hotter Hot Sauce	3.59	0.69	2.24	4.94	<.0001
Texas Pete	Moore's Buffalo Sauce	3.50	0.66	2.21	4.79	<.0001
Texas Pete	Hoy Fung Sriracha	3.42	0.71	2.04	4.81	<.0001
Tabasco	Tabasco Green Pepper	3.42	0.77	1.90	4.94	<.0001
Tabasco	Tabasco Chipotle	3.42	0.77	1.90	4.94	<.0001
Texas Pete	Franks Red Hot	3.33	0.66	2.04	4.62	<.0001
Texas Pete	Crystal Hot Sauce	3.31	0.69	1.96	4.66	<.0001
Texas Pete	Texas Pete Wing Sauce	3.30	0.62	2.09	4.51	<.0001
Texas Pete	Sweet Baby Rays	3.18	0.64	1.91	4.44	<.0001
Texas Pete	Tabasco Original	3.13	0.82	1.52	4.75	0.0002
Tabasco	Louisiana Hot Sauce	2.98	0.67	1.65	4.30	<.0001
Tabasco	Great Value Louisiana Hot Sauce	2.97	0.72	1.56	4.38	<.0001
Tabasco	Texas Pete Hotter Hot Sauce	2.96	0.71	1.57	4.35	<.0001
Texas Pete	Tabasco Chili Sauce	2.90	0.65	1.63	4.17	<.0001
Franks	Texas Pete Hot Pepper Sauce	2.89	0.90	1.13	4.66	0.0014
Tabasco	Moore's Buffalo Sauce	2.88	0.68	1.54	4.21	<.0001
Tabasco	Hoy Fung Sriracha	2.80	0.73	1.37	4.23	0.0001
Tabasco	Franks Red Hot	2.70	0.68	1.37	4.04	<.0001
Tabasco	Crystal Hot Sauce	2.68	0.71	1.29	4.07	0.0002

Tabasco	Texas Pete Wing Sauce	2.68	0.64	1.42	3.93	<.0001
Texas Pete	Franks Red Hot Wing Sauce	2.58	0.62	1.37	3.79	<.0001
Franks	Tabasco Green Pepper	2.56	0.76	1.07	4.05	0.0008
Franks	Tabasco Chipotle	2.56	0.76	1.07	4.05	0.0008
Tabasco	Sweet Baby Rays	2.55	0.67	1.24	3.86	0.0001
Tabasco	Tabasco Original	2.51	0.84	0.86	4.16	0.0029
Texas Pete	Texas Pete Hot Sauce	2.32	0.63	1.09	3.55	0.0002
Tabasco	Tabasco Chili Sauce	2.28	0.67	0.95	3.60	0.0008
Franks	Louisiana Hot Sauce	2.11	0.65	0.82	3.40	0.0014
Franks	Great Value Louisiana Hot Sauce	2.10	0.70	0.72	3.48	0.0029
Franks	Texas Pete Hotter Hot Sauce	2.10	0.69	0.74	3.46	0.0026
Texas Pete Hot Sauce	Texas Pete Hot Pepper Sauce	2.06	0.92	0.25	3.88	0.026
Franks	Moore's Buffalo Sauce	2.01	0.66	0.71	3.31	0.0025
Tabasco	Franks Red Hot Wing Sauce	1.95	0.64	0.70	3.21	0.0024
Franks	Hoy Fung Sriracha	1.93	0.71	0.54	3.33	0.0068
Franks	Franks Red Hot	1.84	0.66	0.54	3.14	0.0056
Franks	Crystal Hot Sauce	1.82	0.69	0.46	3.18	0.0089
Franks	Texas Pete Wing Sauce	1.81	0.62	0.59	3.03	0.0038
Franks Red Hot Wing Sauce	Texas Pete Hot Pepper Sauce	1.81	0.92	0.00	3.61	0.0496
Texas Pete Hot Sauce	Tabasco Green Pepper	1.73	0.79	0.18	3.27	0.029
Texas Pete Hot Sauce	Tabasco Chipotle	1.73	0.79	0.18	3.27	0.029
Tabasco	Texas Pete Hot Sauce	1.70	0.65	0.42	2.97	0.0094
Franks	Sweet Baby Rays	1.69	0.65	0.41	2.96	0.0096
Franks	Tabasco Original	1.64	0.83	0.02	3.27	0.047
Texas Pete	Franks	1.49	0.59	0.34	2.64	0.0114
Franks	Tabasco Chili Sauce	1.41	0.65	0.12	2.70	0.0318

Muesli Pairwise Comparisons

Level	Level	Difference	Std Err Dif	Lower CL	Upper CL	p-Value
Fruit and Nut Muesli	Swiss Muesli Orginial	4.80	1.31	2.20	7.40	0.0004
Fruit and Nut Muesli	Swiss Muesli No Added Sugar	3.13	1.34	0.47	5.79	0.0217
Fruit and Nut Muesli	Dorset Cereal Muesli	2.77	1.30	0.19	5.35	0.0355

Organic Cereal Pairwise Comparisons

Level	Level	Difference	Std Err Dif	Lower CL	Upper CL	p-Value
Pure Vida Organic Cereal	365 Organic Brown Rice Crisps	3.83	1.15	1.56	6.10	0.0011
Pure Vida Organic Cereal	Greenwise Organic Cereal	3.07	1.15	0.80	5.34	0.0083

Rice Pairwise Comparisons

Level	Level	Difference	Std Err Dif	Lower CL	Upper CL	p-Value
Lunberg Organic Whole Grain Rice	Zatarain's Dirty Rice Mix	3.07	0.56	1.96	4.17	<.0001
Lunberg Organic Whole Grain Rice	Zatarain's Yellow Rice	3.01	0.61	1.82	4.21	<.0001
365 Organic Rice Pilaf	Zatarain's Dirty Rice Mix	2.94	0.56	1.85	4.04	<.0001
Lunberg Organic Whole Grain Rice	Zatarain's Jambayla Mix	2.91	0.50	1.93	3.88	<.0001
365 Organic Rice Pilaf	Zatarain's Yellow Rice	2.89	0.60	1.71	4.07	<.0001
365 Organic Rice Pilaf	Zatarain's Jambayla Mix	2.79	0.49	1.82	3.75	<.0001
Lunberg Organic Whole Grain Rice	Zatarain's Jamnayla Mix Family Size	2.74	0.52	1.72	3.75	<.0001
Lunberg Organic Whole Grain Rice	Success Basmati Rice	2.68	0.48	1.74	3.62	<.0001
365 Organic Rice Pilaf	Zatarain's Jamnayla Mix Family Size	2.62	0.51	1.62	3.62	<.0001
365 Organic Rice Pilaf	Success Basmati Rice	2.56	0.47	1.64	3.48	<.0001
Lunberg Organic Whole Grain Rice	Southern Home Boil in Bag	2.29	0.48	1.34	3.25	<.0001
365 Organic Rice Pilaf	Southern Home Boil in Bag	2.17	0.48	1.24	3.11	<.0001
Lunberg Organic Whole Grain Rice	Southern Home Orginal	2.09	0.48	1.15	3.04	<.0001
Lunberg Organic Whole Grain Rice	Mahatma Yellow Rice	1.98	0.48	1.02	2.93	<.0001
365 Organic Rice Pilaf	Southern Home Orginal	1.97	0.47	1.05	2.90	<.0001
365 Organic Rice Pilaf	Mahatma Yellow Rice	1.86	0.48	0.92	2.79	0.0001
Lunberg Organic Whole Grain Rice	Southern Home Long Grain and Wild Rice	1.55	0.46	0.63	2.46	0.001
Southern Home Long Grain and Wild Rice	Zatarain's Dirty Rice Mix	1.52	0.55	0.43	2.61	0.0064
Southern Home Long Grain and Wild Rice	Zatarain's Yellow Rice	1.47	0.60	0.29	2.64	0.0143
365 Organic Rice Pilaf	Southern Home Long Grain and Wild Rice	1.43	0.46	0.53	2.32	0.0019
Southern Home Long Grain and Wild Rice	Zatarain's Jambayla Mix	1.36	0.49	0.41	2.31	0.0053
Southern Home Long Grain and Wild Rice	Zatarain's Jamnayla Mix Family Size	1.19	0.50	0.20	2.18	0.0187
Southern Home Long Grain and Wild Rice	Success Basmati Rice	1.13	0.46	0.22	2.05	0.015

Ready-to-eat Pasta Pairwise Comparisons

Level	Level	Difference	Std Err Dif	Lower CL	Upper CL	p-Value
Barilla Sausage and Tomato Rotini	Great Value Mini Beef Ravioli	3.04	0.71	1.63	4.44	<.0001
Barilla Sausage and Tomato Rotini	Great Value Pasta Rings and Meatballs	3.03	0.74	1.58	4.48	<.0001
Barilla Sausage and Tomato Rotini	Chef Boyardee Lasagna	2.97	0.91	1.18	4.76	0.0012
Barilla Sausage and Tomato Rotini	Great Value Spaghetti and Meatballs	2.97	0.91	1.18	4.76	0.0012
Barilla Sausage and Tomato Rotini	Capmbells Spaghetti and Meatballs	2.95	0.97	1.04	4.86	0.0026
Barilla Sausage and Tomato Rotini	Great Value Macaroni and Beef	2.93	0.76	1.44	4.43	0.0001
Barilla Sausage and Tomato Rotini	Chef Boyardee Beefaroni	2.89	0.82	1.28	4.51	0.0005
Barilla Sausage and Tomato Rotini	Chef Boyardee Jumbo Spaghetti and Meatballs	2.78	0.97	0.87	4.69	0.0044
Pace Ready Meals Cheesy Chicken Quesadilla	Great Value Mini Beef Ravioli	2.76	0.73	1.33	4.19	0.0002
Pace Ready Meals Cheesy Chicken Quesadilla	Great Value Pasta Rings and Meatballs	2.76	0.75	1.29	4.23	0.0003
Barilla Sausage and Tomato Rotini	Chef Boyardee Beef Ravioli	2.71	1.05	0.65	4.78	0.0102
Pace Ready Meals Cheesy Chicken Quesadilla	Chef Boyardee Lasagna	2.70	0.92	0.89	4.51	0.0036
Pace Ready Meals Cheesy Chicken Quesadilla	Great Value Spaghetti and Meatballs	2.70	0.92	0.89	4.51	0.0036
Pace Ready Meals Cheesy Chicken Quesadilla	Capmbells Spaghetti and Meatballs	2.67	0.98	0.74	4.60	0.0067
Pace Ready Meals Cheesy Chicken Quesadilla	Great Value Macaroni and Beef	2.66	0.77	1.14	4.17	0.0006
Pace Ready Meals Cheesy Chicken Quesadilla	Chef Boyardee Beefaroni	2.62	0.83	0.98	4.25	0.0018
Barilla Sausage and Tomato Rotini	Chef Boyardee Chicken Alfredo	2.61	0.86	0.92	4.31	0.0026
Barilla Sausage and Tomato Rotini	Chef Boyardee Burger Macaroni	2.61	1.16	0.33	4.90	0.0248
Barilla Sausage and Tomato Rotini	Capmbells Spaghetti Original	2.61	0.97	0.70	4.52	0.0074
Pace Ready Meals Santa Fe Style Steak	Great Value Mini Beef Ravioli	2.54	0.72	1.13	3.95	0.0004
Pace Ready Meals Santa Fe Style Steak	Great Value Pasta Rings and Meatballs	2.53	0.74	1.08	3.99	0.0007
Pace Ready Meals Cheesy Chicken Quesadilla	Chef Boyardee Jumbo Spaghetti and Meatballs	2.51	0.98	0.58	4.43	0.011
Pace Ready Meals Santa Fe Style Steak	Chef Boyardee Lasagna	2.47	0.91	0.68	4.27	0.007
Pace Ready Meals Santa Fe Style Steak	Great Value Spaghetti and Meatballs	2.47	0.91	0.68	4.27	0.007
Pace Ready Meals Santa Fe Style Steak	Capmbells Spaghetti and Meatballs	2.45	0.97	0.54	4.37	0.0122
Pace Ready Meals Cheesy Chicken Quesadilla	Chef Boyardee Beef Ravioli	2.44	1.06	0.35	4.52	0.0219
Pace Ready Meals Santa Fe Style Steak	Great Value Macaroni and Beef	2.44	0.76	0.94	3.94	0.0015
Barilla Meat Sauce Gemelli	Great Value Mini Beef Ravioli	2.42	0.72	1.00	3.85	0.0009

Barilla Meat Sauce Gemelli	Great Value Pasta Rings and Meatballs	2.42	0.74	0.95	3.88	0.0013
Pace Ready Meals Santa Fe Style Steak	Chef Boyardee Beefaroni	2.40	0.83	0.77	4.02	0.0039
Barilla Meat Sauce Gemelli	Chef Boyardee Lasagna	2.36	0.92	0.55	4.16	0.0106
Barilla Meat Sauce Gemelli	Great Value Spaghetti and Meatballs	2.36	0.92	0.55	4.16	0.0106
Pace Ready Meals Southwest Style Mac and Cheese	Great Value Mini Beef Ravioli	2.35	0.74	0.90	3.80	0.0015
Pace Ready Meals Southwest Style Mac and Cheese	Great Value Pasta Rings and Meatballs	2.35	0.76	0.85	3.84	0.0021
Pace Ready Meals Cheesy Chicken Quesadilla	Chef Boyardee Chicken Alfredo	2.34	0.87	0.62	4.05	0.0076
Pace Ready Meals Cheesy Chicken Quesadilla	Chef Boyardee Burger Macaroni	2.34	1.17	0.04	4.64	0.046
Pace Ready Meals Cheesy Chicken Quesadilla	Capmbells Spaghetti Original	2.34	0.98	0.41	4.27	0.0176
Barilla Meat Sauce Gemelli	Capmbells Spaghetti and Meatballs	2.33	0.98	0.41	4.26	0.0175
Barilla Meat Sauce Gemelli	Great Value Macaroni and Beef	2.32	0.77	0.81	3.83	0.0027
Barilla Sausage and Tomato Rotini	Chef Boyardee Mini ABC's and 123's with meatballs	2.30	0.66	1.00	3.61	0.0006
Pace Ready Meals Southwest Style Mac and Cheese	Chef Boyardee Lasagna	2.29	0.93	0.46	4.11	0.0143
Pace Ready Meals Southwest Style Mac and Cheese	Great Value Spaghetti and Meatballs	2.29	0.93	0.46	4.11	0.0143
Pace Ready Meals Santa Fe Style Steak	Chef Boyardee Jumbo Spaghetti and Meatballs	2.28	0.97	0.37	4.20	0.0195
Barilla Meat Sauce Gemelli	Chef Boyardee Beefaroni	2.28	0.83	0.65	3.91	0.0063
Pace Ready Meals Southwest Style Mac and Cheese	Capmbells Spaghetti and Meatballs	2.26	0.99	0.32	4.21	0.0228
Pace Ready Meals Southwest Style Mac and Cheese	Great Value Macaroni and Beef	2.25	0.78	0.71	3.79	0.0043
Pace Ready Meals Santa Fe Style Steak	Chef Boyardee Beef Ravioli	2.22	1.05	0.15	4.29	0.0359
Pace Ready Meals Southwest Style Mac and Cheese	Chef Boyardee Beefaroni	2.21	0.84	0.55	3.86	0.0092
Barilla Sausage and Tomato Rotini	Chef Boyardee Pasta in Tomato Sauce Super Hero	2.17	0.65	0.89	3.45	0.0009
Barilla Meat Sauce Gemelli	Chef Boyardee Jumbo Spaghetti and Meatballs	2.17	0.98	0.24	4.09	0.0274
Pace Ready Meals Santa Fe Style Steak	Chef Boyardee Chicken Alfredo	2.12	0.86	0.42	3.82	0.0147
Pace Ready Meals Santa Fe Style Steak	Capmbells Spaghetti Original	2.12	0.97	0.20	4.03	0.0302
Barilla Sausage and Tomato Rotini	Great Value Beef Ravioli	2.11	0.82	0.50	3.73	0.0104
Barilla Sausage and Tomato Rotini	Chef Boyardee Spaghetti and Meatbals small	2.11	0.91	0.32	3.90	0.0207
Barilla Meat Sauce Gemelli	Chef Boyardee Beef Ravioli	2.10	1.06	0.02	4.18	0.0478
Pace Ready Meals Southwest Style Mac and Cheese	Chef Boyardee Jumbo Spaghetti and Meatballs	2.10	0.99	0.15	4.04	0.0348
Barilla Sausage and Tomato Rotini	Chef Boyardee Beefaroni Small	2.06	0.65	0.78	3.33	0.0017
Pace Ready Meals Cheesy Chicken Quesadilla	Chef Boyardee Mini ABC's and 123's with meatballs	2.03	0.68	0.70	3.36	0.0029
Barilla Meat Sauce Gemelli	Chef Boyardee Chicken Alfredo	2.00	0.87	0.29	3.71	0.0219
Barilla Meat Sauce Gemelli	Capmbells Spaghetti Original	2.00	0.98	0.08	3.92	0.0416
Barilla Sausage and Tomato Rotini	Velveeta Cheesy Bowls Ultimate Cheeseburger Mac	1.99	0.54	0.93	3.05	0.0002
Velveeta Cheesy Bowls Buffalo Style Chicken Mac	Great Value Mini Beef Ravioli	1.96	0.74	0.51	3.41	0.0083
Velveeta Cheesy Bowls Chicken Chili Cheese Mac	Great Value Mini Beef Ravioli	1.96	0.73	0.52	3.39	0.0077
Velveeta Cheesy Bowls Buffalo Style Chicken Mac	Great Value Pasta Rings and Meatballs	1.95	0.76	0.46	3.44	0.0104
Velveeta Cheesy Bowls Chicken Chili Cheese Mac	Great Value Pasta Rings and Meatballs	1.95	0.75	0.47	3.43	0.0098
Pace Ready Meals Southwest Style Mac and Cheese	Chef Boyardee Chicken Alfredo	1.93	0.88	0.20	3.66	0.0293
Pace Ready Meals Southwest Style Mac and Cheese	Chef Boyardee Burger Macaroni	1.93	1.18	-0.38	4.24	0.1018
Pace Ready Meals Cheesy Chicken Quesadilla	Chef Boyardee Pasta in Tomato Sauce Super Hero	1.90	0.66	0.59	3.20	0.0045
Velveeta Cheesy Bowls Buffalo Style Chicken Mac	Chef Boyardee Lasagna	1.89	0.93	0.07	3.72	0.0423
Velveeta Cheesy Bowls Buffalo Style Chicken Mac	Great Value Spaghetti and Meatballs	1.89	0.93	0.07	3.72	0.0423

Velveeta Cheesy Bowls Chicken Chili Cheese Mac	Chef Boyardee Lasagna	1.89	0.92	0.08	3.71	0.0412
Velveeta Cheesy Bowls Chicken Chili Cheese Mac	Great Value Spaghetti and Meatballs	1.89	0.92	0.08	3.71	0.0412
Velveeta Cheesy Bowls Buffalo Style Chicken Mac	Great Value Macaroni and Beef	1.85	0.78	0.32	3.39	0.0183
Velveeta Cheesy Bowls Chicken Chili Cheese Mac	Great Value Macaroni and Beef	1.85	0.78	0.33	3.38	0.0174
Pace Ready Meals Cheesy Chicken Quesadilla	Great Value Beef Ravioli	1.84	0.83	0.20	3.48	0.0278
Pace Ready Meals Cheesy Chicken Quesadilla	Chef Boyardee Spaghetti and Meatbals small	1.84	0.92	0.03	3.65	0.0464
Velveeta Cheesy Bowls Buffalo Style Chicken Mac	Chef Boyardee Beefaroni	1.81	0.84	0.16	3.47	0.032
Velveeta Cheesy Bowls Chicken Chili Cheese Mac	Chef Boyardee Beefaroni	1.81	0.84	0.17	3.45	0.0308
Pace Ready Meals Santa Fe Style Steak	Chef Boyardee Mini ABC's and 123's with meatballs	1.81	0.67	0.49	3.12	0.0071
Pace Ready Meals Cheesy Chicken Quesadilla	Chef Boyardee Beefaroni Small	1.78	0.66	0.47	3.08	0.0076
Barilla Sausage and Tomato Rotini	Velveeta Cheesy Bowls Bacon Mac and Cheese	1.76	0.53	0.72	2.80	0.001
Velveeta Cheesy Bowls Bean and Rice Burrito Bowl	Great Value Mini Beef Ravioli	1.72	0.73	0.27	3.16	0.0199
Pace Ready Meals Cheesy Chicken Quesadilla	Velveeta Cheesy Bowls Ultimate Cheeseburger Mac	1.71	0.55	0.62	2.80	0.0021
Velveeta Cheesy Bowls Bean and Rice Burrito Bowl	Great Value Pasta Rings and Meatballs	1.71	0.76	0.23	3.19	0.024
Velveeta Cheesy Bowls Lasagna with Meat Sauce	Great Value Mini Beef Ravioli	1.69	0.75	0.22	3.16	0.024
Barilla Meat Sauce Gemelli	Chef Boyardee Mini ABC's and 123's with meatballs	1.69	0.67	0.36	3.01	0.0126
Velveeta Cheesy Bowls Lasagna with Meat Sauce	Great Value Pasta Rings and Meatballs	1.69	0.77	0.18	3.19	0.0286
Pace Ready Meals Santa Fe Style Steak	Chef Boyardee Pasta in Tomato Sauce Super Hero	1.68	0.65	0.39	2.96	0.0106
Velveeta Cheesy Bowls Bean and Rice Burrito Bowl	Great Value Macaroni and Beef	1.61	0.78	0.08	3.14	0.0392
Velveeta Cheesy Bowls Lasagna with Meat Sauce	Great Value Macaroni and Beef	1.59	0.79	0.03	3.14	0.0455
Pace Ready Meals Santa Fe Style Steak	Chef Boyardee Beefaroni Small	1.56	0.65	0.27	2.84	0.0175
Barilla Meat Sauce Gemelli	Chef Boyardee Pasta in Tomato Sauce Super Hero	1.56	0.66	0.26	2.86	0.0187
Velveeta Cheesy Bowls Chicken Alfredo	Great Value Mini Beef Ravioli	1.54	0.73	0.11	2.96	0.0352
Barilla Sausage and Tomato Rotini	Velveeta Cheesy Bowls Chicken Alfredo	1.50	0.54	0.43	2.57	0.0059
Velveeta Cheesy Bowls Chicken Alfredo	Great Value Pasta Rings and Meatballs	1.53	0.75	0.06	3.00	0.0415
Barilla Meat Sauce Gemelli	Velveeta Cheesy Bowls Ultimate Cheeseburger Mac	1.38	0.55	0.29	2.46	0.0128
Pace Ready Meals Southwest Style Mac and Cheese	Chef Boyardee Beefaroni Small	1.37	0.68	0.04	2.70	0.0435
Barilla Sausage and Tomato Rotini	Velveeta Cheesy Bowls Lasagna with Meat Sauce	1.35	0.57	0.23	2.46	0.0186
Barilla Sausage and Tomato Rotini	Velveeta Cheesy Bowls Bean and Rice Burrito Bowl	1.32	0.55	0.24	2.41	0.0172
Pace Ready Meals Southwest Style Mac and Cheese	Velveeta Cheesy Bowls Ultimate Cheeseburger Mac	1.30	0.57	0.18	2.42	0.0225
Pace Ready Meals Santa Fe Style Steak	Velveeta Cheesy Bowls Bacon Mac and Cheese	1.26	0.53	0.22	2.31	0.0182
Pace Ready Meals Cheesy Chicken Quesadilla	Velveeta Cheesy Bowls Chicken Alfredo	1.23	0.56	0.13	2.32	0.0288
Barilla Sausage and Tomato Rotini	Velveeta Cheesy Bowls Chicken Chili Cheese Mac	1.08	0.55	0.01	2.16	0.0489
Pace Ready Meals Santa Fe Style Steak	Velveeta Cheesy Bowls Ultimate Cheeseburger Mac	1.49	0.54	0.43	2.56	0.0061
Pace Ready Meals Southwest Style Mac and Cheese	Chef Boyardee Pasta in Tomato Sauce Super Hero	1.49	0.68	0.16	2.82	0.0284
Pace Ready Meals Cheesy Chicken Quesadilla	Velveeta Cheesy Bowls Bacon Mac and Cheese	1.49	0.55	0.41	2.56	0.0068

Shelf Stable Tuna Pairwise Comparisons

Level	Level	Difference	Std Err Dif	Lower CL	Upper CL	p-Value
Starkist Charlie's Snack Kit	Bumble Bee Solid White Albacore in Vegetable Oil Large Can	2.85	0.70	1.47	4.23	<.0001
Starkist Tuna Creations Hot Buffalo Style	Bumble Bee Solid White Albacore in Vegetable Oil Large Can	2.74	0.69	1.39	4.09	<.0001
Starkist Charlie's Snack Kit	Bumble Bee Chunk White Albacore in Water Large Can	2.57	0.66	1.28	3.86	<.0001
Starkist Charlie's Snack Kit	Bumble Bee Chunk Light Tuna in Water	2.49	0.73	1.05	3.93	0.0007
Starkist Tuna Creations Hot Buffalo Style	Bumble Bee Chunk White Albacore in Water Large Can	2.46	0.64	1.21	3.71	0.0001
Starkist Tuna Creations Hot Buffalo Style	Bumble Bee Chunk Light Tuna in Water	2.39	0.72	0.98	3.79	0.0009
Starkist Charlie's Snack Kit	Great Value Premium Wild Caught Chunk Tuna in Water (large)	2.33	0.75	0.86	3.79	0.0019
Starkist Charlie's Snack Kit	Great Value Chunk Light Tuna in Water Can	2.31	0.72	0.89	3.73	0.0014
Starkist Charlie's Snack Kit	Chicken of the Sea Chunk Light Tuna in Oil Can	2.28	0.66	0.98	3.57	0.0006
Starkist Charlie's Snack Kit	Bumble Bee Solid White Albacore in Vegetable Oil Can	2.27	0.77	0.75	3.79	0.0035
Starkist Charlie's Snack Kit	Starkist Kid's Creations Honey BBQ	2.25	0.71	0.85	3.65	0.0016
Starkist Tuna Creations Hot Buffalo Style	Great Value Premium Wild Caught Chunk Tuna in Water (large)	2.22	0.73	0.78	3.65	0.0025
Starkist Tuna Creations Hot Buffalo Style	Great Value Chunk Light Tuna in Water Can	2.20	0.71	0.82	3.59	0.0019
Starkist Gourmet Selects Snack Kit Thai Style Tuna	Bumble Bee Solid White Albacore in Vegetable Oil Large Can	2.18	0.76	0.69	3.67	0.0042
Starkist Tuna Creations Hot Buffalo Style	Chicken of the Sea Chunk Light Tuna in Oil Can	2.17	0.64	0.90	3.43	0.0008
Starkist Tuna Creations Hot Buffalo Style	Bumble Bee Solid White Albacore in Vegetable Oil Can	2.16	0.76	0.67	3.65	0.0046
Starkist Charlie's Snack Kit	Starkist Solid White Albacore Tuna in Vegetable Oil Can	2.16	0.67	0.84	3.48	0.0014
Starkist Tuna Creations Hot Buffalo Style	Starkist Kid's Creations Honey BBQ	2.14	0.70	0.78	3.51	0.0022
Starkist Tuna Creations Hot Buffalo Style	Starkist Solid White Albacore Tuna in Vegetable Oil Can	2.05	0.66	0.76	3.34	0.0019
Starkist Charlie's Snack Kit	Starkist low Sodium Albacore Tuna in Water Can	2.03	0.67	0.71	3.35	0.0026
Starkist Charlie's Snack Kit	Starkist Chunk Light Tuna in Water 100% Wild Caught	2.00	0.67	0.69	3.31	0.0028
Starkist Charlie's Snack Kit	Great Value Albacore Tuna in Water Can	1.97	0.64	0.72	3.23	0.002
Starkist Tuna Creations Hot Buffalo Style	Starkist low Sodium Albacore Tuna in Water Can	1.92	0.66	0.64	3.21	0.0035
Starkist Charlie's Snack Kit	White Albacore Tuna in Water Can	1.91	0.67	0.59	3.23	0.0047
Starkist Gourmet Selects Snack Kit Thai Style Tuna	Bumble Bee Chunk White Albacore in Water Large Can	1.90	0.72	0.50	3.31	0.008
Starkist Charlie's Snack Kit	Starkist Tuna Creations Lemon Pepper	1.90	0.70	0.52	3.28	0.007
Starkist Tuna Creations Hot Buffalo Style	Starkist Chunk Light Tuna in Water 100% Wild Caught	1.89	0.65	0.62	3.17	0.0037
Starkist Yellowfin Tuna in Extra Virgin Olive Oil	Bumble Bee Solid White Albacore in Vegetable Oil Large Can	1.88	0.69	0.53	3.23	0.0064
Starkist Charlie's Snack Kit	Bumble Bee Snack Tuna Salad	1.87	0.72	0.45	3.28	0.0099
Starkist Charlie's Snack Kit	Starkist Ready-to-eat Tuna Salad	1.87	0.69	0.50	3.23	0.0074
Starkist Tuna Creations Hot Buffalo Style	Great Value Albacore Tuna in Water Can	1.87	0.62	0.65	3.08	0.0027
Starkist Gourmet Selects Snack Kit Thai Style Tuna	Bumble Bee Chunk Light Tuna in Water	1.83	0.79	0.28	3.37	0.0206
Starkist Charlie's Snack Kit	Starkist Solid White Albacore Tuna in Water Large Can	1.80	0.64	0.54	3.06	0.0052
Starkist Tuna Creations Hot Buffalo Style	White Albacore Tuna in Water Can	1.80	0.66	0.51	3.09	0.0063
Starkist Tuna Creations Hot Buffalo Style	Starkist Tuna Creations Lemon Pepper	1.79	0.69	0.44	3.14	0.0093
Starkist Tuna Creations Hot Buffalo Style	Bumble Bee Snack Tuna Salad	1.76	0.71	0.37	3.14	0.0131
Starkist Tuna Creations Hot Buffalo Style	Starkist Ready-to-eat Tuna Salad	1.76	0.68	0.43	3.09	0.0097
Starkist Tuna Creations Hot Buffalo Style	Starkist Solid White Albacore Tuna in Water Large Can	1.69	0.62	0.47	2.92	0.0069
Starkist Charlie's Snack Kit	Starkist Tuna Creations Ranch	1.68	0.68	0.34	3.01	0.0138
Starkist Gourmet Selects Snack Kit Thai Style Tuna	Great Value Premium Wild Caught Chunk Tuna in Water (large)	1.66	0.80	0.09	3.23	0.0382
Starkist Lunch on-the-go Albacore Tuna in Water	Bumble Bee Solid White Albacore in Vegetable Oil Large Can	1.65	0.72	0.23	3.07	0.0226
Starkist Gourmet Selects Snack Kit Thai Style Tuna	Great Value Chunk Light Tuna in Water Can	1.64	0.78	0.12	3.17	0.0346
Starkist Charlie's Snack Kit	Starkist Tuna Creations Herb and Garlic	1.62	0.67	0.30	2.94	0.0165
Starkist Gourmet Selects Snack Kit Thai Style Tuna	Chicken of the Sea Chunk Light Tuna in Oil Can	1.61	0.72	0.20	3.02	0.0258
Starkist Yellowfin Tuna in Extra Virgin Olive Oil	Bumble Bee Chunk White Albacore in Water Large Can	1.60	0.64	0.34	2.85	0.0126
Starkist Gourmet Selects Snack Kit Thai Style Tuna	Starkist Kid's Creations Honey BBQ	1.59	0.77	0.08	3.09	0.0392
Great Value Premium Wild Caught Chunk Tuna in Water (small)	Bumble Bee Solid White Albacore in Vegetable Oil Large Can	1.57	0.79	0.02	3.13	0.0473
Starkist Tuna Creations Hot Buffalo Style	Starkist Tuna Creations Ranch	1.57	0.66	0.27	2.87	0.0182
Starkist Charlie's Snack Kit	Starkist Albacore White Tuna in Water	1.55	0.70	0.17	2.93	0.0277
Starkist Yellowfin Tuna in Extra Virgin Olive Oil	Bumble Bee Chunk Light Tuna in Water	1.52	0.72	0.11	2.93	0.0344
Starkist Tuna Creations Hickory Smoked	Bumble Bee Solid White Albacore in Vegetable Oil Large Can	1.51	0.69	0.17	2.86	0.0278
Starkist Tuna Creations Hot Buffalo Style	Starkist Tuna Creations Herb and Garlic	1.51	0.66	0.22	2.80	0.0218
Starkist Gourmet Selects Snack Kit Thai Style Tuna	Starkist Solid White Albacore Tuna in Vegetable Oil Can	1.49	0.73	0.06	2.93	0.0418
Starkist Tuna Creations Hot Buffalo Style	Starkist Albacore White Tuna in Water	1.44	0.69	0.09	2.79	0.0362
Starkist Ready-to-Eat Tuna Salad Kit	Bumble Bee Solid White Albacore in Vegetable Oil Large Can	1.43	0.72	0.01	2.85	0.0484
Starkist Charlie's Snack Kit	Starkist Ready-to-Eat Tuna Salad Kit	1.42	0.72	0.00	2.84	0.0492
Starkist Lunch on-the-go Albacore Tuna in Water	Bumble Bee Chunk White Albacore in Water Large Can	1.37	0.68	0.04	2.70	0.0431
Starkist Yellowfin Tuna in Extra Virgin Olive Oil	Chicken of the Sea Chunk Light Tuna in Oil Can	1.30	0.64	0.04	2.57	0.0431

Snack Bar Pairwise Comparisons

Level	Level	Difference	Std Err Dif	Lower CL	Upper CL	p-Value
Zone Pefect Choc Almond Raisin	Nature Valley Soft Baked Oatmeal Peanut Butter	4.50	1.78	1.00	8.00	0.0118
Zone Pefect Choc Almond Raisin	Nature Valley Soft Baked Oatmeal Banana Bread and Dark Choc	4.50	1.50	1.55	7.45	0.003
Zone Pefect Choc Almond Raisin	Nature Valley Soft Baked Oatmeal Cinnamon Brown Sugar	4.33	1.16	2.05	6.62	0.0002
Zone Pefect Choc Almond Raisin	Clif Bar Nut Butter Filled Energy Bar Peanut Butter	4.33	1.16	2.05	6.62	0.0002
Zone Pefect Choc Almond Raisin	Special K Protein Meal Bar Choc Chip	4.25	1.06	2.16	6.34	<.0001
Zone Pefect Choc Almond Raisin	Clif Bar Choc Chip	4.20	1.00	2.24	6.16	<.0001
Zone Pefect Choc Almond Raisin	Annie's Organic Chewy Oatmeal Raisin	4.17	1.16	1.88	6.45	0.0004
Zone Pefect Choc Almond Raisin	Atkins Caramel Double Choc Crunch Bar	4.17	1.50	1.21	7.12	0.0059
Zone Pefect Choc Almond Raisin	Fiber One Protein Coconut Almond	4.07	1.11	1.89	6.25	0.0003
Zone Pefect Choc Almond Raisin	Nature Valley Chewy Trail Mix Dark Choc Cherry	4.00	1.78	0.50	7.50	0.0251
Nature Valley Protein Peanut Butter Dark Choc	Nature Valley Soft Baked Oatmeal Peanut Butter	4.00	2.12	-0.18	8.18	0.0605
Zone Pefect Choc Almond Raisin	Special K Chewy Snack Bars Berry Medley	4.00	1.34	1.36	6.64	0.0031
Nature Valley Protein Peanut Butter Dark Choc	Nature Valley Soft Baked Oatmeal Banana Bread and Dark Choc	4.00	1.90	0.26	7.74	0.036
Zone Pefect Choc Almond Raisin	Kind Breakfast Blueberry Almond	3.95	0.97	2.04	5.86	<.0001
Zone Pefect Choc Almond Raisin	Southern Home Chewy Granola	3.95	0.97	2.04	5.86	<.0001
Zone Pefect Choc Almond Raisin	Jif Bars Crunchy Peanut Butter	3.94	1.03	1.93	5.96	0.0001
Zone Pefect Choc Almond Raisin	Fiber One Protein Caramel Nut	3.83	1.03	1.82	5.85	0.0002
Nature Valley Protein Peanut Butter Dark Choc	Nature Valley Soft Baked Oatmeal Cinnamon Brown Sugar	3.83	1.64	0.60	7.07	0.0204
Zone Pefect Choc Almond Raisin	Cascadian Farms Protein Peanut Butter Choc Chip	3.83	1.16	1.55	6.12	0.0011
Zone Pefect Choc Almond Raisin	Kind Breakfast Dark Chocolate Cocoa	3.83	1.16	1.55	6.12	0.0011
Nature Valley Protein Peanut Butter Dark Choc	Clif Bar Nut Butter Filled Energy Bar Peanut Butter	3.83	1.64	0.60	7.07	0.0204
Zone Pefect Choc Almond Raisin	Clif Bar Crunchy Peanut Butter	3.80	1.00	1.84	5.76	0.0002
Zone Pefect Choc Almond Raisin	Cascadian Farms Vanilla Chip	3.79	1.11	1.61	5.96	0.0007
Nature Valley Protein Peanut Butter Dark Choc	Special K Protein Meal Bar Choc Chip	3.75	1.57	0.65	6.85	0.0179
Nature Valley Protein Peanut Butter Dark Choc	Clif Bar Choc Chip	3.70	1.53	0.69	6.71	0.0163
Nature Valley Protein Peanut Butter Dark Choc	Annie's Organic Chewy Oatmeal Raisin	3.67	1.64	0.43	6.90	0.0265
Zone Pefect Choc Almond Raisin	Atkins Triple Choc Bar	3.67	1.16	1.38	5.95	0.0018
Zone Pefect Choc Almond Raisin	Nature Valley XL Bar Pretzel Peanut Choc	3.64	1.11	1.47	5.82	0.0011
Zone Pefect Choc Almond Raisin	Special K Protein Meal Bar Choc Dipped Mint	3.60	1.00	1.64	5.56	0.0004
Nature Valley Protein Peanut Butter Dark Choc	Fiber One Protein Coconut Almond	3.57	1.60	0.41	6.73	0.0268
Nature Valley Protein Peanut Butter Dark Choc	Nature Valley Chewy Trail Mix Dark Choc Cherry	3.50	2.12	-0.68	7.68	0.1003
Zone Pefect Choc Almond Raisin	Clif Bar Nut Butter Filled Energy Bar Choc Peanut Butter	3.50	1.34	0.86	6.14	0.0096
Zone Pefect Choc Almond Raisin	Fiber One Chewy Oats and Choc	3.50	1.11	1.32	5.68	0.0017
Zone Pefect Choc Almond Raisin	Special K Protein Meal Bar Choc Peanut Butter	3.50	1.11	1.32	5.68	0.0017
Nature Valley Protein Peanut Butter Dark Choc	Special K Chewy Snack Bars Berry Medley	3.50	1.78	0.00	7.00	0.0497
Zone Pefect Choc Almond Raisin	Special K Chewy Nut Bars Cranberry Almond	3.50	1.16	1.21	5.79	0.0028
Nature Valley Protein Peanut Butter Dark Choc	Kind Breakfast Blueberry Almond	3.45	1.51	0.47	6.44	0.0233
Nature Valley Protein Peanut Butter Dark Choc	Southern Home Chewy Granola	3.45	1.51	0.47	6.44	0.0233
Nature Valley Protein Peanut Butter Dark Choc	Jif Bars Crunchy Peanut Butter	3.44	1.55	0.39	6.50	0.0271
Zone Pefect Choc Almond Raisin	Special K Protein Meal Bar Double Choc	3.38	1.06	1.29	5.46	0.0016
Zone Pefect Choc Almond Raisin	NutriGrain Apple Cinnamon	3.36	1.11	1.18	5.53	0.0026
Kind Healthy Grains Vanilla Blueberry	Nature Valley Soft Baked Oatmeal Banana Bread and Dark Choc	3.33	1.50	0.38	6.29	0.0271
Nature Valley Protein Peanut Butter Dark Choc	Fiber One Protein Caramel Nut	3.33	1.55	0.28	6.38	0.0324
Zone Pefect Choc Almond Raisin	Nature Valley Protein Coconut Almond	3.33	1.16	1.05	5.62	0.0044
Nature Valley Protein Peanut Butter Dark Choc	Cascadian Farms Protein Peanut Butter Choc Chip	3.33	1.64	0.10	6.57	0.0435
Nature Valley Protein Peanut Butter Dark Choc	Kind Breakfast Dark Chocolate Cocoa	3.33	1.64	0.10	6.57	0.0435
Nature Valley Protein Peanut Butter Dark Choc	Clif Bar Crunchy Peanut Butter	3.30	1.53	0.29	6.31	0.0319
Nature Valley Protein Peanut Butter Dark Choc	Cascadian Farms Vanilla Chip	3.29	1.60	0.13	6.44	0.0415
Zone Pefect Choc Almond Raisin	Special K Protein Trail Mix Bars Choc Peanut Pecan	3.28	1.03	1.26	5.30	0.0015
Zone Pefect Choc Almond Raisin	Kind Breakfast Peanut Butter	3.25	1.06	1.16	5.34	0.0024
Zone Pefect Choc Almond Raisin	Nature Valley Protein Honey Peanut Almond	3.23	0.97	1.32	5.14	0.001
Kind Healthy Grains Vanilla Blueberry	Nature Valley Soft Baked Oatmeal Cinnamon Brown Sugar	3.17	1.16	0.88	5.45	0.0068
Kind Healthy Grains Vanilla Blueberry	Clif Bar Nut Butter Filled Energy Bar Peanut Butter	3.17	1.16	0.88	5.45	0.0068
Zone Pefect Choc Almond Raisin	Kind Healthy Grains Dark Choc Mocha	3.17	0.95	1.30	5.04	0.001
Zone Pefect Choc Almond Raisin	Nature Valley Crunchy Granola Peanut Butter	3.17	1.16	0.88	5.45	0.0068
Nature Valley Protein Peanut Butter Dark Choc	Special K Protein Meal Bar Choc Dipped Mint	3.10	1.53	0.09	6.11	0.0438
Kind Healthy Grains Vanilla Blueberry	Special K Protein Meal Bar Choc Chip	3.08	1.06	0.99	5.17	0.004
Kind Healthy Grains Vanilla Blueberry	Clif Bar Choc Chip	3.03	1.00	1.07	4.99	0.0025
Kind Healthy Grains Vanilla Blueberry	Annie's Organic Chewy Oatmeal Raisin	3.00	1.16	0.71	5.29	0.0104
Kind Healthy Grains Vanilla Blueberry	Atkins Caramel Double Choc Crunch Bar	3.00	1.50	0.05	5.95	0.0466
Zone Pefect Choc Almond Raisin	Special K Protein Trail Mix Bars Fruit & Nut	3.00	1.16	0.71	5.29	0.0104
Kind Healthy Grains Vanilla Blueberry	Fiber One Protein Coconut Almond	2.90	1.11	0.73	5.08	0.0091
Zone Pefect Choc Almond Raisin	Nature Valley XL Bar Choc Nut and Seed	2.90	1.24	0.46	5.34	0.0198
Kind Healthy Grains Vanilla Blueberry	Special K Chewy Snack Bars Berry Medley	2.83	1.34	0.19	5.48	0.0357
Kind Healthy Grains Vanilla Blueberry	Kind Breakfast Blueberry Almond	2.79	0.97	0.88	4.70	0.0044
Kind Healthy Grains Vanilla Blueberry	Southern Home Chewy Granola	2.79	0.97	0.88	4.70	0.0044

Kind Healthy Grains Vanilla Blueberry	Jif Bars Crunchy Peanut Butter	2.78	1.03	0.76	4.80	0.0071
Zone Pefect Choc Almond Raisin	Nature Valley Protein Salted Caramel Nut	2.75	1.34	0.11	5.39	0.0414
Kind Healthy Grains Vanilla Blueberry	Fiber One Protein Caramel Nut	2.67	1.03	0.65	4.68	0.0098
Kind Healthy Grains Vanilla Blueberry	Cascadian Farms Protein Peanut Butter Choc Chip	2.67	1.16	0.38	4.95	0.0225
Kind Healthy Grains Vanilla Blueberry	Kind Breakfast Dark Chocolate Cocoa	2.67	1.16	0.38	4.95	0.0225
Zone Pefect Choc Almond Raisin	Nature Valley Granola Cups Peanut Butter Choc	2.64	1.11	0.47	4.82	0.0175
Kind Healthy Grains Vanilla Blueberry	Clif Bar Crunchy Peanut Butter	2.63	1.00	0.67	4.59	0.0086
Kind Healthy Grains Vanilla Blueberry	Cascadian Farms Vanilla Chip	2.62	1.11	0.44	4.80	0.0185
Special K Protein Meal Bar Strawberry	Nature Valley Soft Baked Oatmeal Cinnamon Brown Sugar	2.61	1.23	0.20	5.02	0.034
Zone Pefect Choc Almond Raisin	Jif Bars Peanut Butter and Choc	2.61	1.03	0.59	4.63	0.0114
Special K Protein Meal Bar Strawberry	Clif Bar Nut Butter Filled Energy Bar Peanut Butter	2.61	1.23	0.20	5.02	0.034
Special K Protein Meal Bar Strawberry	Special K Protein Meal Bar Choc Chip	2.53	1.13	0.30	4.75	0.026
Kind Healthy Grains Vanilla Blueberry	Atkins Triple Choc Bar	2.50	1.16	0.21	4.79	0.0324
Zone Pefect Choc Almond Raisin	Nature Valley Crunchy Granola Cinnamon	2.50	0.95	0.63	4.37	0.0089
Special K Protein Meal Bar Strawberry	Clif Bar Choc Chip	2.48	1.07	0.37	4.58	0.0211
Kind Healthy Grains Vanilla Blueberry	Nature Valley XL Bar Pretzel Peanut Choc	2.48	1.11	0.30	4.65	0.0259
Kind Healthy Grains Salted Caramel	Nature Valley Soft Baked Oatmeal Cinnamon Brown Sugar	2.47	1.18	0.15	4.79	0.0372
Kind Healthy Grains Salted Caramel	Clif Bar Nut Butter Filled Energy Bar Peanut Butter	2.47	1.18	0.15	4.79	0.0372
Special K Protein Meal Bar Strawberry	Annie's Organic Chewy Oatmeal Raisin	2.44	1.23	0.03	4.86	0.047
Kind Healthy Grains Salted Caramel	Special K Protein Meal Bar Choc Chip	2.39	1.08	0.26	4.51	0.028
Zone Pefect Choc Almond Raisin	Nature Valley Granola Cups Amond Butter	2.38	1.06	0.29	4.46	0.026
Special K Protein Meal Bar Strawberry	Fiber One Protein Coconut Almond	2.35	1.17	0.04	4.66	0.0459
Kind Healthy Grains Salted Caramel	Clif Bar Choc Chip	2.34	1.02	0.34	4.34	0.0222
Kind Healthy Grains Vanilla Blueberry	Fiber One Chewy Oats and Choc	2.33	1.11	0.16	4.51	0.0357
Kind Healthy Grains Vanilla Blueberry	Special K Protein Meal Bar Choc Peanut Butter	2.33	1.11	0.16	4.51	0.0357
Kind Healthy Grains Vanilla Blueberry	Special K Chewy Nut Bars Cranberry Almond	2.33	1.16	0.05	4.62	0.0457
Kind Healthy Grains Vanilla Blueberry	Special K Protein Meal Bar Choc Dipped Mint	2.43	1.00	0.47	4.39	0.0151
Special K Protein Meal Bar Strawberry	Kind Breakfast Blueberry Almond	2.23	1.05	0.18	4.29	0.0335
Special K Protein Meal Bar Strawberry	Southern Home Chewy Granola	2.23	1.05	0.18	4.29	0.0335
Special K Protein Meal Bar Strawberry	Jif Bars Crunchy Peanut Butter	2.22	1.10	0.06	4.38	0.0435
Kind Healthy Grains Vanilla Blueberry	Special K Protein Meal Bar Double Choc	2.21	1.06	0.12	4.30	0.0383
Kind Healthy Grains Vanilla Blueberry	NutriGrain Apple Cinnamon	2.19	1.11	0.01	4.37	0.0486
Kind Healthy Grains Salted Caramel	Kind Breakfast Blueberry Almond	2.09	0.99	0.14	4.04	0.0358
Kind Healthy Grains Salted Caramel	Southern Home Chewy Granola	2.09	0.99	0.14	4.04	0.0358
Kind Healthy Grains Salted Caramel	Jif Bars Crunchy Peanut Butter	2.08	1.05	0.02	4.14	0.0474
Kind Healthy Grains Vanilla Blueberry	Special K Protein Trail Mix Bars Choc Peanut Pecan	2.11	1.03	0.09	4.13	0.0404
Kind Healthy Grains Vanilla Blueberry	Nature Valley Protein Honey Peanut Almond	2.06	0.97	0.15	3.97	0.0346
Kind Healthy Grains Vanilla Blueberry	Kind Healthy Grains Dark Choc Mocha	2.00	0.95	0.13	3.87	0.036

Snack Cake Pairwise Comparisons

Level	Level	Difference	Std Err Dif	Lower CL	Upper CL	p-Value
Little Debbie Swiss Rolls	Great Value Swiss Chocolate Bars	2.20	0.52	1.19	3.22	<.0001
Little Debbie Swiss Rolls	Great Value Peanut Butter Bars	2.04	0.58	0.91	3.18	0.0004
Little Debbie Swiss Rolls	Little Debbie Cocoa Cremes	1.76	0.46	0.86	2.67	0.0002
Little Debbie Swiss Rolls	Great Value Honey Buns	1.75	0.56	0.64	2.86	0.002
Little Debbie Swiss Rolls	Entenmann's Little Bites Chocolate Chip	1.75	0.48	0.80	2.70	0.0003
Little Debbie Swiss Rolls	Little Debbie Honey Buns	1.72	0.49	0.76	2.68	0.0005
Little Debbie Swiss Rolls	Entenmann's Little Bites Blueberry Muffins	1.68	0.47	0.76	2.61	0.0004
Little Debbie Swiss Rolls	Hostess Ding Dongs	1.62	0.51	0.62	2.62	0.0015
Little Debbie Chocolate Chip Muffis	Great Value Swiss Chocolate Bars	1.58	0.54	0.53	2.64	0.0034
Little Debbie Swiss Rolls	Little Debbie Crunch Cakes	1.52	0.48	0.57	2.47	0.0019
Little Debbie Swiss Rolls	Entenmann's Little Bites Fudge Brownies	1.50	0.55	0.41	2.59	0.0069
Little Debbie Chocolate Chip Muffis	Great Value Peanut Butter Bars	1.42	0.60	0.25	2.59	0.0174
Hostess Ho-Hos	Great Value Swiss Chocolate Bars	1.34	0.53	0.31	2.38	0.011
Little Debbie Mini Brownies	Great Value Swiss Chocolate Bars	1.32	0.54	0.25	2.38	0.0154
Little Debbie Swiss Rolls	Little Debbie Salted Caramel	1.26	0.47	0.33	2.20	0.0081
Little Debbie Blueberry Mini Muffins	Great Value Swiss Chocolate Bars	1.21	0.58	0.07	2.35	0.0377
Little Debbie Nutty Buddy	Great Value Swiss Chocolate Bars	1.19	0.57	0.06	2.32	0.0388
Hostess Ho-Hos	Great Value Peanut Butter Bars	1.18	0.59	0.03	2.33	0.0443
Little Debbie Chocolate Chip Muffis	Little Debbie Cocoa Cremes	1.14	0.49	0.19	2.10	0.0188
Little Debbie Chocolate Chip Muffis	Entenmann's Little Bites Chocolate Chip	1.13	0.51	0.13	2.13	0.0264
Little Debbie Fig Bars	Great Value Swiss Chocolate Bars	1.12	0.54	0.06	2.18	0.0378
Little Debbie Chocolate Chip Muffis	Little Debbie Honey Buns	1.10	0.51	0.09	2.11	0.032
Little Debbie Swiss Rolls	Little Debbie Fig Bars	1.08	0.47	0.15	2.02	0.023
Little Debbie Chocolate Chip Muffis	Entenmann's Little Bites Blueberry Muffins	1.06	0.49	0.09	2.03	0.0317

Sour Cream Pairwise Comparisons

Level	Level	Difference	Std Err Dif	Lower CL	Upper CL	p-Value
Daisy Sour Cream Pouch	Monticello Sour Cream	2.70	0.63	1.47	3.94	<.0001
Daisy Sour Cream Pouch	Breakstone Reduced Fat Sour Cream	2.38	0.61	1.17	3.59	0.0001
Daisy Sour Cream Pouch	Breakstone All Natural Sour Cream	1.98	0.60	0.80	3.16	0.0011
Daisy Sour Cream Pouch	Great Value Light Sour Cream	1.92	0.60	0.74	3.11	0.0015
Daisy Sour Cream Pouch	Daisy Sour Cream Tub	1.69	0.69	0.33	3.05	0.0153
Daisy Sour Cream Pouch	Great Value All Natural Sour Cream	1.54	0.61	0.34	2.73	0.0122
Great Value All Natural Sour Cream	Monticello Sour Cream	1.17	0.55	0.08	2.25	0.0353

Vegetable Pairwise Comparisons

Level	Level	Difference	Std Err Dif	Lower CL	Upper CL	p-Value
Tomatoes	Onions	6.65	1.85	2.98	10.33	0.0005
Peppers	Onions	3.81	1.83	0.18	7.44	0.0401

Appendix D

Interview Questions

1. Is there a compelling reason you would or would not purchase this product? Please tell me more about your reason?

2. Please explain why you rated the package either: very appealing, unappealing, mildly unappealing, neutral, mildly appealing, appealing, very appealing.

3. How innovative do you think this product this? Please tell me more about your reason.

4. You were one of the participants that looked relatively long at the House-Autry One-Step Baking Tray but did not purchase it, what was going through your mind as you were making this choice?

5. Upon first glance at this package, do you think that chicken is included? Please expand on why or why not.

6. When you look at this package what message comes across? Positive message? Negative message?

7. Please explain anything that you believe this packaging (the packaging tested last week) is lacking in terms of communicating the benefits of the product.

8. How does convenience play a role in your decisions when it comes to shopping for food to make at home?

9. Anything else you would like to share with me about the packaging and how it influenced your decision to select (or not select) this product?

Appendix E

Interview Codebook

1. **Is there a compelling reason you would or would not purchase this product? Please tell me more about your reason?**

    1.1 Packaging
        1.1.1 Large family/too small
        1.1.2 Material
            1.1.2.1 Hazard of material
            1.1.2.2 Societal Concern
        1.1.3 Misleading contents
    1.2 Wasteful
        1.2.1 Use own baking pans
        1.2.2 Disposable nature of pans
        1.2.3 One-time use
    1.3 Interesting idea
        1.3.1 Innovative design
    1.4 Convenience factor
        1.4.1 All-inclusive packaging
        1.4.2 No dishes
        1.4.3 Saves time
        1.4.4 Minimize cleanup
        1.4.5 Advantage of disposable trays
    1.5 Marketable product
    1.6 Brand familiarity
        1.6.1 Not familiar
        1.6.2 Familiar
    1.7 Price
        1.7.1 Value for price
    1.8 Allergic reaction

2. **Please explain why you rated the package either: very appealing, unappealing, mildly unappealing, neutral, mildly appealing, appealing, very appealing.**

    2.1 Intriguing
    2.2 Packaging design
        2.2.1 Color Scheme
            2.2.1.1 Unappealing
            2.2.1.2 Appealing
                2.2.1.2.1 Eye catching

2.2.2 Clear
2.2.2.1 Relevant information included
2.2.2.2 Easily readable
2.2.2.3 Simple graphics
2.2.2.4 Intuitive
2.2.3 Unclear
2.2.3.1 Symbol for reusable
2.2.3.2 Misleading information
2.2.3.3 Information hidden
2.2.4 Plethora of information
2.2.4.1 Small print
2.2.5 Chicken image
2.2.5.1 Appetizing
2.2.5.2 Not appetizing
2.2.6 Does not stand out
2.2.6.1 Not eye catching
2.2.7 Outdated
2.2.8 Layout of package
2.2.9 Shape
2.2.9.1 Caught eye
2.3 Wasteful
2.4 Would not purchase

3. How innovative do you think this product this? Please tell me more about your reason.

3.1 Been done before
3.1.1 Similar to Shake N Bake
3.2 One stop shop
3.2.1 All-inclusive packaging
3.3 Convenience factor
3.3.1 Pressed for time
3.3.2 Quick meal
3.3.3 No dishes
3.4 Smart idea
3.5 Not seen in this category
3.5.1 Innovative baking trays
3.5.2 Differentiates itself in category
3.6 Needs to be redesigned
3.6.1 Misleading contents
3.6.1.1 Clarity of contents/cooking instructions
3.7 Do not typically purchase
3.7.1 Use own baking trays

4. **You were one of the participants that looked relatively long at the House-Autry One-Step Baking Tray but did not purchase it, what was going through your mind as you were making this choice?**

Why purchased what they did:

4.1 Brand familiarity/loyalty
    4.1.1 Hesitant to try new things
4.2 Hypothetical price
4.3 Had night before
4.4 Variety of flavors
4.5 Wanted a staple for the pantry
4.6 Have baking pans
4.7 Chicken image
4.8 Nutritional reasons
4.9 Packaging design

Why looked at the House-Autry One-Step Baking Tray/what was going through their mind when shopping:

4.10 Good option for small family
4.11 Peeked interest
4.12 Differentiates itself in category
    4.12.1 Eye catching
4.13 Desire for quick meal
4.14 Color scheme
4.15 Convenience factor
4.16 Scan entire shelf
4.17 Not sure
4.18 Trying to figure out what it was
    4.18.1 Confusing package
4.19 Trusted brand
4.20 Wanted to try something different
4.21 Have not seen in stores
    4.21.1 Curious about what was inside

5. **Upon first glance at this package, do you think that chicken is included? Please expand on why or why not.**

5.1 Thought chicken was included
    5.1.1 One step baking statement
    5.1.2 Package design
        5.1.2.1 Looked like a pack of chicken
        5.1.2.2 Inclusion of tray

5.1.2.3 Not shaped like traditional box
5.1.3 Package appeared to be filled
5.2 Thought chicken was not included
5.2.1 Not in refrigerated/frozen section
5.2.1.1 Not heavy enough to be in this section
5.2.2 In shelf stable section
5.2.3 Not freeze dried chicken
5.3 Needs clarity
5.3.1 Add "just add chicken" text
5.3.2 Images on primary display panel
5.3.3 Mention that chicken is not included
5.4 Clear package
5.4.1 Says mix on package

6. **When you look at this package what message comes across? Positive message? Negative message?**

Positive message:
6.1 Convenience factor
6.1.1 One stop shop
6.1.2 All-inclusive packaging
6.1.3 Simplicity of one step
6.1.4 Use of innovative baking tray
6.1.5 Saves time
6.2 Recognizable brand
6.3 Package design
6.3.1 Graphics in corner
6.3.2 Information about how to bake it
6.3.3 Clarity of what was included

Negative message
6.4 Not ideal for large families
6.5 Wasteful
6.6 Packaging design
6.6.1 Could be more lively
6.6.2 Images on primary display panel
6.6.2.1 Unappetizing chicken
6.6.2.2 Unnecessary vegetables
6.6.3 Outdated logo
6.6.4 Looks like chicken may be included
6.6.4.1 Looked like a pack of chicken
6.6.4.2 Need to say "just add chicken"
6.6.4.3 Extra space
6.6.4.4 Packaged to see contents

6.6.5 Corrugate box covering information
6.6.6 Make clear on package that will cut down cooking time and preparation
6.6.7 Diagram covering food photography
6.7 Been done before
6.7.1 Similar to Shake N Bake
6.7.2 Convenient but not innovative
6.8 Not sure
6.9 Price/looks expensive

7. Please explain anything that you believe this packaging (the packaging tested last week) is lacking in terms of communicating the benefits of the product

7.1 Package tells you what you need to know
7.2 Packaging design
7.2.1 Color scheme
7.2.2 Increase font size
7.2.3 Clarity
7.2.3.1 "Just add chicken" text
7.2.3.2 Text to point out ease of use and time saving benefits
7.2.3.3 Indicate recyclability
7.2.3.4 Indicate type of plastic
7.2.3.5 Indicate that can wash and reuse tray
7.2.3.6 Indicate that chicken is not included
7.2.3.7 Indicate that bags are included
7.2.3.8 Indicate oven use
7.2.3.9 Indicate allergens
7.2.4 Unnecessary use of stretch wrap
7.2.5 Make tray visible
7.2.6 Make it exciting
7.2.6.1 More eye catching
7.3 Highlight benefit of not having to use your own dish/convenience factor/less prep time

8. How does convenience play a role in your decisions when it comes to shopping for food to make at home?

8.1 Busy schedules
8.1.1 Lack of time to cook
8.1.2 Hard to plan meals
8.1.3 Children to feed quickly
8.2 Quick and easy meals
8.2.1 Cut down preparation time

8.3 Definition of convenient meal
- 8.3.1 Takeout
- 8.3.2 Microwaved meals
  - 8.3.2.1 Ready-to- eat meal
- 8.3.3 Tray is innovative but not convenient
  - 8.3.3.1 Have to wait 25 minutes to bake it

8.4 Use of tray for multiple meals
- 8.4.1 No leftovers
- 8.4.2 Avoid food waste

8.5 Price
- 8.5.1 Typically pay more for convenience

8.6 Quick shopping
- 8.6.1 Need to know exactly what is in package
- 8.6.2 If have to try and figure it out, will move on

8.7 Depends on schedule

8.8 Convenience does not play a role
- 8.8.1 Enjoy cooking
  - 8.8.1.1 Not on a time schedule
- 8.8.2 Healthy eating
- 8.8.3 Focus on natural ingredients/fresh food

9. Anything else you would like to share with me about the packaging and how it influenced your decision to select (or not select) this product?

9.1 Nothing else can think of

9.2 Look into variety of flavors for the brand

9.3 Will pick this product up next time at the store

9.4 Would not be something I would buy
- 9.4.1 Went with trusted brand

9.5 Packaging design
- 9.5.1 Clear
- 9.5.2 Color scheme
- 9.5.3 Innovative use of tray
- 9.5.4 Chicken image
- 9.5.5 Differentiates itself on shelf
  - 9.5.5.1 Eye catching
- 9.5.6 Specify ingredients more clearly

9.6 Convenience factor
- 9.6.1 All-inclusive packaging
- 9.6.2 More from scratch than takeout

9.7 Depends on price

9.8 Place product closer to chicken section

9.9 Not sure why did not choose it

9.10 Add callout for natural ingredients

Appendix F

Code Agreement

Responses By Question			
Is there a compelling reason you would or would not purchase this product? Please tell me about your reason			Would you apply the same code (yes) or a different code (no)?
Participant ID	**Survey Response**	**Interview Response**	**Yes or No?**
2A	I guess I have always used my own baking dish, and it would fit more pieces of chicken. If the price was more than a package without the baking dish, then I would not buy it. Rated: Not sure Code: 1.1.1 1.2.1 1.7	Um… just from my family the packaging is probably too small because of how much we would probably make. Well, I have my husband and two boys so Use own baking pan (asked and she agreed) Code: 1.1.1 1.2.1	Yes Saying same thing about using own baking pan since have larger family even though indicates price in survey.

6A	Convenience. Rated: Very likely Code: 1.4	Well I would because I thought it was a pretty cool idea. Um and the only, I guess the only bad thing or negative thing, and it's not really negative, would be what type of package. That would be, cause there is not a good description of the material. I know they say that you could use it in any cooking situation, but that was my question. : Yeah yeah. I mean you got all these issues about different things. BPA and all that… I think that would be the only, you know that we are in a society where that's all important that uh would be critical. Um, it was convenient, everything was in there and and the way I think was described was basically you can do everything, everything you needed was in that package, so you didn't really have to have extra bowls or extra um plates or anything like that. So I think they had bags, didn't they have bags? Like shaker bags? : Yeah to shake. So it was just one of those things where you didn't really need extra things to prepare the meal.	No In survey he just mentions convenience but does not expand like he does in the interview abut the all-inclusive packaging and no need for bowl. He also only talks about the material and potential hazards in societal concerns in the interview so I would have to code this differently.

		Codes: 1.3 1.1.2 1.1.2.1 1.1.2.2 1.4 1.4.1 1.4.2	
11A	Waste in the packaging Rated: Very unlikely Code:1.2	Um I guess I probably wouldn't purchase it um I think the main reason is kind of the disposable nature of the pan. I think I normally would not have a need for that to avoid um you know having extra packaging an plastic trash. Code: 1.2.2 1.2	Yes Both responses talk about how this packaging is wasteful so would code the same.
35A	I would for the advertised convenience Rated: Somewhat likely Code:1.4	Um no compelling reason. Ahh [laughing] trying to think back and remember now… um... um... I mean it looks… if I was in the market for that product it looked like it would be something to fit that need. Yeah it has a baking tray that would allow me not to use	No The interview talks more in-depth and about how there is a market need so would code differently.

		dished and use once and then throw away. Code: 1.5 1.4.2	
26A	I would probably go with something else like a brand I typically use, for example Kraft. Really depends on the price point though. I do like the idea of using one tray. Rated: Somewhat unlikely Code: 1.6 1.7	Um…typically I would purchase something um probably like Shake N Bake or something. Um a more familiar brand, I am not really familiar with the brand. Yeah and you know it does depend on what is on sale. Price is the bigger factor. Code: 1.6 1.7 1.7.1	Yes Both talk about going with more familiar brand and base their decisions on price points.
25A	Price. The convenience of an all-in-one system like this is very appealing, but the cost has to also be appealing. I have a full kitchen and I am not afraid of a little extra work if it saves me a notable amount of money to do it myself, using my own dishes, etc.. Rated: Somewhat likely Code: 1.4.1 1.7	I don't think there is a compelling reason why I would *not unless* it is just like silly expensive. The majority of our shopping is probably… would be based on value for the price. The convenience um there is me and my wife and we have two young kids so there is never a… there is never time… never enough time for anything. Um and the whole… I guess it was two separate meals in one container and it comes with the container and all that… that sounds great! Convenience wise as long as it is not chalked	Yes Both talk about convenience being key as well as price being a factor.

		full with bad stuff, preservatives, what now, being unhealthy and the price was right it would be fantastic! I guess then the compelling reason for me would be the convenience, which would be the biggest reason. Code: 1.7 1.4 1.4.3	
30A	Does not look appetizing Code: Really goes better with 2.2.5.2 Rated: Somewhat unlikely	Well at first I thought that the chicken was in the package and I guess that is my fault because it had a picture of a chicken on the front and so I had the mindset that I was purchasing chicken. And the packaging was very so much like what you would purchase chicken in so I guess that is why I thought there was chicken in there, and then I realized that it was not, it was just the breading and the seasoning and whatever else. Um so… but that doesn't answer… I probably would not because I already have baking trays at home and I like convenience but I would also like to purchase the bread crumbs and the seasoning and whatever else so I can use it again	No In the survey she talks more about appeal and says the chicken does not look good but in the interview she talks more about how there is misleading contents with the chicken not being included and how she would want more of a stable for her pantry and how she has baking pans at home. Her interview answer actually answers the question so I would code differently.

		and not have to every time I want to bake chicken buy one big package. Does that make sense? Code: 1.1.3 1.2.1 1.2.3	
4A	quick and easy Rated: Somewhat likely Code: 1.4.3	Um not a compelling reason why I would not. It… what I do like about the package is it does come with the trays. I like having the disposable trays and not having to use one of my own baking sheets or whatever. And that was a plus for me as far as looking at it. Yeah something I may be interested in trying. And I have used some other products from that company as far as their cornbread and things like that so I was familiar with the company. Code: 1.4.5 1.3 1.6.2	No The survey answer only talks about saving time with a quick and easy meal while the interview talks about how they like that trays are included and how it is an interesting idea. The interview also talks about how the brand is familiar
19A	The ease of prep and cleanup is key, definitely interested as a mom of two young kids Rated: Extremely likely Code: 1.4.3	Yes! I thought the convenience factor of it was extremely valuable. Yeah… so I have got a 5-year-old and a 1-year-old. So my time when I get in the door and eat at night is extremely valuable. And then again, once dinner is	Yes Both responses talk about convenience and how this can save time and cleanup.

	1.4.4	done, clean-up is you know something I am trying to minimize so that absolutely appeals to me for multiple reasons. Code: 1.4 1.4.3 1.4.4	
21A	Have experienced allergic reactions when this company's products are used with fish. Not sure if it is the fish or the product. Expect the fish, but will take no chances. Rated: Very unlikely Code: 1.8	Yeah, a couple of reasons. One is personal and that is just because I had an allergic reaction to the brand, fish coated in it. So I don't know if it is the brand or the fish itself so I kind of steer away. The other thing about the baking tray is um I prefer to just use my own trays so that I do not wind up with more trash to put in a landfill. Code: 1.8 1.2.1	No In the survey she only talks about her allergic reaction and in the interview she also gets at the reason she would purchase it is because she likes to use her own trays.
34A	N/A Rated: Very likely No code since no response	Yeah um I would be more inclined to purchase that relative to another product um because I thought it was an innovative design. Um basically I like the convenience of it, that you could just use the packaging itself to mix the seasoning and then bake the dish. So I definitely would be more inclined to purchase that product.	No No answer for survey and in the interview she talks in depth about all-inclusive nature and innovative design.

		Code: 1.3.1 1.4.1	

Responses By Question			
Please explain why you rated the package either: very appealing, unappealing, mildly unappealing, neutral, mildly appealing, appealing, very appealing			Would you apply the same code (yes) or a different code (no)?
Participant ID	**Survey Response**	**Interview Response**	**Yes or No?**
2A	It looks okay, but gives the impression that the chicken may be included. Rated: Mildly Appealing Code: 2.2.3.2	Yeah I mean it looks okay, um… kind of when you first look at it you are thinking the chicken is included [laughing]. But, um you know with the tray and everything. But with it not being in the like frozen foods or refrigerated section you know it is not. Um.. but I mean it is okay, there is a lot of red that jumps out at you. Um… I don't know, to me it is like the top is just too much. : I know that is their you know signature but… Code: 2.2.3.2 2.2.1 2.2.1.1	No She says similar things for chicken not being included but for the interview expands about color scheme so would would have to apply a different code.

6A	Very clear description and eye appealing. Convenient that everything is in there. Rated: Very appealing Code: 2.2.2 2.2.1.2.1	Um, I guess it was just the color arrangement, um you every time I do one of these its always you know the thing that stands out to me. Um you know not necessarily buying it, but it does catch my eye and it intrigues me and peeks my interest. Um and then I think there was a lot of information on it. So um I know some of the print was a little small, I think it was the ingredients and also the ahhh [pause] I think it was… I think it was…mainly the ingredients. There could have been a little bit larger print, but everything was very you know plain to see and there was not a bunch of hidden images or anything like that where you had to *study* the package. But so that's what caught my eye, it was you know had all the information. I would say maybe a little too much, but more is better in my opinion. Code: 2.2.1 2.1 2.2.1.2.1 2.2.4 2.2.4.1 2.2.2	No In the survey the main theme is clarity. The interview talks about color, small print, and clarity. So would have to code differently based on all the additional info he added to the interview.

11A	The graphics are clear and explain the product well. The convenience is a bit appealing, but the one-time use/waste inherent in the packaging is unappealing. Rated: Neutral Code: 2.2.2 2.3	Um… I guess the packaging aspect like I just mentioned was kind of a negative but it you know I would imagine for um people who are interested in products like that it was very clear what it was and it was easy to see what was involved, all the relevant information was you know right there on the front. Easily readable um so in that sense you know I thought it was successful packaging but just not um… I am neutral about because it is not really a product that I might purchase. Code: 2.3 2.2.2 2.2.2.1 2.2.2.2 2.4	No Both responses talk about clarity, and wastefulness in the package, but the interview expands on how info is easy to read and all relevant info is included even if they would not purchase it.
35A	brown color on the edge makes it slightly less appealing Rated: Mildly Appealing Code: 2.2.1.1	Um there was like brown on the edges or something yeah something brown not as appealing [inaudible muttering]. Yeah yeah I think the picture of the chicken was pretty appetizing…color was the main problem Code: 2.2.1.1 2.2.5.1	Yes Both responses are saying the same thing that the color is the main problem even if in the interview he mentions that the chicken does in fact look appealing.
26A	Other packaging grabs my attention more.	Sure, um there… I mean like it is really nice but there is really nothing	Yes Both responses are saying that the package does not stand

	The graphics feel outdated - particularly the logo and font. It doesn't say seasoned coating mix very clearly on the package. It's not easy to understand that's what this is for. Rated: Neutral Code: 2.2.6.1 2.2.7 2.2.3.2	there that catches my attention. I feel like the logo and the font… the brand's font…is a bit outdated and then… yeah there is nothing on here that shows it is reusable. So yeah…so I feel like it could be misleading and I don't know like it doesn't persuade me one way or the other to buy this. Code: 2.2.6.1 2.2.7 2.2.3.2	out and the logo is outdated also saying that there is missing information. in the interview she does mention reusable but that is not enough to code differently.
25A	It is very easy to see exactly what you are buying. The "mini instructions" on the bottom left are nice too. It really highlights the convenience of the product. Rated: Appealing Code: 2.2.2 2.2.2.3	Um yeah I liked it mostly because it was easy, um you could really tell what it was… what was going on. I liked the little, very simple but clear graphic in the bottom left that showed you um that everything happened in the container. Code: 2.2.2 2.2.2.3	Yes Both responses are saying how the package made it clear as to what was going on, especially with the graphics at the bottom.
30A	I prefer to see the chicken I am buying. The packaging does not look like top quality food Rated: Mildly unappealing Code: 2.2.5.2	Um, yes it was bright and colorful so it did catch my eye. (key difference) Um… I don't have the picture in front of me… um I am trying to remember what I uh thought about it. Yeah…I have a weird thing with chicken anyway and that is a	No In the survey she just talks about chicken looking unappealing, but in the interview she talks about the chicken and also how it was bright and colorful and caught her eye, so because of that I would code this differently.

		personal thing, but um I don't know I like to see what I am getting and so the chicken did not look appetizing to me, but that is just personal opinion. The picture of the actual chicken. Yeah it looks like one of those chicken nugget chickens. It is not very appetizing. Code: 2.2.1.2 2.2.1.2.1 2.2.5.2	
4A	describes what is in the package Rated: Appealing Code: 2.2.2.1	Well I like the little picture with the guy holding the tray, that caught my attention. That lead me to reading what it said above it. Um I like the layout, you know it is a good looking piece of chicken. The colors… the colors are good too… they stand out. No I like the colors. I think you guys were pretty much right on it with the colors. From my point of view. Code: 2.2.2.3 2.2.8 2.2.5.1 2.2.1.2.1 2.2.1.2	No The survey just talks about how the info is on the package but the interview talks about the simple graphics, easy to read, good layout, good looking chicken and colors. Too much is different so I would code differently.

19A	I love anything that makes my meal prep and cleanup faster and easier! Rated: Very appealing Code: Really codes better for 1.4.3 1.4.4	Yeah I think…certainly it communicated on the front easily what its purpose was. The um… I don't know if you are going to ask a question later… but I think one of the problems with it was the display box hiding a bit of information. Um but I did think that in terms of… I mean it already stuck out on the shelf just from its shape. Um so it caught my eye immediately just because of its shape, but I think is also easily conveyed what its purpose was. Code: 2.2.2 2.2.3.3 2.2.9 2.2.9.1	No In the survey she talks more about why she would purchase it based on it being quick and minimizes cleaning. But the interview talks about the clarity of the package, how information is being hidden and how the shape is eye catching. The interview answers the question better and so I would not code these the same way.
21A	Nothing outstanding about the package Rated: Neutral Code: 2.2.6	It probably was just one of those that was like okay it is just a package. Nothing that really catches my eye, nothing to make me really stop and take a look at it. Code: 2.2.6 2.2.6.1	Yes Both answers are saying that the package does not stand out so I would code the same.
34A	All the information is displayed clearly. Rated: Appealing Code: 2.2.2	Yeah I mean when I looked at the packaging it was very clear that the tray could be used u to mix the seasoning, and it was very clear what was all inside the packaging. So that was appealing to me. It was very intuitive	Yes Both are ultimately saying that the package was very clear.

		and from first glance you knew what it was about. Code: 2.2.2 2.2.2.4	

Responses By Question			
How innovative is this product? Please tell me more about your reason.			Would you apply the same code (yes) or a different code (no)?
Participant ID	**Survey Response**	**Interview Response**	**Yes or No?**
2A	You have seen this before with other products, but you don't have to include your own meat. Like microwaveable products. Rated: Slightly not innovative Code: 3.1 3.1.1	Well I mean I guess you think there is packaging that you know has done this before, you know like they will give you the bag and you can put like the turkey in with the seasoning and um you know things like that. Um… yeah. Umm…. well like the grocery store has you know like… well it is not necessarily a tray but you know like when you like for turkey' and everything they have the bag that you can put the turkey in with the seasoning, so it's not necessarily a tray but it has the bag. Code: 3.1 3.1.1	Yes Both are saying that it has been done before and it is something like Shake N Bake.
6A	Nice to have everything needed in package with simple instructions. Rated: Extremely innovative	Uh I think it is pretty, like I said, it is a one stop shop. So it uh you know it's nice to have things where you want to prepare a meal you basically need that and	Yes Both responses are saying that it is all-inclusive packaging and a one stop shop

	Code: 3.2	chicken and you know I mean I don't want to get to the point of them freeze drying chicken where you can have it pop up… But you know it's nice to have a package that's says if you want this then you need this. And so it is ... you know you can say what do I need and basically all it says is chicken and you go get chicken you know and I guess anything else you want to prepare for a meal but the main part is done and it would easy once you take it home. Code:3.2 3.2.1	
11A	N/A Rated: Neither not innovative or innovative No code since no response	Um I guess I would say slightly. I did… for people who are looking for convenience you know it was a smart idea, something that people who are pressed for time, um that would be a good thing, easy to pick up and you know be able to make yourself… kinda has everything you need right in it.	No Since no response in survey and interview talks in depth about smart idea, convenience, and being pressed for time.

		Code: 3.3 3.4 3.3.1 3.2.1	
35A	the one-step trays Rated: Slightly innovative Code: 3.5.1	Um I don't know about innovative but I think I have never seen this product so yeah the baking tray part of it is. Code: 3.5.1	Yes Both talk about the innovative use of trays.
26A	I like the idea of being able to use just one tray for my prep and cooking. Rated: Moderately innovative Code: 3.5.1	Um…I mean I think is is pretty clever, I like the idea of it um I just think it needs to be I don't know designed and advertised a little better. Um so like I guess it needs to be… like it has the chicken on it but it's not really about chicken… it's supposed to be about seasoning. Because you know the chicken does not come with it. Ha yeah [laughing] so I feel like I don't know they could explain better on the package what is included and uh how it works and the fact that it is reusable and supposed to save you time. Code: 3.4 3.6 3.6.1 3.6.1.1	No In the survey she just talks about how she likes the tray but in the interview she expands on how it is clever but does not like the design since it is not clear what is included in the package.

25A	If I remember correctly Kraft has/had a similar product years ago. I can't remember if it included the baking tray though. Rated: Slightly innovative Code: 3.1.1 3.1 3.5.1	I think I mentioned on the thing… I don't think I have seen it exactly like this before but I think Kraft used to have something that stayed in the… I think they put in the coolers over by the shredded cheese or something. But it it was like a Shake N Bake style thing um kind of like this but it was not one step you still had to do your own tray. So in that regard it is not totally innovative but I guess the idea of having the one step tray is and being able to do two separate things with it or two separate meals with it…um that is innovative. Something I haven't seen out there. Code: 3.1.1 3.5.1	Yes Both say that it has been done before by Kraft but here it is more innovative because of tray.
30A	Seems like a waste of space just for bread crumbs. At first, I thought that the chicken was in the package and this came frozen. I already have trays at home so I don't need another tray.	Yes, I did think that it was very innovative. And depending on your living situation I think that it is very convenient for people that need a quick um…it's very convenient. However, for me personally it is not	No In the survey she is saying that the try is wasteful and needs redesigned and also saying that chicken looks like it was included and has a a tray at home (not really answering question). In the interview she is saying how it is innovative and even if she would not buy it, it is good for the all in one combo or all-inclusive packaging idea.

	Rated: Moderately not innovative Codes: 3.6 3.7.1	probably something that I would purchase. But yes it is very innovative I mean if I ever thought to do an all in one combo. Codes: 3.5.1 3.3 3.7 3.2.1	
4A	usually do not have cooking trays Rated: Moderately innovative Code: 3.5.1	Well I hadn't seen anything with the little trays. That is the one thing that stood apart from all the others… the different breading mixes you can buy and all the different coatings. No I mean it still is just a Shake N Bake kind of thing. But it does have the trays so I thought that was kind of neat. Codes: 3.5.1 3.5.2 3.1.1	Yes Even though the interview does expand on how the trays make in look different on the shelf and how it has been done before, both response are both saying that is innovative because of the baking trays.
19A	There is nothing like this in this sector of product, I love the idea! Rated: Extremely innovative Code:3.5.2	Oh I think it is very innovative! I mean everything else on the shelf almost down to the dimensions looks the same. Where the display is of the picture, pictures of what the product does and the meat… every brand in that	Yes Both are saying that this product is different than rest of category in shelf.

		category looks the same. Code: 3.5.2	
21A	The ability to quickly seasoned with crumbs and bake chicken has been around for some time. I prefer to use my own baking pans and not have more trash. Rated: Slightly not innovative Codes: 3.1 3.7.1	I think it probably is. I think it would probably appeal to a lot of people, especially younger folks who you know are like in that quick fix where you can grab it and throw it in the microwave and it is ready to go. Right (I use own pans) and I am not… I don't do a lot of cooking in the microwave, so you know I prefer to do my cooking, baking whatever in the oven. Oh is it? Okay, I thought it was just for the microwave. It was not very clear then. Apparently not! Codes: 3.3.2 3.7.1 3.6.1.1	No Even though both talk about using her own baking trays. The survey talks how this has been done before and the interview talks about how it could be good for a quick and easy meal and how the box is not clear about the cooking instructions and how it can be used in the oven.
34A	The one step tray is unique and makes it very convenient. Rated: Moderately innovative Codes: 3.5.1 3.3	Um the main reason was the convenience of using the product because usually when you think of weekend night dinners you are like, "OMG I have 3 steps or 4 step dinner preparation." So this kind of like cuts it down. So I would definitely	Yes She is focusing on convenience factor in both but does expand in interview, but would still code the same.

		prefer a product of this sort if I am thinking about a quick meal. I am in graduate school and I don't want to sit and wash a bunch of dished after I am done cooking so this totally makes sense. So much more convenient. Codes: 3.3 3.3.2	

Responses By Question			
Please explain anything that you believe this packaging is lacking in terms of communicating the benefits of the product.			Would you apply the same code (yes) or a different code (no)?
Participant ID	**Survey Response**	**Interview Response**	**Yes or no?**
2A	For a family of 4, like mine, the tray would not hold enough chicken. Code: 1.1.1	Uh…no, I mean you know that I'm looking at it, I mean it basically tells you everything on the front, what it includes and everything. So I mean I think it is okay. Other than the colors, I think it is okay, um it is just a lot of reds and oranges to me. That's just a personal opinion. Code: 7.1 2.2.1.1	No Survey talks more about big family and interview talks about how package says all the needed info but that there is a problem with the colors.
6A	Ingredients could be a little larger print. Code: 7.2.2	Uh I did not see much, um the only thing I can think would help would be to increase font on some of the you know ingredients. People always want or are wanting to know are there allergens or anything else like that. Some of the print… I would	Yes Both responses are mostly focusing on how the print could be enlarged even though the interview talks about allergens.

		say I definitely noticed that on ingredients because I was trying to figure out some of the ingredients. And maybe one or two other spots, but other than that it was… I mean it had enough information. There was none lacking if you want to say. Code: 7.2.2 7.2.3.9	
11A	Clear indication of whether the tray is reusable or able to be recycled. Code: 7.2.3.5 7.2.3.3	Um no I um… I do think like you said the "just add chicken" would be good for clarity and you know that also points out the ease of it, you know everything else is included. Um maybe not necessary I know you know perhaps on the back… I didn't really even notice this…there was a you know larger indication of the um recyclable symbol. I don't think on the plastic part, whatever kind of plastic it is. Maybe something to highlight that a little more that may be something someone may want to know. Code: 7.2.3.1 7.2.3.3 7.2.3.4	Hard to say here… went with No Both talk about recycling and the reusable nature, but the interview talks about adding chicken callout and making it clear about the type of plastic being used.
35A	the quickness and convenience might not be apparent to first-time users Code: 7.3	Pretty clear other than the colors scheme… Yeah I mean I think it is it, I don't think… I don't know it seemed pretty adequate to me. Code: 7.1 2.2.1.1	No The survey talks about how benefits need to be highlighted more and the interview talks about how the package is adequate but there is still problem with the colors.

26A	I need to know that its a mix. With it being shaped like a chicken package and having a large image of chicken on the front I don't feel like you easily know it's a mix. It doesn't really showcase the contents inside. Codes: 7.2.3.6 7.3	Um just the fact that what they are trying to sell is like this all inclusive chicken, you know make it *exciting*. You know make it be where it catches my eye even if there is a trusted brand there. You know I would potentially want to give it a shot just to see if it is that easy cause you know in the world that we live in we are all looking for you know a quick dinner. Codes: 7.2.6 7.2.6.1 7.2.3.2	No Survey talks about it needing to look more like a mix and less like chicken is included and they interview talks about how it should be more eye catching and exciting and point out how quick and easy it is.
25A	It doesn't directly point out the "no mess, no cleanup" or that you can "serve right from the tray" benefits of the product. Code: 7.3	It wasn't very clear that um that you could wash and reuse the tray. Um I think one of the questions, one of the survey questions asked about if that was clear on the package or not, and I remember thinking that it didn't say that at all. I guess it is kind of implied um well I guess it isn't even implied is it… because it says 2 bags, 2 trays, and 2 packets, but I think in the survey it was asking like do you realize that you can reuse they tray? Am I remembering that correctly? Yeah yes because you can keep it and next time you have to bake a to go dish you use it and just leave it at the party or whatever. You don't have to worry… kind of like Glad Ware's big selling point of its not a big deal if you don't get it back. So that would be cool for that idea. Um but	Yes Expands more in interview but both are mostly saying that the benefits should be highlighted more.

		yeah I didn't really think of anything else… not on the front of it at least. Code: 7.2.3.5 7.3	
30A	N/A No response so no code	Um it needs to be more clear that um you need to purchase chicken separately um that was probably my biggest one. And then you don't have to put the tight… I don't know what that is made out of… Yes to me the stretch wrap is not necessary. I would rather see what is in it and see that is actually a tray. I really didn't quite… until you sit down and really read you don't really know that it is a tray. Codes: 7.2.3.6 7.2.4 7.2.5	No No answer for survey and in interview talked about how it is not clear about the chicken and how the tight stretch wrap is unnecessary and that trays should be shown.
4A	Nothing No code but saying nothing to add so most like 7.4	Um not for me, expect for what you told me about the other people about chicken not included. No code but saying nothing to add so most like 7.4	Yes Both responses are saying that there is nothing wrong for them so same code.
19A	The display container that was holding the boxes hid the graphic in the bottom left that explains this is a cookware product too. I immediately	Yeah and I think maybe one question I did come away from there was wondering was… Shake N Bake dos typically include the bag, is that in there? Um I have bought this brand before and I don't think it ever comes with a bag to shake it in and so that was something I wondered afterword. Oh cool!! Saying that… because it's funny	No Survey talks about hidden graphics from corrugated box and the interview talks about is shaker bags are included or not.

	thought that the container was to "shake" the product in. Code: 2.2.3.3	I bought this brand this week after we did it… I wanted to try their breading for pork and I have never done it with pork before since I am pretty loyal to Shake N Bake. And it did not include a bag for shaking so I was like uh oh! That made me wonder, "OH I wonder if that tray included a bag for shaking or not?" Because I like that! I had to use a Ziploc bag because I did not have the bag, but I prefer that it come with it. Code: 7.2.3.7	
21A	Important information is on the front with the exception of baking time.	Well it sound like it needs to be clear that the chicken is not there [laughing]. Since a lot of people had that misconception. And then I guess for me, the one thing I misses was that it could be used in the oven. And if that was bright and out there maybe I just overlooked it.	

34A	None No code since no response 7.4	I actually liked the packaging uh like I said if it could just make something more eye catching in terms of like I said, it is cutting down preparation time and how it is making it convenient. Like something that catches your eye… that would probably help sell the product. Yeah or just like something like a 1-2-3… it is so simple it's just like 1-2-3. Just put it in…put it in the oven and then you are done kind of thing. Codes: 7.2.6.1 7.3	No There is no answer for the survey and the interview talks about how the package should be mad more eye catching to highlight the benefits of the package more.

Responses By Question			
How does convenience play a role in your decisions when it comes to shopping for food to make at home			Would you apply the same code (yes) or a different code (no)?
Participant ID	**Survey Response**	**Interview Response**	**Yes or no?**
2A	No....because the tray would not be big enough. I would have to use my own dish.	N/A (forgot to ask this questions during the interview)	No since forgot to ask in interview.
6A	Definitely, not much time to waste so making something	Um because both of us work and you know we got busy schedule, so during the week it is convenience all the way. But like I said I like to cook so on weekends we seem to be a bit	Yes Both are saying having busy schedules and lack of time To cook.

	easy and fast is a plus. Codes: 8.1 8.1.1	netter, but I am looking for convenience during the week just because of lack of time. Codes: 8.1 8.1.1	
11A	No. I enjoy cooking and in most cases do not mind involved preparation. Needed a quick convenience meal would be the exception, not the norm. Code: 8.8.1	Um… it really doesn't that much. Um…. Because I like cook a lot and I enjoy cooking and it seems like a lot of time. But usually if I am going to be pressed for time I default to picking up takeout. That is kind of easy or I don't mind spending time on you know cooking and food prep. But if it is going to be an issue I just pick something up and not waste that time. Codes: 8.8.1 8.3.1	Yes Both are saying that they like to cook, but expands a bit more in the interview part about their definition of a convenient meal.
35A	yes, because there is other stuff to do than cook Code:8.2	Uh…typically convenience would be in the form of ready to eat, heat and eat kind of thing. The tray part is innovative yes like if you like buy it once and keep it [laughing]. The tray is more innovative but not convenient Codes: 8.3.2.1 8.3.3	No Saying something totally different. Survey talks about there being more to do than cook, while the interview talks about his definition of a ready-to-eat meal and how the tray is convenient.
26A	Yes, I like how convenient this would be. Anything that saves me time is a plus. I also like things that don't make large quantities of food because it cuts down on waste.	Convenience is really important to me. Um I live by myself so um I want something that is quick and also want something that is not going to leave me with a lot of leftovers. Yeah because I just won't eat it and a lot of food goes to waste because it's made for a family of four. : I could spread it out… which is nice because I could hold onto it depending on how it was packaged with the spice packets and stuff. Codes: 8.2.1	Yes Both talking about convenience and having less leftovers.

	Codes: 8.2.1 8.4.2	8.4.2	
25A	Yes, absolutely. I have a 3-year old and a 6 month old so healthy and convenient dinners are very important. It needs to be a financially reasonable balance between the convenience and the cost though. Codes: 8.1.3 8.5.1	Definitely very important. Very important… Oh just because we don't have time. We are lucky to have dinner planned out for more than 30 minutes to an hour before it is time to eat. So if it is something like this where it is you know 30 minutes or less to get it on the table, that is fantastic. We are on the go all the time, planning out dinner is not something we have been very successful [laughing] with. So the easier, more convenient, the quicker we can get it done the better. Depends on the price. But yeah everything about it seems nice and convenient which is absolutely great, but uh it would… I know you usually pay a little more for convenience so it would really depend on the price. Because if we have the time we are going to save the money and put in a little more work on the back end, maybe washing dishes or whatever, than paying for it up front. Codes: 8.1.1 8.1.2 8.5.1	Yes Codes are a bit different but mostly focusing on price being key and how they want a quick meal for their frailty since it is hard to plan out.
30A	Yes - I do prefer convenience	Um yes, most definitely. Um I might would purchase it if I… cause when you are in a grocery	No The survey talks about confusing

	but this package is confusing. If it contained the chicken to cook, it would be a little more appealing, but I still would not purchase because I can't see the chicken and it seems like it would be of less quality Codes: 7.2.3 7.2.5 2.2.5.2	store it is kind of crazy and you are trying to get in and out… so if I knew exactly what that was and I knew I could make dinner in… I don't remember what it said…I don't know if it said a time? I thought it was 20 or 25. Um I might be more willing to purchase it, but when I have to figure out what something is I would rather just move on to the next thing. Codes: 8.6.1 8.6.2	package and wanting to see the chicken and the interview talks about shopping quickly and needing to see the contents of the package easily.
4A	depends upon my schedule Code: 8.7	Um it depends um I do all the cooking and uh depending what my schedule is like… I am an avid watcher of Cooks Illustrated and Cooks Country and all the cooking shows…: And I have every tool known to man in my kitchen. As far as cooking. But I have bought Shake N Bake before… depending what is going on. Is something is kind of fast and I have something else to do... it depends what is going on. Code: 8.7	Yes Both saying it depends on his schedule.
19A	YES! It was obvious that this was something that was going to save me time! Code: 8.1.1	Yeah again I have very little time when I come in the door. I leave work at 4:30 and pick up kids and by the time I get home they are all screaming for food. And I would rather them eat dinner than snack. So the faster I can get	Yes Both saying that this would save them time even though interview expands.

		dinner on the table the more likely they are to eat a healthy dinner versus snacking prior to dinner. And so again it was very much about convenience and quicker time to getting my food ready. Code: 8.1.1	
21A	Not so much. Cost and taste are more important to me. Code: 8.8	You know it is not that big of deal to me because I am trying to eat healthier and have been for many years. And I know that eating healthy is not convenient [laughing]. You know you have to plan, you can't just walk in and pull something off of the shelf and say "suppers ready." It takes some planning and it takes some time and for that reason it would not be that important to me. Ah ah I would probably be neutral on it and you know again if I was in a hurry and I was looking for something healthy then certainly that might appeal to me. But on the other hand if I am truly trying to do the best I can, I am going to go for the fresh vegetables and things like that rather than something packaged. Code:8.8	Yes Both are saying that taste and nutrition is more important than convenience.

34A	Yes. No code since one word answer.	Um for me a *huge* role. Because being a grad student…and grad student is actually not so bad… but I'm pretty sure working parents and professionals especially for weeknight dinners… you would definitely want to cut down on the preparation time. So for me it is right up there. Ahh I would actually just look at the ingredients a little more closely and then decide. I would out natural ingredients a little higher over convenience for me. So ah yeah quality of ingredients would be number one and if this was matched with the other products that I would buy then I would definitely choose this because it is more convenient. But for me I think ingredients would be number one and then convenience would be number two. Um well usually I am more attracted to products that say all natural and no artificial ingredients or preservatives and things like that. So if they would maybe be able to incorporate that, it would make it definitely more appealing. Codes: 8.8.3	No Since no answer for survey and the interview expands and says if the ingredients are right and the right price will pick it.