The hidden impact of food's packaging
By Sandro De Angelis

Packaging? What is it, really?

Packaging is a fundamental and, most of the time, underestimated marketing aspect with many implications for the multi-sensory customer experience. It can affect customers' focus, value perception, understanding of product functions, and purchase. Its presence touches many aspects valued as pivotal in the consumer decision-making process; it can be said that it has a significant role in the general experience that the consumers go through when choosing what to buy. Nowadays, firms lost the old-fashioned way of valuing a product's packaging exclusively for its storage functionality and now, finally understand the subtle role that packages can have in promoting a product and, therefore, its consumption. To analyze every single aspect through which packages influence consumption, I will use the layered-packaging taxonomy. This classification method has the physicality dimension and the functionality dimension; we'll see these two functions in detail later. Furthermore, to give a general idea of how the packaging process works, I will combine the insights obtained from the layered-packaging-taxonomy analysis and the observations collected from the sensorial aspects of packages.

Introduction

In the marketing world, "sensory marketing" is the new "Cash Cow" branch in which researchers and brands are focusing more of their resources lately, given its vast consequences on products' sales. Therefore, much more attention has been given to how the consumers perceive their surroundings through the senses and how our visceral sensations play tricks in our mind affecting our purchase decisions, either the consumer being aware or unaware of it. The final goal of the interaction with these hidden stimuli (either through smell or sound, touch, taste and look) is to add perceived value to the product and ultimately to the brand. This is one-way brand identities built; can you not recognize an actual Coca-Cola bottle's smell, taste, or color from a fake one? Is it unique, right? Like its brand identity, which is memorized through your senses in your brain. Companies also gain insights through the customers' feedback that reacts to the different sensorial experiences, which will help them make marketing-strategical decisions.
In the past, researchers that analyzed these sensorial aspects focused their attention more on other themes surrounding a product rather than the package itself. There have been studies about how to shop theme or atmosphere can influence your perception of what is being sold and therefore affect your purchase decisions, as well. Just think about an Apple Store; before you enter a member of the staff welcomes you and channels you in the right section of the shop then all the walls are shining white and the floor as well, each employee has the same, clean red shirt with an iPad on his hands, all the products are rightly spaced, everything looks perfect. I often entered an Apple store not wanting to spend too much, and every time I would exceed my budget, it was like a mystical flow was carrying you. None of this is random; logic and marketing studies are behind that. Apart from these critical details and adjustments on the products themselves, we have not seen the same interest shown for the package itself. To identify if some sensorial changes (the mystical flow I was talking about) could have been made to enhance the product value. This is important because, during this era, we know that the packaged product acts as its overall presentation and brand display.

Here come in help the taxonomy concepts that I will borrow for this Thesis. The layered-packaging taxonomy is a new way to analyze the different layers that compose each package. First, it disassembles the package into two main parts: the physicality and functionality dimensions. Then it goes deeper into these dimensions explaining each branch that constructs them. We have three different packaging layers for the physicality dimension: outer, intermediate, and inner (product). For instance, if you take a classic box of hand soaps, you will have: the usual box with the brand name and characteristics of the product written on it (outer-packaging-layer), then, if you continue unboxing, you will see each single one soap covered by a plastic envelope that further protects the product (intermediate-packaging-layer) and finally the actual hand-soap in its characteristics form, color, and material (inner/product-packaging-layer).
On the other hand, the functionality dimension consists of two primary packaging layers: purchase and consumption. The former gets in touch with the customer at the time of sale, like the outer packaging. The second is primarily involved when the customer is already using the product, like in the inner and intermediate packaging (the last one may not be present all the time).

The sensory marketing

"Sensory marketing," therefore, has become, during the last years, a new field of research to interpret better how customers' emotions, thus preferences and consumption are stimulated by sensorial processes, aiming at engaging them more productively (Krishna 2010). So, at this point, we can clearly state that the more we engage with customers through sensory cues, the more benefits we, as marketing experts, would see in the total customer experience. The cues that we talked about before work most of the time on an unconscious level for the customers, so much that in several studies, when customers were asked if they sensed anything that could have influenced their decisions, they responded cluelessly. For marketers, this is good news because there are many ways in which it is possible to channel customers to determine products without being noticed. Back to the concept of total customer experience, it is usually defined as the total aggregate of a different kind of customer experience; shopping experience (what the customer experience inside the shop and relating to the staff and the environment), product experience (what the customer experience interacting with the product), communication experience (how the customers feel about interacting with the firm), brand experience (how the customers feel about interacting with the brand and its related sensorial stimuli); at the end of this pyramid we have the consumption experience which more relates to the external look of the packaging, may it be the consumption or purchase type. The purchase type is more linked to the generation of attention in the customer's mind, while the consumption type creates a stronger bond with the product itself, affecting its consumption. The next chapter will go more deeply into the stages that build the multi-sensory customer experience.

Steps for the Multi-sensory Experience

1 Initiation

Since, usually, products of the same category are stocked close to each other on the aisles of stores (each one competing against the other), marketers must find a way to make their

products stand out. This is needed to gather a much higher interest from the customers to increase sales. The scientific term used to describe the combination of characteristics that make a product emerge above the rest is called "visual salience."

What does Visual Salience mean?

Several scientific studies showed that the longer an individual (in our case, the customer) looks at salient visual aspects, the higher the chances are that the individual will like the object linked to those visual attributes. Higher visually salient items more mentally engage customers, and most of the time, they are going to buy. When you are shopping, don't you notice this pattern? I can give you an example; when choosing a toothpaste, I always choose the Colgate ones, only because the bright red color used in the outer packaging struck me every time. At that moment (purchase marketing layer), I don't care about which toothpaste is better, I don't care about the different characteristics of the other similar products, and I don't even pay attention to the price differences; the only thing I care about is getting that bright red toothpaste tube. This wholly unconscious process went through my mind and was only noticed while writing this Thesis. Following on this topic, we have other studies that say that when individuals are visually stimulated by these salient stimuli (bright red color), they may even go against their preferences and choose the product that is more visually salient rather than the one they preferred (take my case for example!). Furthermore, when a product is visually salient, the higher is the chance of being touched by a customer. The touching only in appearance could be seen as insignificant; in fact, studies show that when a product is connected, there a several consequences: the perception of ownership increases (long story short, if you touch a product, you are more likely to purchase it) as well as the value perceived from the product itself.

How important Visual Salience is?

Talking again about visual salience, we can clearly state that the more significant the difference between a feature of the package and its background, the higher the visual salience of that feature may be brightness, color, size, shape, texture, or smell. Some examples might be bright colors that stand out on the package (bright red color of the Colgate outer layer packaging), packaging with shapes considered not typical compared to similar products, which stand out for this reason. For instance, take the air pods pro with their unique form that simulates the shape of an ear or the Pringles chips with their uncommon tube package that differentiates itself from the others. In each case, the customer will be intrigued by the box's different nature and, thus, interested in purchasing the product. This is not always true, though. If you take the example of the Crystal Pepsi prototype, you will notice how not matching customer expectations and changing the brand's fundamentals too drastically can create a disaster. The Crystal Pepsi was a new product that Pepsi launched in 1992 to gather more customers through diversification. This Pepsi bottle was caffeine-free, and to accentuate this feature, Pepsi changed its typical brownish color to white. Unfortunately, the sales did not match the board's expectations despite the considerable advertising, and the project was shut down.

2 Feeding into the cues

We talk about verbal and visual cues, in the whole context of marketing process steps, during which the customer, either aware or not, is looking for the product information that best suits his preferences. During this stage, primarily the outer packaging and purchase functionality layers conduct this task.

Verbal Cues

Costumers recognize the product's characteristics, such as pleasantness and healthfulness, as the most critical factors leading to consumption. But to make a purchase, the customer has to have a metaphorical taste of these components to be sure of what he is buying. In this situation, the customer depends on the suggestions that the package, on its complex, generates (like labels on the box describing the soundness of the product) and on the sensory responses that smell, sight, sound, and touch implicitly develop. All these cues together give both a conscious and an unconscious description of the product, which, if effectively communicated, drive the desire of shopping.

Visual Cues

Apart from the outer labels and product info, packaging has a lot of visual cues as well. Several studies found that customers give great importance to what stands out for their eyes instead of reading long notes and labels. So, for this reason, images and pictures on the package are essential. They profoundly influence the consumer's approach (either positive or negative) toward the product and his beliefs about it. Again, the importance of images on the packages is given to the fact that these pictures create a preview of the taste of the product and its soundness in general, and therefore solid expectations about it. A psychological study about how humans relate to their childhood in several fields has noted that humans usually associate concrete and abstracts in an interesting way. For example, the head of a person (concrete) is associated with rationality (abstract), while the heart (concrete) is associated with emotions (abstract). This correlation can also be applied through another perspective; anything that is on the top (like the head) reminds of rational feelings, while anything at the bottom (like the heart) reminds of emotional feelings. If we apply this theory to the overall package display, we can say that the same approach can be applied to a new scheme. On a package, anything that reminds of emotions (like the smell, taste...) has to be put on a lower level, like at the bottom of the package. In contrast, anything that resembles rationality (like healthiness...) has to be put on a lower level of the package to have a greater impact on the consumer. This is the basic concept of visual placement applied to a package; there has to be a logic in the disposition of the various elements on the available space. Following these principles, we can also say that functionality, qualification, authority are all life's aspects linked to something on an upper level. This is the reason why usually brands logos are placed on the top part of the packages. Customers as humans would appreciate more if a logo were displayed on top of the package because he perceives the brand to which it relates as being more powerful and important. It has also been noted a close link between shapes, names, typefaces, and tastes (round shapes better describe sweet flavors, while angular shapes have to be used to describe sour flavors). Last but not least, it has also been investigated a link between shape and color Results showed participants systematically established a link

between shapes and colors, and therefore, a pattern emerged. The strongest relationships were found between the circle and the square with reds and the triangle with yellows. All these visual aspects are put together to shape and influence the consumer's experience, and now we know why.

3 Engage costumers

Creating expectations about products through the "giving information" process was just a piece of effective package design. What we are going to talk about next is how the package actually lures and catches the consumer's attention through subconscious triggers. In the first part, we concentrate on how packaging visuals cues can bring the consumer's mind in *automatic engagement* mode, thanks to an instinctive creation of imagery in viewers' minds using an apposite stimulus orientation ("mental stimulation;" Elder and Krishna 2012) and perceived movement ("dynamic imagery;" Cian, Krishna, and Elder 2014, 2015). Later on, we focus on colors and their ability to viscerally set off specific feelings (Labrecque, Patrick, and Milne 2013). In the end, we discuss how to use *tactile* (Peck and Wiggins 2006), *olfactory* (Krishna, Morrin, and Sayin 2014), and *auditory* (Spence 2016) stimuli as part of packaging choices to attract the customer.

Automatic Engagement

Astute elements, such as how a figure is spatially oriented (e.g., on the right or on the left), can influence how the consumer instinctively replicates (in his mind) the way through which he interacts with the product. Elder and Krishna (2012). It is easy to give an example; if on the outer packaging layer, we have an image of a person brushing his teeth with his right hand, a right-handed customer would fit more properly on that fictitious situation, creating, therefore, a mental simulation of his interaction with the product, thus increasing the chance of buying that product. In the late 2000s, there was a Nike cleats commercial famous for this reason. The whole television ad was filmed in a first-person POV showing a young footballer who was first playing lower-tier football leagues, and then he slowly (through pieces of training and shocking young talents observers) became famous and started playing in the Premier League (Top division in English Football). All of this was filmed in the first person, so, again, it was like you, the viewer, were simulating how playing with those Nike cleats and following the Nike motto of just do it and never give up were to succeed in a football career and become rich and famous. To this day, that is a very recognizable ad for every football fan and really well made under the aspect of engagement in the mental stimulation (this is the link in case you want to watch it https://youtu.be/01aV_PbiT30). The same reasoning applies to the opposite situation; if the customer engages with its specular situation. As a result, we are going to have an unconformity between the customer expectation and the stimulated simulation proposed (for example, a left-handed person that brushes his teeth), which inevitably leads to a bad pre-judgment from the consumer; thus, it lowers the chances of the customer to actually buy the product (like the Crystal Pepsi example).

Other than the "automatic engagement" process through the spacious orientation mind simulation, another visual cue able to evoke an automatic imagery response is perceived movement. Several studies by Cian, Krishna, and Elder (2014, 2015) focused their research on the ability of a still image to create movement without actually moving (the so-called "dynamic imagery"). *Dynamic imagery* is particularly interesting in packaging design, which by logic, has no connection with something that could have the ability to move. The studies showed, though, that when a viewer is exposed to these (just apparently) moving images that, for instance, may be applied to the logos, they become highly engaged. It is no surprise for

me; when I was a kid, I remember something like this that only now, I can understand. I used to buy the YU-GI-OH cards to play with my friends; during the early 2000s, it was a common game amongst youngsters. As time passed by, new card bundles came out, and at some point, this "dynamic imagery" was also used on these cards. Each card showed a monster with its respective name. In the first cards, the monsters were always static, but we did not care because we loved their aesthetic and the game in general. Then some rare new cards came out, and you could see that the monsters displayed on the cards moved a little as you moved the card. This created much more appeal for these specific cards that were rated as better because they had this specific extra feature in them. Also, other card games brands adopted this strategy applying dynamic imagery to their rarest cards, like in the brand's Pokemon or Dragonball. We can say for sure that a higher dynamism on images attracts more views or "number of fixations," as scientists say, and longer periods of staring, during which the viewer aliments the desire to see how the image is going to change.

Color Engagement

We saw that automatic engagement and dynamic imagery processes trigger the customers more on a cognitive level. Now we are going to see how *colors* actually engage them more on an emotional level. It is well known that colors have an impact on our feelings and emotions. This is the reason why Facebook pages are full of blue everywhere since it is a color that relaxes the eyes and induces dependence. While Coca-Cola uses red which is basically the opposite of blue, it creates attention, excitement, desire…. This is also the basic difference between short-wavelength colors (like blue) and more saturated colors and, on the other hand, long-wavelength colors (like red) and brighter colors.
Going into details, the lightness of color has various consequences for purchase decisions. Darker objects are seen as heavier than whither objects; this leads the consumers to think that also whither packages may bring less durability but more convenience. Going on, we can talk about another pattern, the black and white pattern against the colorful pattern. Studies show that black and white can be used to automatically evoke a sense of nostalgia and to promote focusing on the abstract at a cognitive level. While colorful displays are to be used to concrete at the cognitive level, this study, though, is not complete in its overall, so it has to be taken into consideration with the right concerns.

Olfactory Engagement

In addition to visual elements, packaging can engage customers using *olfactory* cues. Krishna, Morrin, and Sayin (2014) showed that printed food visuals that included a scent increased individuals' salivation and desire to eat reactions. Thus, a scratch-and-sniff strip has several benefits. In Italy, there was a famous book of the "Geronimo Stilton" series which was popular for this reason. The book talked about the story of this mouse livening in a fantasy world full of kings, princesses, knights, witches, monsters, and so on. This fantasy reign was composed of five kingdoms, each one of them having a magical stone that has a heritage to protect. And believe it or not, if you scratched on the book, you could actually smell the five different stones among other smelly potions made by witches. This was something never seen before in a book, at least for us kids. To this day, if somebody, when was a kid, had that book, he is surely going to remember it because it was something too unique and gave the book creators a competitive advantage over the others. Anyways going back to foods, studies also showed that consumers could imagine the smell of food in their

mind. You can try this on yourself. Try imagining the smell of food that perhaps your grandma used to cook for you. You can clearly feel almost instantaneously an increase in salivation. It is like when dogs wait for the food to come and start to excessively be salivating. It is because, in their mind, they are already thinking about what they are going to it. To conclude, we can, therefore, definitely say that applying "scenting" images on food packaging has a strong impact on the consumer's desire to eat and, therefore, on its purchase decisions.

Tactile Engagement

Research also suggests that packaging can engage customers with its tactile components. Piqueras-Fiszman and Spence's (2012) Participants tasting cookies from containers with varied surface textures (rough/granular vs. smooth) rated the food samples from the rough container as being significantly crunchier and harder than those from the smooth container. Similarly, Krishna and Morrin (2008) showed that the flimsiness of a drink container could negatively influence consumers' ratings of its contents. The authors noted, however, that such an effect has less influence on people who find inherent enjoyment in touch (compared to people who do not). This moderation is attributable to the fact that people who are more sensitive to touch develop, over time, expertise in understanding when haptic cues are or are not diagnostic.
Peck and Wiggins (2006) investigated the persuasive influence of touch on objects that are extraneous to the core consumption experience. They found that participants perceived a marketing message that incorporates a touch element as being more persuasive than a marketing message that does not, especially when the touch stimulates positive sensory feedback. For example, I can bring the Yu Gi Oh cards case again. Yu Gi Oh marketers, at a certain point, decided to launch some new cards bundles, which were different at the touch. They presented an outside surface granular at touch and fluorescent in colors. Of course, that meant that those packages had in them really rare cards, and this was a way to show it from the outside. It was really entertaining to touch those packages. In one another study, the authors designed a membership brochure for a Midwestern children's museum. Half of the brochures included a soft touch element (with no useful product-related information), the other half did not. The authors found that museum visitors exposed to the touch element viewed the brochure more favorably and were more likely to purchase a museum membership than visitors who were not exposed to the touch element. However, this effect occurred only for people who inherently find enjoyment in touch (measured using the "Need for Touch Scale," Peck and Childers 2003). From a managerial point of view, this research suggests that packaging producers should focus more on experimenting with different texture experiences. A new and peculiar texture should attract more attention, invite more people to touch the object, and, if pleasant, generate a higher haptic engagement. However, even if haptic elements are a fundamental part of product engagement, there is still a lack of research on this topic.

Auditory Engagement

Much of auditory marketing research has focused on the effects of sound symbolism (the sound of the word affects the perception of the object it represents; Yorkston and Menon 2004), ambient music (every time you enter a Superdry store, they are always playing trap/rap music because that is the targeted customer niche), jingles and auditory logos,

phonetic scripts, and voice (see Meyers-Levy, Bublitz, and Peracchio 2010 for a review). Although research has devoted little attention to the topic, the sounds a product's packaging makes when consumers pick it up off the shelf, when they handle it, or when they open or close it can influence their multi-sensory product experience. Marketers can use auditory cues to direct the consumer's attention toward improved engagement or suggest positive associations for their products. For example, they can use the sounds of package opening (e.g., beverage container; Spence and Wang 2015) or closing (e.g., mascara shutting with a crisp click or the air pods case that closes itself with a distinctive and almost satisfying click; Byron 2012) or the sound of use (e.g., aerosol spray; Spence and Zampini 2008) to create signature sounds that differ from that of the competition. Marketers can also design the sound of the product and its packaging to positively influence the consumer's overall product experience. For instance, Spence (2016) claims that consumers who ate potato chips while listening to the sound of a rattling package of chips rated them as approximately 5% crunchier. In conclusion, packaging designers should try to create both functional and distinctive packaging sounds to improve consumer engagement.

4 Consumption

In addition to its attentional, informational, and experiential influences, packaging also significantly affects people's quantitative judgments and decisions regarding how much they should buy, pay, consume, and store. With the prevalence of the obesity epidemic in the United States in the last decades (Dietz 2015), researchers have started to focus more heavily on overall "consumption monitoring" in relation to food products. Consumption monitoring recognizes the distinct but related characteristics of pre-consumption size estimations, perceptions of size changes, distractions, and external influences during consumption, and post-consumption estimations which are affected by various package design elements.

Pre-consumption Size Estimations and Psychophysical Biases

consumers rarely read size information on packages and have difficulty in correctly processing sensory information, hence inferring product size from perceptions of package size and shape (Chandon and Ordabayeva 2009; Folkes and Matta 2004; Krishna 2008). These processes are highly simplified and deeply subjected to influences. Forex: Raghubir and Krishna (1999) have shown how the height of a container could be used by consumers as a simplifying visual heuristic to make volume judgments. Consequently, holding actual volume constant, more elongated containers were perceived to have higher volume than shorter and wider containers, an effect that came to be known as the "elongation bias." Building on this work, Krider, Raghubir, and Krishna (2001) have proposed a psychophysical model of how consumers make size judgments—selecting and integrating pieces of information based on their *salience*. Their model proposes that "consumers simplify complicated area estimation and comparison tasks by first comparing the most salient dimension between two figures, for ex: if consumers want to choose the largest box of cereal, tall rectangular boxes will be perceived as bigger than square ones of equal volume.

Perceptions of Size Changes

The demonstrated perceptual biases provide some insight regarding how consumers will respond to these changes in both the size and shape of packages and portions. Chandon and Ordabayeva (2009) showed that when all three dimensions (height, width, and length) of a product's package change, size changes appear smaller compared to when it changes in only

one of these dimensions. Accordingly, marketers who are decreasing package sizes to accommodate increasing costs can downplay the potential negative effects on consumers by changing all three dimensions of the package.

Biases and expectations

packaging-related size information also influences "consumption norms"—the portion size deemed appropriate by the consumer (Wansink and van Ittersum 2013). People infer the appropriate amount to eat from the portion size they are served (Rolls, Morris, and Roe 2002), from the size of the package (Wansink 1996), and from the size of the plate or container that is being used (Van Ittersum and Wansink 2012). Raghubir and Krishna (1999) have demonstrated another such bias—the perceived size–consumption illusion. They showed that perceived consumption, contrary to perceived volume, was related inversely to the salient dimension of height (as opposed to the elongation bias explained above). When consumers saw a tall container, they perceived it as having more content than a shorter (but wider) container. When they start consuming its content, however, they realize that it is not as big as they thought their experience contradicts their expectations. Because the consumption volume is smaller than expected, they believe they have consumed less (than from the shorter and wider container). Consequently, consumers tend to overcompensate, consuming more from the more elongated containers. When they start consuming its content, however, they realize that it is not as big as they thought—their experience contradicts their expectations. Because the consumption volume is smaller than expected, they believe they have consumed less (than from the shorter and wider container). Consequently, consumers tend to overcompensate, consuming more from the more elongated containers.

General Discussion

Much academic and practical work over the last few decades has applied sensory perception research toward an understanding of consumer behavior, under the umbrella of "sensory marketing, getting insights on sensory aspects of product packaging from a customer experience perspective. We are introducing the layered-packaging taxonomy, which highlights the different characteristics and roles of *outer–intermediate–inner* physical packaging layers and the *purchase consumption functional* packaging layers in order to clarify the critical stages of the customer-brand interaction as affected by packaging decisions: attention, expectations, engagement, and consumption. In conclusion, we can say that the packaging of a product is similar to a person's outfit and external appearance. Therefore, it carries great importance in first impressions, initial and ongoing interactions, and the formation of long-lasting relationships between the brand and the consumer.

My Survey:

Introduction:

With the help of my professor, I gathered a lot of data regarding how people view a package and what inferences they make about it. We randomly gave 110 people two different surveys. One contains the image of a chips package made of plastic coming from materials 100% recyclable, which, after the required disposal process, could be appropriately reused. The other one contains the image of a chips package made of plastic obtained from materials 100% recycled extracted from the waste sorting process. The image shown in both surveys was the same. Thus, the only detail changing was the process through which this package was made.

Questions asked and variables related:

During the survey, the person was asked different questions about the package and had a choice to answer on a scale of options going from 1, which was labeled like: "I contrast this idea" to 7, meaning: "I completely agree with this idea."

We had different series of questions asked to the people that in their complex determined a series of variables:

WTB: "Wanting to buy." The first three questions asked were related to how seriously the people surveyed would consider buying this product.

Quality: People are then asked about their overall perceived quality of the package.

Attitude: Attitude, again, is built through a series of questions aiming at understanding the customer purchasing behavior for the product.

Contamination: If people see the package as unclean and dirty or not, its origin can be easily deducted.

Naturality: How healthy and genuine people perceive the product.

Greenwashing: Whether the package does evoke sensations related to eco-friendliness or not.

Environmental concerns: How much concerned the person surveyed is towards the Environment and if he is willing to change his habits in order to make a change.

Furthermore, people were asked their age, sex, and education level to classify them better and unveil exciting insights.

People classification and valuable insights for the recycled package sample:

First, we are going to talk about the **recycled package** and what insights I found.

For our first insight, I took into consideration only males, aged less than 30, that quit going to school after High School. I labeled these people as **young males unemployed or having a low salary.** We are going to assume that these people that did not continue their studying careers are either unemployed or have a job that does require high study certifications.

On the Grand Total row, we can see the average for each variable for this classification only.

P.s. on the row labels, we only see three different ages, but this does not mean that the data received by them comes from only three people. Thus, there could be four people aged 20, five people aged 23, and so on…

Young males unemployed or having a low salary:

Row Labels	Average of QUALITY	Average of ATTITUDE	Average of CONTAMINATION	Average of NATURALITY	Average of GREEWASHING	Average of ENVIRONMENTAL CONCERNS
20	6	5.67	6	4.33	3.75	3.5
23	6	6	6	6	6	6.17
27	3	3	3	4.33	2	5.17
Grand Total	**5**	**4.89**	**5**	**4.886666667**	**3.916666667**	**4.946666667**

For the following table, I gathered the data coming from the women aged less than 30 and who quit going to school after High School. I labeled these people as **young females unemployed or having a low salary**.
All the same, rules are valid for the sections coming forth.

Young females unemployed or having a low salary:

Row Labels	Average of QUALITY	Average of ATTITUDE	Average of CONTAMINATION	Average of NATURALITY	Average of GREEWASHING	Average of ENVIRONMENTAL CONCERNS
19	2	2	2	4.67	2	5
21	6	5.33	6.33	1	4	7
23	5	3	5.33	1.33	1.25	6
24	4.67	4.33	4.67	2	3	4.83
30	6.5	5.17	6.335	1.835	3.5	5.83
Grand Total	**5.111666667**	**4.166666667**	**5.166666667**	**2.111666667**	**2.875**	**5.748333333**

Main differences, equivalences, and insights:

- The averages for **Quality**, **Contamination**, and **Attitude** were almost equal and did not differentiate between each other more than one point.
- For **Environmental Concerns** and **Greenwashing,** the difference was slightly more significant with a difference of points that never went above one point and a half. As we can see, **young male workers** seem to think that the package looks more eco-friendly while **young female workers** seem to be more concerned about the Environment.
- The biggest difference, though, can be noticed in **Naturality,** which is graded to two by the women while it is almost a five for the men. This may make us think that perhaps young women are more careful in purchasing when the origin and healthiness of products are either not good or not well described while young men may not care about it.

Young females with either a Bachelor's, Master or Ph.D. degree:
Next, I considered all the women aged less than 30 with a solid educational basis to see what their thinking is on this matter.

Row Labels	Average of QUALITY	Average of ATTITUDE	Average of CONTAMINATION	Average of NATURALITY	Average of GREEWASHING	Average of ENVIRONMENTAL CONCERNS
21	5.33	6	5.67	3.33	4	6.83
22	5.1675	4.5825	5	1.9175	2.4375	5.9175
23	6.398	5.602	6.534	1.734	3.5	6.3
24	4.333333333	3.556666667	4	3.78	2.5	5.386666667
25	2	2	2	2	2.5	6
26	4.835	4.665	5	3.835	3.875	5.165
27	5	4	5	2	4	5.83
29	5.33	5	5	2.67	2	6.83
Grand Total	**5.166111111**	**4.63**	**5.13**	**2.519444444**	**3.055555556**	**5.952777778**

Young males with either a Bachelor's, Master or Ph.D. degree:
Here is the data for their masculine counterpart:

Row Labels	Average of QUALITY	Average of ATTITUDE	Average of CONTAMINATION	Average of NATURALITY	Average of GREEWASHING	Average of ENVIRONMENTAL CONCERNS
13	4.33	4	4	4.33	4.75	3.83
21	3.89	4.666666667	3.556666667	1.886666667	4.083333333	6.276666667
22	3.665	5.165	4	1.5	2.375	6.75
23	3.78	3.11	3.443333333	4.443333333	2.333333333	5.613333333
24	5.5	4.8325	5.3325	2.0825	3.625	6.5425
25	4.665	4.5	5.835	1.5	3.875	5.085
30	4.33	4.67	5	1.67	3.5	5.17
Grand Total	**4.395625**	**4.41625**	**4.4375**	**2.4575**	**3.40625**	**5.906875**

Main differences, equivalences, and insights:

- No significant differences can be noticed among the averages of the variables; we only see slight differences among **Contamination** and **Quality**. On average, men of this category seem to perceive the quality of these packages slightly worse than women of the same class. They seem to have the same suspicious attitude towards the origin and cleanliness of the packages.
- Something worth to be shared is that for both sexes, the average for **Environmental Concerns** is very high (almost a six for both of them); this may people be thinking that higher educated people are more concerned with global problems affecting us perhaps for they have a better understanding of these issues and how imminent they are.
- So now, let's compare the total averages of these young clusters. For young, highly educated people of both sexes, the average of all the variables is **4.3**. The average of all the variables for young people of both sexes, either unemployed or having a low salary, is **4.5**. Again, these two clusters don't have the same number of people but were characterized by the same features, so they are pretty reliable. So, for educated young people, we have a slightly lower average on all the package's features. I want again to stress that this survey was done without people seeing in first person the actual package and touching it, so this reason may explain why more educated people would grade less the features of the packages for their being more conscious and attentive as customers.

Second classification:
I am going to take now into consideration the other part of the surveyed people, that is the people which ages were more than 30, and I am going to classify them for their gender and educational level as I did with the other young people.
So, for the first cluster, I am going to take into consideration only male adults with a low educational level again. I am going to classify them as **Male adults, either unemployed or with a low salary**. The presumptions behind this classification are the same ones that I used for young people.
So, let's gather the data.

Male adults either unemployed or with a low salary:

Row Labels	Average of QUALITY	Average of ATTITUDE	Average of CONTAMINATION	Average of NATURALITY	Average of GREEWASHING	Average of ENVIRONMENTAL CONCERNS
55	5	4.33	5	4	4.25	6.33
67	4.33	4	5	2.33	4	5.67
Grand Total	**4.665**	**4.165**	**5**	**3.165**	**4.125**	**6**

Now let's see their female counterpart:

Female adults either unemployed or with a low salary:

Row Labels	Average of QUALITY	Average of ATTITUDE	Average of CONTAMINATION	Average of NATURALITY	Average of GREEWASHING	Average of ENVIRONMENTAL CONCERNS
38	5.67	5.835	5.5	2.5	3.5	5.835
58	6	3.33	5.67	2.33	2	6.5
Grand Total	**5.78**	**5**	**5.556666667**	**2.443333333**	**3**	**6.056666667**

Main differences, equivalences, and insights:
· These, as we can see, are small samples, but it makes sense. It is way less common to have adults with a low degree of education or unemployed, especially in Western societies. Furthermore, this survey was more centered on young people, so all these reasons explain these small clusters.
· Now, focusing on the variables, we can see that the biggest differences between the two clusters can be found in the variables **Quality**, **Attitude** and **Greenwashing** where the female counterparts score higher of about a point in the averages.
· The main point in common of the two clusters is that both seem really concerned about the Environment scoring an average of six for both models.

Let's continue with our classification, and let's consider the last two clusters of this survey, that is, the adults with a high degree of education.
The first that I am going to consider is the one based on **Male adults with either a Bachelor's, Master or Ph.D. degree**:

Row Labels	Average of QUALITY	Average of ATTITUDE	Average of CONTAMINATION	Average of NATURALITY	Average of GREEWASHING	Average of ENVIRONMENTAL CONCERNS
35	2.5	2.5	3	1.665	2.5	7
54	4	4	5	1.33	2.75	6
Grand Total	**3**	**3**	**3.666666667**	**1.553333333**	**2.583333333**	**6.666666667**

Now let's see their female counterpart, **Female adults with either a Bachelor's, Master or Ph.D. degree**:

Row Labels	Average of QUALITY	Average of ATTITUDE	Average of CONTAMINATION	Average of NATURALITY	Average of GREEWASHING	Average of ENVIRONMENTAL CONCERNS
32	4	4	5	2	2	5.5
35	5	4.33	5	2	3.25	5
39	6.33	5	6	2.67	3.5	6.83
44	7	6	7	2.67	2	6.67
48	7	6.67	6.33	2	4.5	7
51	7	7	7	1	7	7
53	5.165	4	5	2.17	4.5	6.585
Grand Total	**5.8325**	**5.125**	**5.79125**	**2.085**	**3.90625**	**6.39625**

Main differences, equivalences, and insights:
· So, in this comparison is difficult to make inferences given the difference in the sizes of the clusters. It is anyways clear that the scores for the women are way higher than those of the men in all the variables.
· Again, here we notice for both models very high scores for **Environmental Concerns.** All the models that took into consideration adults had higher scores in this variable in confronting those models that took into consideration youngsters. For the adults, the average on this variable for all the models is **6.3**, while for the youngsters is **5.6**.

The second part of our analysis:
Till now, we classified people, calculated averages, analyzed insights, and made presumptions for only half of our total population sample; the one focused on the recycled packages.
It is now time to analyze the data for the **recyclable packages**.

People classification and useful insights for the recyclable package sample:
I am going to classify people in the same way as I did with the previous recycled sample; let's see if we find out something different.
In this sample, the median of the variable "Age" is 32, so for now, I am going to take all the people younger than 32. We add two more filters. I am going to select only the male type, and for the education level, we are going to filter the result so that we have only people that quit school after High School.
Again, we are going to classify this cluster as **young male unemployed or having a low salary**, according to the same propositions that we stated earlier.
Young male unemployed or having a low salary:

Row Labels	Average of QUALITY	Average of ATTITUDE	Average of CONTAMINATION	Average of NATURALITY	Average of GREEWASHING	Average of ENVIRONMENTAL CONCERNS
23	5	4.33	5	4.33	4	6.83
25	5	4	5	2.33	4	4
Grand Total	**5**	**4.165**	**5**	**3.33**	**4**	**5.415**

The majority of the people interviewed usually were students of several Universities, so again, it is no surprise that also, in this case, we have a small cluster of people for the youngster who did not continue their studies.
Young females unemployed or having a low salary:

Row Labels	Average of QUALITY	Average of ATTITUDE	Average of CONTAMINATION	Average of NATURALITY	Average of GREEWASHING	Average of ENVIRONMENTAL CONCERNS
30	6.33	4.67	5	3	4.75	6.83
Grand Total	**6.33**	**4.67**	**5**	**3**	**4.75**	**6.83**

In this case, we only have one person filtering the observations as we did for the recycled part of the analysis.
Main differences, equivalences, and insights:

- In this case, we do not really have enough people to create useful insights.

Young females with either a Bachelor's, Master or Ph.D. degree:

Row Labels	Average of QUALITY	Average of ATTITUDE	Average of CONTAMINATION	Average of NATURALITY	Average of GREEWASHING	Average of ENVIRONMENTAL CONCERNS
20	4.67	4.67	5	3.33	3	5.83
21	5.165	4.835	5.665	2	3.375	5.915
22	4.443333333	3.446666667	3.67	1.666666667	2.75	5.946666667
23	4.9175	4.8325	4.8325	1.415	3.25	5.75
24	6.776666667	5.776666667	6.443333333	1.89	4.833333333	6.72
25	4.5	3.665	3.665	3	3.5	5.5
27	5	5	5	2	4	5
28	5.5	5.5	5.665	3	3.625	6.5
31	4.67	5	6	1.67	1	6
32	5	4	4.33	2	2.5	5.17
Grand Total	**5.15**	**4.6835**	**4.9995**	**2.0665**	**3.3625**	**5.9415**

Young males with either a Bachelor's, Master or Ph.D. degree:

Row Labels	Average of QUALITY	Average of ATTITUDE	Average of CONTAMINATION	Average of NATURALITY	Average of GREEWASHING	Average of ENVIRONMENTAL CONCERNS
21	5	4	4	2	4	5.83
22	4.835	4.5	5	2.835	3.875	5.835
23	1	3.33	1	2	1.5	3.67
24	7	6.67	7	3	3.75	4
27	5.835	4.5	5.5	1.835	4.125	6.33
30	5	2	4.67	3.33	4	5.83
Grand Total	**4.9175**	**4.25**	**4.70875**	**2.45875**	**3.65625**	**5.4575**

Main differences, equivalences, and insights:

- As we can see from the averages on the variables of these two clusters, there is no substantial difference between the male and the female sample.
- The only difference that we can notice is that male youngsters of this category have slightly higher values for the variables **Naturality** and **Greenwashing** and slightly lower values for the rest of the variables**,** but no important inferences can be made about them.

Second classification:

In this part of our analysis, I am going to talk about the people aged more than 32, which was our median. We start the classification with the sample of people with no high education. Again, also, in this case, we are going to assume that older people that did not continue their studies and therefore have no higher scholastic degree are less likely to have a job with a high salary (averagely speaking).

Male adults either unemployed or with a low salary:

Row Labels	Average of QUALITY	Average of ATTITUDE	Average of CONTAMINATION	Average of NATURALITY	Average of GREEWASHING	Average of ENVIRONMENTAL CONCERNS
33	4.335	4.665	4.165	1.665	4.25	6.42
41	5.67	5	5	2	3	5
Grand Total	**4.78**	**4.776666667**	**4.443333333**	**1.776666667**	**3.833333333**	**5.946666667**

Again, our sample is small, so it will be difficult to make inferences, but let's see how the women do.

Female adults either unemployed or with a low salary:

Row Labels	Average of QUALITY	Average of ATTITUDE	Average of CONTAMINATION	Average of NATURALITY	Average of GREEWASHING	Average of ENVIRONMENTAL CONCERNS
33	6.33	4	4	4	2.75	7
34	5	5	5.33	4	4.25	6.5
52	5.33	5.33	6	3	5	5.5
56	5.33	4.67	5.67	1.33	5.25	5.83
62	6	6	6	5	4.25	6.33
Grand Total	**5.598**	**5**	**5.4**	**3.466**	**4.3**	**6.232**

Main differences, equivalences, and insights:

- The averages of the variables are pretty similar to each other; we can only notice small differences for **Quality, Attitude, Greenwashing,** and **Environmental Concerns** in which women seem to score higher.
- We notice a one-point difference in the **Contamination** variable, again with the women scoring higher. Perhaps they might be more self-conscious about the origin of what they are eating, or perhaps they are just making random assumptions about the package alone.
- The variable in which we notice the biggest difference is **Naturality.** Also, in this case, the women score higher by almost 2 points on average. So we found something that does not match; women are more suspicious about these recyclable products' origin, but at the same time, they think they are more natural. This mismatch could be caused by the number of observations which might not be sufficient enough.

Let's now take into consideration the last two clusters; the people who are adults and have a higher education degree. Let's see what they think about the recyclable package.

Male adults with either a Bachelor's, Master or Ph.D. degree:

Row Labels	Average of QUALITY	Average of ATTITUDE	Average of CONTAMINATION	Average of NATURALITY	Average of GREEWASHING	Average of ENVIRONMENTAL CONCERNS
34	5.11	4.22	4.776666667	2.443333333	2.416666667	5.333333333
38	5	4.33	5	2	4.75	6.5
40	5.33	4.33	5	1	1.75	6
61	6.33	5.67	6	2	4	5.33
62	5	4.33	4	1.67	3.5	5.83
Grand Total	**5.284285714**	**4.474285714**	**4.904285714**	**2**	**3.035714286**	**5.665714286**

Female adults with either a Bachelor's, Master or Ph.D. degree:

Row Labels	Average of QUALITY	Average of ATTITUDE	Average of CONTAMINATION	Average of NATURALITY	Average of GREEWASHING	Average of ENVIRONMENTAL CONCERNS
33	4.67	2.33	4.33	2.33	1.5	6.5
34	5.67	4	5	3.33	1	6.67
37	4.67	4.67	5	3	3.5	6.5
55	5.33	5.33	5.67	3.33	3.75	6.33
56	6.67	5.67	7	1	4.75	7
Grand Total	**5.402**	**4.4**	**5.4**	**2.598**	**2.9**	**6.6**

Main differences, equivalences, and insights:

- In the analysis of this cluster, there are no big differences in the averages of the variables. Thus, both samples seem to agree on the aspects of the package. They think that the recyclable package is overall good in terms of **Quality**, **Origin of the product,** and they are propense to purchasing it. They also show serious concern for the Environment scoring an average of 6.15. On the other hand, they seem more skeptical towards the **Naturality** of the product, and they do not think that this kind of package is bringing eco-friendly vibes.

Conclusion:

It is not easy to draw conclusions on the two different packages from these two samples, given the low number of observations. I have even split each dataset into four different samples dividing even more the observations on which we could make a conclusion, but I think it was the only way to actually create useful insights that followed a business logic. Overall each sample manifested a great concern for the current problems that the Environment is facing. This concern is shown in equal terms among both genders and different ages. On the other hand, talking about the recycled and recyclable packages, it is not possible to draw any conclusions on which kind of packages was preferred. This may be

caused by the fact that the samples were too small or by the fact that the surveyed people, at times, might have been biased by external factors.

References :

Albertazzi, Liliana, Osvaldo Da Pos, Luisa Canal, Rocco Micciolo, Michela Malfatti and Massimo Vescovi (2013), "The Hue of Shapes," *Journal of Experimental Psychology: Human Perception and Performance,* 39 (February), 37–47.

Antick, Jennifer R. and Steven L. Schandler (1993), "An Exploration of the Inter- action between Variation in Wavelength and Time Perception," *Perceptual and Motor Skills,* 76 (June), 987–94.

Ares, Gaston and Rosires Deliza (2010), "Studying the Influence of Pack- age Shape and Colour on Consumer Expectations of Milk Desserts Using Word Association and Conjoint Analysis," *Food Quality and Preference,* 21 (December), 930–7.

Armel, K. Carrie, Aurelie Beaumel and Antonio Rangel (2008), "Biasing Simple Choices by Manipulating Relative Visual Attention," *Judgment and Decision Making,* 35 (June), 396–403.

Aydinoglu, Nilufer Z. and Luca Cian (2014), "Show Me the Product, Show Me the Model: Effect of Picture type on Attitudes toward Advertising," *Journal of Consumer Psychology,* 24 (4), 506–19.

Aydinoglu, Nilufer Z. and Aradhna Krishna (2011), "Guiltless Gluttony: The Asymmetric Effect of Size Labels on Size Perceptions and Consumption," *Journal of Consumer Research,* 37 (April), 1095–112.

Aydinoglu, Nilufer Z. and Eda Sayin (2016), "Sensory and Neuromarketing: About and Beyond Customer Sensation," in *Flavor: From Food to Behaviors, Wellbeing and Health*, Voilley A., Salles C., Guichard E. and Etievant P., eds. Woodhead Publishing.

Bagchi, Rajesh and Amar Cheema (2013), "The Effect of Red Background Color on Willingness-to-Pay: The Moderating Role of Selling Mechanism," *Journal of Consumer Research,* 39 (February), 947–60.

Becker, Liza, Thomas J.L. van Rompay, Hendrik N.J. Schifferstein and Mirjam Galetzka (2011), "Touch Package, Strong Taste: The Influence of Packaging Design on Taste Impressions and Product Evaluations," *Food Quality and Preference,* 22 (January), 17–23.

Brakus, J. Josko, Bernd H. Schmitt and Lia Zarantonello (2009), "Brand Expe- rience: What Is It? How Is It Measured? Does It Affect Loyalty?," *Journal of Marketing,* 73 (May), 52–68.

Brakus, J. Josko, Bernd H. Schmitt and Shi Zhang (2008), "Experien- tial Attributes and Consumer Judgments," in *Handbook on Brand and Experience Management*, Schmitt Bernd H. and Rogers David L., eds. Northampton, MA: Edward Elgar, 174–87.

Byron, Ellen (2012), "The Search for Sweet Sounds that Sell," *The Wall Street Journal,* (October), 24.

Chae, Boyoun (Grace) and JoAndrea Hoegg (2013), "The Future Looks 'Right': Effects of the Horizontal Location of Advertising Images on Product Atti- tude," *Journal of Consumer Research,* 40 (August), 223–38.

Chandon, Pierre (2013), "How Package Design and Package-Based Marketing Claims Lead to Overeating," *Applied Economic Perspectives and Policy,* 35 (March), 7–31.

Chandon, Pierre and Nailya Ordabayeva (2009), "Supersize in One Dimen- sion, Downsize in Three Dimensions: Effects of Spatial Dimensionality on Size Perceptions and Preferences," *Journal of Marketing Research,* 46 (December), 739–53.

Chandon, Pierre and Brian Wansink (2012), "Does Food Marketing Need to Make Us Fat? A Review and Solutions," *Nutrition Reviews,* 70 (October), 571–93.

and (2007), "Is Obesity Caused by Calorie Underestimation? A Psychophysical Model of Meal Size Esti-

mation," *Journal of Marketing Research,* 44 (February), 84–99.

Chernev, Alexander and David Gal (2010), "Categorization Effects in Value Judgments: Averaging Bias in Evaluating Combinations of Vices and

Virtues," *Journal of Marketing Research,* 47 (August), 738–47.
Cheskin, Louis (1972), *Marketing Success: How to Achieve It,* Cahners Books. Cian, Luca (2017), "Multiple Associations of Verticality," *Journal of the Asso-*

ciation for Consumer Research,, (forthcoming).
(2016), "The Conceptual Effects of Verticality in

Design," in *The Psychology of Design: Creating Consumer Desire*, Batra Rajeev, Brei Diann and Seifert Colleen, eds. New York: Routledge, 40–52. (2012), "A Comparative Analysis of Print Advertising

Applying the Two Main Plastic Semiotics Schools: Barthes' and Greimas',"

Semiotica, 190, 57–79.
Cian, Luca, Aradhna Krishna and Ryan S. Elder (2015), "A Sign of Things

to Come: Behavioral Change through Dynamic Iconography," *Journal of*

Consumer Research, 41 (April), 1426–45.
Cian, Luca, Aradhna Krishna and Ryan S. Elder (2014), "This Logo Moves Me:

Dynamic Imagery from Static Images," *Journal of Marketing Research,* 51

(April), 184–97.
Cian, Luca, Aradhna Krishna and Norbert Schwarz (2015), "Positioning Ratio-

nality and Emotion: Rationality Is Up and Emotion Is Down," *Journal of*

Consumer Research, 42 (December), 632–51.
Deng, Xiaoyan and Barbara E. Kahn (2009), "Is Your Product on the Right

Side? The 'Location Effect' on Perceived Product Heaviness and Package

Evaluation," *Journal of Marketing Research,* 46 (December), 725–38. Dickson, Peter R. and Alan G. Sawyer (1990), "The Price Knowledge and Search

of Supermarket Shoppers," *Journal of Marketing,* 54 (July), 42–53.
Dietz, Willian H. (2015), "The Response of the US Centers for Disease Control and Prevention to the Obesity Epidemic," *Annual Review of Public Health,*

36 (March), 575–96.

Elder, Ryan S. and Aradhna Krishna (2012), "The 'Visual Depiction Effect' in Advertising: Facilitating Embodied Mental Simulation through Product Orientation," *Journal of Consumer Research,* 38 (April), 988–1003.

and (2010), "The Effects of Advertising Copy on Sensory Thoughts and Perceived Taste," *Journal of*

Consumer Research, 36 (February), 748–56.
Folkes, Valerie and Shashi Matta (2004), "The Effect of Package Shape on Con-

sumers' Judgments of Product Volume: Attention as a Mental Contaminant,"

Journal of Consumer Research, 31 (September), 390–401.
Frey, Hans-Peter, Kerstin Wirz, Verena Willenbockel, Torsten Betz, Cornell Schreiber, Tomasz Troscianko and Peter König (2011), "Beyond Corre- lation: Do Color Features Influence Attention in Rainforest," *Frontiers in*

Human Neurosciences, 5 (36), 1–13.
Frey, Hand-Peter, Christian Honey and Peter König (2008), "What's Color Got

to Do with It? The Influence of Color on Visual Attention in Different

Categories," *Journal of Vision,* 8 (October), 1–17.
Geier, Andrew B., Paul Rozin and Gheorghe Doros (2006), "Unit Bias: A New

Heuristic That Helps Explain the Effect of Portion Size on Food Intake,"

Psychological Science, 17 (June), 521–5.
Gorn, Gerald J., Amitava Chattopadhyay, Tracey Yi and Darren W. Dahl (1997),

"Effects of Color as an Executional Cue in Advertising: They're in the

Shade," *Management Science,* 43 (October), 1387–400.
Greenleaf, Eric A. (2010), "Does Everything Look Worse in Black and White? The Role of Monochrome Images in Consumer Behavior," in *Sensory Mar- keting: Research on the Sensuality of Products*, Krishna A. ed. New York:

Routledge, 241–58.
Hagtvedt, Henrik (2014), "Dark is Durable, Light is Convenient: Color Value

Influences Perceived Product Attributes," *Advances in Consumer Research,*

42, 28–9.

Harvard Business Review (2015), "The Science of Sensory Marketing," 93 (March), 28–30.

Heeter, Carrie (2000), "Interactivity in the Context of Designed Experience," *Journal of Interactive Advertising,* 1 (September), 3–14.

Hoch, Stephen J. (2002), "Product Experience is Seductive," *Journal of Con- sumer Research,* 29 (December), 448–54.

Hoch, Stephen J. and John Deighton (1989), "Managing What Consumers Learn from Experience," *Journal of Marketing,* 53 (April), 1–20.

Hoegg, JoAndrea and Joseph W. Alba (2007), "Taste Perception: More than Meets the Tongue," *Journal of Consumer Research,* 33 (4), 490–8.

Hui, Michael K. and John E.G. Bateson (1991), "Perceived Control and the Effects of Crowding and Consumer Choice on the Service Experience," *Journal of Consumer Research,* 18 (September), 174–84.

Irmak, Caglar, Beth Vallen and Stefanie Rosen Robinson (2011), "The Impact of Product Name on Dieters' and Nondieters' Food Evaluations and Con- sumption," *Journal of Consumer Research,* 38 (August), 390–405.

Kahn, Barbara E. and Xiaoyan Deng (2010), "Effects on Visual Weight Per- ceptions of Product Image Locations on Packaging," in *Sensory Marketing: Research on the Sensuality of Products*, Krishna A. ed. New York: Routledge, 259–78.

Kahneman, Daniel, Jack L. Knetsch and Richard Thaler (1990), "Experimental Tests of the Endowment Effect and the Coase Theorem," *Journal of Political Economy,* 99 (December), 1325–48.

Kareklas, Ioannis, Frédéric F. Brunel and Robin A. Coulter (2014), "Judgment is Not Color Blind: The Impact of Automatic Color Preference on Product and Advertising Preferences," *Journal of Consumer Psychology,* 24 (January), 87–95.

Krajbich, Ian, Carrie Armel and Antonio Rangel (2010), "Visual Fixations and the Computation and Comparison of Value in Simple Choice," *Nature Neu- roscience,* 13 (October), 1292–8.

Krider, Robert E., Priya Raghubir and Aradhna Krishna (2001), "Pizzas: □ or Square? Psychophysical Biases in Area Comparisons," *Marketing Science,* 20 (Autumn), 405–25.

Krishna, Aradhna (2012), "An Integrative Review of Sensory Marketing: Engag- ing the Senses to Affect Perception, Judgment and Behavior," *Journal of Consumer Psychology,* 22 (July), 332–51.

(2010), *Sensory Marketing: Research on the Sensuality of Products,* New York: Routledge.

(2008), "Spatial Perception Research: An Integrative Review of Length, Area, Volume, and Number Perception," in *Visual Market- ing: From Attention to Action*, Wedel Michel and Pieters Rik, eds. Mahwah,

NJ: Lawrence Erlbaum Associates, 167–92.
Krishna, Aradhna, Luca Cian and Tatiana Sokolova (2016), "The Power of

Sensory Marketing in Advertising," *Current Opinion in Psychology,* 10

(August), 142–7.
Krishna, Aradhna, Ryan S. Elder and Cindy Caldara (2010), "Feminine to

Smell but Masculine to Touch? Multisensory Congruence and Its Effect on the Aesthetic Experience," *Journal of Consumer Psychology,* 20 (October), 410–8.

Krishna, Aradhna and Maureen Morrin (2008), "Does Touch Affect Taste? The Perceptual Transfer of Product Container Haptic Cues," *Journal of Consumer Research,* 34, 807–18.

Krishna, Aradhna, Maureen Morrin and Eda Sayin (2014), "Smellizing Cook- ing and Salivating: A Focus on Olfactory Imagery," *Journal of Consumer Research,* 41 (June), 18–34.

Krishna, Aradhna and Norbert Schwarz (2014), "Sensory Marketing, Embod- iment, and Grounded Cognition: A Review and Introduction," *Journal of Consumer Psychology,* 24 (April), 159–68.

Labrecque, Lauren I., Vanessa M. Patrick and George R. Milne (2013), "The Marketers' Prismatic Palette: A Review of Color Research and Future Direc- tions," *Psychology & Marketing,* 30 (February), 187–202.

Lee, Hyojin, Xiaoyan Deng, H. Rao Unnava and Kentaro Fujita (2014),

"Monochrome Forests and Colorful Trees: The Effect of Black-and-White versus Color Imagery on Construal Level," *Journal of Consumer Research,* 41 (December), 1015–32.

Li, Hairong, Terry Daugherty and Frank Biocca (2001), "Characteristics of Vir- tual Experience in Electronic Commerce: A Protocol Analysis," *Journal of Interactive Marketing,* 15 (Summer), 13–30.

Mattila, Anna S. and Jochen Wirtz (2008), "The Role of Store Environmental Stimulation and Social Factors on Impulse Purchasing," *Journal of Services Marketing,* 22 (7), 562–7.

Meyers-Levy, Joan, Melissa G. Bublitz and Laura A. Peracchio (2010), "The Sounds of the Marketplace," in *Sensory Marketing: Research on the Sensu- ality of Products*, Krishna A. ed. New York: Routledge, 137–56.

Miller, Cyndee (1994), "The Shape of Things: Beverages Sport New Packaging to Stand Out from Crowd," *Marketing News,* 28 (17), 1–2.

Miller, Elizabeth G. and Barbara E. Kahn (2005), "Shades of Meaning: The Effect of Color and Flavor Names on Consumer Choice," *Journal of Con- sumer Research,* 32 (June), 86–92.

Milosavljevic, Milica and Moran Cerf (2008), "First Attention Then Intention: Insights from Computational Neuroscience of Vision," *International Journal of Advertising,* 27 (3), 381–98.

Milosavljevic, Milica, Vidhya Navalpakkam, Christof Koch and Antonio Rangel (2012), "Relative Visual Saliency Differences Induce Sizable Bias in Con- sumer Choice," *Journal of Consumer Psychology,* 22 (January), 67–74.

Olson, Jerry C. and Jacob Jacoby (1972), "Cue Utilization in the Quality Per- ception Process," in *Proceedings of the Third Annual Conference of the Association for Consumer Research*, Venkatesan M. ed. Chicago: Associa- tion for Consumer Research, 167–79.

Ordabayeva, Nailya and Pierre Chandon (2013), "Predicting and Managing Con- sumers' Package Size Impressions," *Journal of Marketing,* 77 (September), 123–37.

and (2015), "In the Eye of the Beholder: Visual Biases in Package and Portion Size Perceptions," *Appetite,*

(October), 1–8.
Paivio, Allan (1986), *Mental Representations: A Dual-Coding Approach,* New

York: Oxford University Press.
Peck, Joann, Victor A. Barger and Andrea Webb (2013), "In Search of a Sur-

rogate for Touch: The Effect of Haptic Imagery on Perceived Ownership,"

Journal of Consumer Psychology, 23 (April), 189–96.
Peck, Joann and Terry L. Childers (2008), "Effects of Sensory Factors on Con-

sumer Behaviors," in *Handbook of Consumer Psychology*, Haugtvedt C. P., Herr P. M. and Kardes F. R., eds. Florence, KY: Psychology Press, 193–219. and (2006), "If I Touch It I Have to Have It: Individual and Environmental Influences on Impulse Purchasing,"

Journal of Business Rearch, 59 (June), 765–9.

and (2003), "Individual Differ- ences in Haptic Information Processing: The 'Need for Touch' Scale,"

Journal of Consumer Research, 30 (December), 430–42.
Peck, Joann and Suzanne B. Shu (2009), "The Effect of Mere Touch on Perceived

Ownership," *Journal of Consumer Research,* 36 (October), 434–47.
Peck, Joann and Jennifer Wiggins (2006), "It Just Feels Good: Customers' Affective Response to Touch and Its Influence on Persuasion," *Journal of*

Marketing, 70 (October), 56–69.
Piqueras-Fiszman, Betina and Charles Spence (2012), "The Influence of the Feel

of Product Packaging on the Perception of the Oral-somatosensory Texture

of Food," *Food Quality and Preference,* 26 (1), 67–73.
Prince, Greg W. (1994), "The Contour: A Packaging Vision Seen Through Coke-

Bottle Lenses," *Beverage World,* (May), 1–3.
Raghubir, Priya and Eric A. Greenleaf (2006), "Ratios in Proportion: What

Should the Shape of the Package Be?," *Journal of Marketing,* 70 (April),

95–107.
Raghubir, Priya and Aradhna Krishna (1999), "Vital Dimensions in Volume

Perception: Can the Eye Fool the Stomach?," *Journal of Marketing Research,*

36 (August), 313–26.
Richardson, Paul S., Alan S. Dick and Arun K. Jain (1994), "Extrinsic and

Intrinsic Cue Effects on Perceptions of Store Brand Quality," *Journal of*

Marketing, 58 (October), 28–36.
Rolls, Barbara J., Dianne Engell and Leann L. Birch (2000), "Serving Portion

Size Influences 5-Year-Old But Not 3-Year-Old Children's Food Intakes,"

Journal of the American Dietetic Association, 100 (February), 232–4. Rolls, Barbara J., Erin L. Morris and Liane S. Roe (2002), "Portion Size of Food Affects Energy Intake in Normal-Weight and Overweight Men and Women,"

American Journal of Clinical Nutrition, 76 (December), 1207–13.
Rozin, Paul and Julia M. Hormes (2010), "Psychology and Sensory Marketing, With a Focus on Food," in *Sensory Marketing: Research on the Sensuality*

of Products, Krishna Aradhna ed. New York: Routledge, 303–21. Schlosser, Ann E. (2006), "Learning through Virtual Product Experience: The Role of Imagery on True versus False Memories," *Journal of Consumer*

Research, 33 (December), 377–83.
Semin, Gün and Tomás A. Palma (2014), "Why the Bride Wears White: Ground-

ing Gender with Brightness," *Journal of Consumer Psychology,* 24 (April),

217–25.
Spence, Charles (2016), "Multisensory Packaging Design: Color, Shape,

Texture, Sound, and Smell," in *Integrating the Packaging and Product Expe- rience in Food and Beverages: A Road-Map to Consumer Satisfaction*, Burgess P. ed. Woodhead Publishing, 1–22.

Spence, Charles, Nancy M. Puccinelli, Dhruv Grewal and Anne L. Roggeveen (2014), "Store Atmospherics: A Multisensory Perspective," *Psychology & Marketing,* 31 (7), 474–88.

Spence, Charles and Qian Wang (2015), "Sensory Expectations Elicited by the Sounds of Packaging and Pouring a Beverage," *Flavor,* (December), 4–35.

Spence, Charles and Massimiliano Zampini (2008), "Affective Design: Modu- lating the Pleasantness and Forcefulness of Aerosol Sprays by Manipulating Aerosol Spraying Sounds," *Co-Design,* 3 (March), 107–21.

Sundar, Aparna and Theodore J. Noseworthy (2014), "Place the Logo High or Low? Using Conceptual Metaphors of Power in Packaging Design," *Journal of Marketing,* 78 (September), 138–51.

Underwood, Robert L. (2003), "The Communicative Power of Product Packag- ing: Creating Brand Identity via Lived and Mediated Experience," *Journal of Marketing Theory and Practice,* 11 (Winter), 62–76.

Underwood, Robert L. and Noreen M. Klein (2002), "Packaging as Brand Com- munication: Effects of Product Pictures on Consumer Responses to the Package and Brand," *Journal of Marketing Theory & Practice,* 10 (Fall), 58–68.

and (2001), "Packaging Commu- nication: Attentional Effects of Product Imagery," *Journal of Product &*

Brand Management, 10 (7), 403–22.
Valdez, Patricia and Albert Mehrabian (1994), "Effects of Color on Emotions,"

Journal of Experimental Psychology: General, 123 (December), 394–409. Vale, Rita Coelho Do, Rik Pieters and Marcel Zeelenberg (2008), "Flying under the Radar: Perverse Package Size Effects on Consumption Self-Regulation,"

Journal of Consumer Research, 35 (October), 380–90.
Van Ittersum, Koert and Brian Wansink (2012), "Plate Size and Color Sug-

gestibility: The Delboeuf Illusion's Bias on Serving and Eating Behavior,"

Journal of Consumer Research, 39 (August), 215–28.
Vazquez, Eduard, Theo Gevers, Marcel Lucassen, Joost van de Weijer and

Ramon Baldrich (2010), "Saliency of Color Image Derivatives: A Com- parison Between Computational Models and Human Perception," *Journal of the Optical Society of America,* 27 (March), 613–21.

Velasco, Carlos, Alejandro Salgado-Montejo, Fernando Marmolejo-Ramos and Charles Spence (2014), "Predictive Packaging Design: Tasting Shapes, Typefaces, Names, and Sounds," *Food Quality and Preference,* 34 (June), 89–95.

Verge, Charles G. and Richard S. Bogartz (1978), "Functional Measurement Analysis of the Development of Dimensional Coordination in Children," *Journal of Experimental Child Psychology,* 25 (April), 337–53.

Wansink, Brian (1996), "Can Package Size Accelerate Usage Volume?," *Journal of Marketing,* 60 (July), 1–14.

Wansink, Brian and Koert van Ittersum (2013), "Portion Size Me: Plate-Size Induced Consumption Norms and Win-Win Solutions for Reducing Food Intake and Waste," *Journal of Experimental Psychology: Applied,* 19 (4), 320–32.

Yorkston, Eric and Geeta Menon (2004), "A Sound Idea: Phonetic Effects of Brand Names on Consumer Judgments, ," *Journal of Consumer Research,* 31 (June), 43–51 .

Young, Karen (2015), "Packaging Trends Go Out of Bounds," *Beauty Packaging,* 20 (January–February), 58–9.