Synaesthetic Design Expression:

The Blending of the Senses and its Implications on Brand Expression

by

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ABSTRACT

This research investigates the synaesthetic responses consumers have to branded consumer product designs to aid the design development process. Through proper application of synaesthetic responses, companies can create holistic experiences and brand expressions that are loved and trusted by consumers and thus achieve brand loyalty.

Capturing the hearts and minds of consumers through exceptional product experiences is one of the primary goals of any design agency, retailer or Consumer Packaged Good (CPG) company today. Thousands of new products launch every year and consumers are bombarded with advertising campaigns, package designs, POP displays, product offerings and new product forms. Breaking through the visual and verbal clutter by designing for the senses is one of the key ways design firms and companies can engage with and create a stronger bond with the consumer.

Connecting with consumers can be achieved through the maintenance of a compelling brand positioning and the development of brand expressions (products) that are holistically honest and express their positioning. Holistically honest designs are designs that capture the senses and the essence of the brand. Upon initial impression, the package immediately and innately "feels" right – nothing seems amiss. This includes all of the senses: sight, smell, taste, touch, and hearing combined with what the consumer knows or believes about the brand to create a meaningful gestalt. All design touchpoints should be considered in order to attain the ultimate goal of a holistic design: graphic

treatment, typography, words, scent, form, color – any type of sensory stimulator as these all influence perception and ultimately product and brand trust.

This study will employ qualitative and quantitative research approaches to understand consumers' synaesthetic responses to a brand's expressions.

To Kristen for always inspiring me to learn and grow.

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always positively encouraging me.

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and what I am capable of achieving. You are my core four and I love you.

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CHAPTER 1

INTRODUCTION

1.1 Research Background

In the development process of new products, often times a linear,
systematic approach is employed that leaves out the opportunity to develop
products that are optimized based on cross-modal sensory perceptions that align
with consumer expectations of a product. For example, in the development of a
new consumer packaged good, often times based on project timelines and the
time it takes to execute specific tasks – development of packaging touchpoints is
broken up into specific steps performed by separate functions within an
organization.

These steps could include: first - a new packaging structure will be
developed. Packaging structure refers to the bottle or form that will hold,
dispense or contain the product. This typically has the longest lead time due to
the development time to design, test, build molds and qualify the parts
developed from that mold. Next, the graphic design is developed. This includes
the design of a carton, label, bag or shrink sleeve that will be applied to the
structure or contain the product. Many times the structure and graphic design
are developed and tested independently of one another. Finally, the product
itself is developed. After the product is developed, a taste test, scent test or in-
use test may be conducted separately, if tested at all. All of these components
should be developed to include the visual, verbal, olfactory, haptic and sound
messages the design means to communicate about the product. Haverkamp
confirms that to date, product characteristics have been designed separately;

customer requirements are often divided up into separate stages of development and categories instead of a holistic development process that is validated with consumers in one (near) final test that includes qualitative and quantitative research (Haverkamp, 2013).

Haverkamp goes on to state it has been standard for decades now, within the field of perceptual psychology, to test and/or analyze sensory features and how a respondent perceives them by the senses independently and to interpret them as effects of separate features of the stimuli as well (2013). The truth of the matter is when a product is "experienced" by consumers, the experience is not broken up into separate sensory channels when the product is being perceived. This is true whether initially at shelf, or at home in use. The experience is holistic; all of the senses connect to receive what the product is communicating. Consumers perceive these communications and generate a response in a matter of seconds that is generally positive, negative or flat.

Scientific discussions around cross-modal correspondences and synaesthetic research have re-emerged in the latter part of the twentieth century. Synesthesia is when a stimulated sense modality immediately and involuntarily stimulates other additional sense modalities. This has resulted in "conversations around the psychological and physiological responses to concepts developed for music and the arts, indicating an increased preference for cross-sensory approaches" (Haverkamp, 2013, p. 8). Consumer expectations have increased dramatically through the years. Consumers are demanding more of the products they purchase, now, than ever before. The development of new products must satisfy multiple areas of interest and delight the consumer

beyond just the aesthetic experience. Products must engage the consumer, meet multiple benefits and stimulate the senses. There is an opportunity for a multi-sensorial approach to the development of products. Once developed; hopefully based on consumer insights, products should be validated with consumers to ensure they meet or exceed consumer expectations.

1.2 Creating Products that Connect

Capturing the hearts and minds of consumers through exceptional product experiences is one of the primary goals of any design agency, retail business and/or Consumer Packaged Good (CPG) company today. Thousands of new products launch every year and consumers are bombarded with advertising campaigns, package designs, POP displays, product offerings and new product forms. Breaking through the visual and verbal clutter by designing for the senses is one of the key ways design firms and companies can engage with and create a stronger bond with the consumer.

It is critical that companies carve out their unique positioning in the marketplace based on their target consumers' need states and desires. Brands must also have a story that is emotionally engaging, a personality consumers connect with and strategies for how they will present these messages to consumers via advertising, social media, product development and packaging. All of these assets must be properly and consistently managed to ensure the core brand messages thread through all consumer touchpoints. Companies that can accurately and consistently develop communications and designs that invoke a positive emotional response in the consumer can drive that consumer to select the product at shelf or online and purchase the product. Once the consumer has

the product at home and in-use, if the product positively delivers on its promises

and benefits, the consumer will begin to develop trust for the brand and product.

Taking that a step further, brand loyalty can be gained through the

maintenance of a compelling brand positioning and development of brand

expressions (products) that engage consumers, meet their ever-changing needs

and are holistically honest. Holistically honest designs are designs in which the

elements of the product package (design) express the product concept in an

understandable, clear and concise manner. Holistically honest designs have the

potential to capture the senses, the essence of the brand and product on an

emotional level. Upon initial impression, the product or package immediately

and innately "feels" right – nothing seems amiss. This includes all of the senses:

sight, smell, taste, touch and hearing combined with what the consumer knows

or believes about the brand, to create a meaningful gestalt.

> The following quote from Haverkamp describes the role of holistic
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> design well: "The parallel processing of different strategies
>
> connecting the modalities is an important feature of how the
>
> overall product is perceived. In product design, this provides a
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> potential of referring to multisensory connections as well as to
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> increase awareness (and understanding) of possible contradictions
>
> and errors that may arise based on the design and how the
>
> elements of the design are configured" (Haverkamp, 2013, p. 329).

All design touchpoints should be considered in order to attain the

ultimate goal of a holistic design: graphic treatment, typography, words, scent,

form, color – any type of sensory stimulator as these all influence brand impression, which ladders up to brand trust and loyalty.

Taking this idea of designing for the senses further, the concept of synaesthesia will be introduced. Synaesthesia is a phenomenon characterized by one stimulated sensory modality that instantaneously and involuntarily stimulates additional other sense modalities. Synaesthesia affects approximately 4% of the population in a more severe manner, as in a condition – though typically positive; however, all people experience synaesthesia on some level. The hypothesis is that by stimulating more than one sense modality in a positive, synchronized manner, a stronger bond is created with the consumer when they are experiencing a brand expression or branded product.

This research investigates the synaesthetic responses consumers have to branded consumer product designs to aid the design development process. Through the proper application of synaesthetic design expression, companies can create holistic brand experiences and brand expressions that are loved and trusted by consumers and thus achieve brand loyalty.

This study will employ both qualitative and quantitative research approaches to understand consumers' synaesthetic responses to brands and brand expressions.

1.3 Consumer Sensorial Responses

1.3.1 Purpose of the research.

The purpose of this research is to study the sensorial responses consumers have to a package design stimulus to determine if consumers have synaesthetic responses to the package design stimuli. Additionally, this study

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will seek to gain an understanding of what the synaesthetic responses are.

Understanding consumer responses to a packaging stimulus on a multi-sensorial level can help aid the design development process in a holistic and meaningful way. This study explores the role of holistic or honest design development and the multi-sensorial responses consumers or respondents have to a packaging stimulus.

If a brand expression does not communicate the product proposition in an accurate, holistic, concise and meaningful manner, there can be an immediate disconnect for the consumer. Disconnects in what a brand expression communicates compared to what the consumer perceives and expects can detract from a clear understanding of what the product is meant to communicate. This can chip away at trust and create confusion. This research will also seek to understand if the lack of a holistic design expression drives a change in behavior as it relates to preference and purchase-intent.

1.4 Justification of the Research

Throughout the literature review, there is a gap in scholarly study that connects synaesthetic multi-sensory stimulation to the design development process. "Most of the research on experiences to date has focused on functional, utilitarian product attributes and category experiences, not on total experiences provided by brands" (Sahin, Zehir, Kitapci, 2011, p. 1289). Utilitarian benefits and responses are not as lasting for consumers as consumers do not have a visceral reaction to them like they do to brands that appeal on a sensorial or emotional level. According to David Aaker, "Emotional benefits add to the richness and depth to the brand and the experience of using the brand" (Aaker,

2014, para. 6). Aaker goes on to describe the Sun-maid raisins brand – a product that could be considered a commodity but on the contrary "has the capacity to invoke feelings of helping mom in the kitchen (of the idealized childhood of some who wish they had this experience)" (2014, para. 6). Ultimately – a brand that creates stronger feelings will create a stronger bond and a stronger brand.

Positive emotions can be invoked by brands with strong personalities and sensorial expression of these branded touchpoints and products. "At various contact touchpoints with consumers, brands provide multi-sensory stimulations through sight, sound, smell, touch and taste" (Schmitt 2011). Calvert, et al (2004) suggest that the "human perceptual apparatus results in multi-sensory perceptions". However, most research in consumer psychology as it relates to product development has been on the study of individual senses (Spence 2010) or tests with consumers that are conducted at specific development points in the development process resulting in fragmented results. Research exploring cross-modal correspondences has just begun (Zampini & Spence 2004). In the article An Integrative Review of Sensory Marketing: Engaging the Senses to Affect Perception, Judgment and Behavior, Krishna has also found that there is a "tremendous need for research within the domain of sensory marketing" (Krishna, 2011).

All elements of a product or design carry meaning; the sound, the color, the word choices and typographic treatment, the graphical elements, the shape and the scent. If these sensorial elements are honestly and holistically composed and communicate the product proposition in a synchronized manner, we can go beyond engaging with the consumer and affect recall. There is opportunity as

the literature review has proven to enhance recall. In a 1987 Test of Genuineness (TOG), synaesthetes were measured versus a control group and asked to match colors to words. Both groups were again tested several months later. Synaesthetes typically scored between 70 – 90% range of matching back to their original answers, whereas controls scored between 20 – 38% (Asher, J.E., et al, 2006). This link in sensory perceptions and recall of responses proves that there is greater recall in synaesthetes. Additionally, studies are being conducted by Dr. Clare Jonas at the University of East London to draw closer links to the responses of synaesthetes to non-synaesthetes (Massy-Beresford, 2014).

The research uses a word test with a group of young adults. The non-synaesthete adults are trained to associate a group of words with color, the way synaesthetes do. The test was designed to prove that adults remember the words more easily if they are trained to remember the words in association with a color. "Using predictions based on what real synaesthetes do, there seemed to be a tendency towards the trained synaesthetes (non-synaesthetes) starting to behave like synaesthetes – having a better memory for things involved in their synaesthesia; if confirmed, that would be a good sign," Jonas says (2014). Jonas goes on to explain that this could also be used in teaching the young and for helping the elderly "ward off the decline in cognitive function that accompanies the early stages of Alzheimer's or even for helping patients recover from brain injuries" (2014).

The hypothesis is that all people have some level of synaesthetic response since we cannot separate (or bucket) the way we perceive an object or stimulus from a sensorial standpoint. If we can capture and make positive and visual the

synaesthetic responses, we can create meaningful designs that spark the senses and create a stronger bond with consumers.

The research in this study will seek to understand consumer synaesthetic responses to brand expressions. Brand expressions represent any branded touch point used to communicate information about a product to a consumer. For example, advertising, a website, point-of purchase displays, social media communications and products themselves. For the sake of this research we will use product packaging as the vehicle that communicates a branded expression. What these branded expressions communicate is important as companies launch new concepts and expressions into existing categories and extend to adjacent categories to maintain competitive advantage and gain market share. Thus, according to Jahangir (2009) "a key aspect contributing to the success of such strategies is to understand how consumer perceptions towards the brand in the established as well as new category are altered by the extension". Synaesthetic effect and consumer responses to these effects should be consistent and aligned in order to communicate a holistic message and gain trust. Maintaining brand trust is fundamental to the development of loyalty (Berry 1993).

Synaesthesia has the potential to strengthen the bonds between consumers and products in the current competitive marketplace where the winner generally takes all. In the context of the shelf set you have a matter of seconds to capture a consumers' attention. According to Nielsen, the average consumer spends approximately 13 seconds on the total purchase decision making process in store (Beard, 2015). Shelves containing packaging are visually cluttered. Products are often times fit into a small and limited space. It is

imperative that in order to win, a brand expression holds together through all emotional touchpoints, branding, word choices, color, shape, scent, form, typography, graphic treatment, words and composition. Damle states, "As we form classes and distinctions, we think of classified entities as being isolated from their context. As our mode of thinking becomes discontinuous, we fail to see continuities and relationships" (Damle, 2009). If a package design lacks in holistic expression, the continuity becomes discontinuous and this chips away at the idea of a solid proposition and clear product understanding. For example, if a product has a visual of fresh apples and is green in color but smells like menthol, this is a synaesthetic disconnect that lacks in honest, holistic expression. If the entire product package design expression was tested with consumers prior to launch, there would be an opportunity to discover what potential disconnects exist and correct those disconnections.

Brand equity tracking and package/product testing has been studied for quite some time. There is a gap in the package development & testing allowing room for improvement. As stated in an earlier section of this research, often times testing of a new product idea is divided up into separate components and conducted by different departments within an organization. First the packaging form/structure is tested, then a visual of the graphics and finally, potentially a test to determine product feel of smell. This does not leave room for a test of the near-finalized, product with all proposed components in place to determine if the overall expression is holistic.

Through the execution of qualitative testing with open-ended questions, we can cull actionable insights to synaesthetic responses. Companies that apply

insights and maintain holistic synergies between brand positioning and product concepts and design (down to the details), thus creating positive synaesthetic responses as a whole will drive trust and ultimately brand loyalty. By understanding consumers' synaesthetic responses to a brand and package design, the design development process can be positively affected as these responses are applied prior to the launch of a new product or line of products.

1.5 Background of the Liquid Hand Soap Category

This project research investigates consumers' synaesthetic responses to the Personal Cleansing, Liquid Hand Soap category. This category has changed dramatically during the last 5 years. Consumers are demanding more from companies by way of new product innovation, claims, forms, fragrances and packaging designs to enhance their user experience. Through proper application of sensorial and moreover, synaesthetic expression, companies can create holistically honest designs that are loved and trusted by consumers. To ground us in the recent history of the Liquid Hand Soap category, 3 images are presented and described in the following pages. The first image, (Figure 1) contains the timeline, which is a snapshot of five years, four different brands, Dial®, Softsoap®, Bath & Body Works® & Method®.

Consumers are demanding more in terms of products. Products must deliver on consumers' functional needs, sensorial expectations all while delighting and (pleasantly) surprising the consumer. The visuals show that several package design elements changed during the 5 years represented:

1. Visually, the fragrance imagery became larger and more emphatic.

2. More and unique fragrance offerings were introduced such as limited edition and seasonal variants.

3. New forms were launched, including various textures such as foaming hand soap and hand soap with beads.

4. Structures were redesigned to be more decorative, elegant and beautiful, something you want to leave out on your counter yet still has good shelf presence.

5. New materials and forms of design decoration were used such as shrink sleeve and clear sleeves.

Figure 1. Liquid Hand Soap Timeline Continuum 2000 – 2013.

In the second image, (Figure 2) select packaging product designs have been pulled out, 2 per brand and placed into a continuum ranging from least experiential to most experiential by way of overall package design evaluation. It is meaningful to note in this collection of images that expressions got notably more experiential as the years progressed.

The products are more experiential in the visual imagery, for example – the Dial® "Sugar Scrub" and Bath & Body Works® "Beautiful Day" hand soap really emphasize the fragrance imagery, thus pulling the viewer into the scene. The viewer can almost smell the product just by looking at it. All of the products shown in Figure 2 have the potential to stimulate what I define as the *metaphorical 6th sense*. The metaphorical 6th sense is associated with reminiscence, memory and escape. This sense happens in the mind when the consumer perceives the product.

Figure 2. Liquid Hand Soap Timeline Continuum 2009 – 2015.

In the final image, (Figure 3) the three Liquid Hand Soap products I have chosen for my research and test have been pulled out and evaluated further for their specific synaesthetic visual representations and details. These are based on my own opinion and for the sake of reference. This is not based on the opinion of any of the test respondents. Elements of the design are identified and which sense could be stimulated is communicated with color dots. Sight and smell are the primary senses stimulated on each of the package designs, followed by touch and taste. "Hear" only shows up once on the Dial® Coconut Water design. I note the sense "hear" because of the rushing water visual – you can almost "hear" the energy in the visual representation. "Memory", what I define as the sixth sense, is shown in the Dial® and Bath & Body Works® examples because of the sense of place or setting.

Companies over time appear to have created more sensorial experiences in the Liquid Hand Soap category through innovative, elegant shapes, more engaging and emphatic visuals as well as interesting and differentiated fragrance offerings.

The Liquid Hand Soap category was used in the study for several reasons: 1) Hand Soaps tend to be used as a decorative item, left out at the sink, 2) The proliferation of new forms, fragrances and offerings leads to the questions "what are consumer responses"? Are we engaging in the right way? 3) Fragrance is a key driver in this category. Hand Soaps were chosen to determine the following: If the visual and olfactory experience is holistic, the question becomes, does this drive purchase intent? If the product design is not in-sync does the consumer move on to another product (Research question 3)?

If there is an understanding of synaesthetic responses to a brand and also how these synaesthetic responses can be applied to the design development process, designs can be developed that create a holistic user experience because they maintain an innately "honest" gestalt through the proper application of graphic treatment, typography, words, texture, form and color. If a package design lacks in engaging quality and holistic expression, the continuity becomes discontinuous. Developing engaging, honest package design expressions will equate to a positive user interaction and ultimately experience.
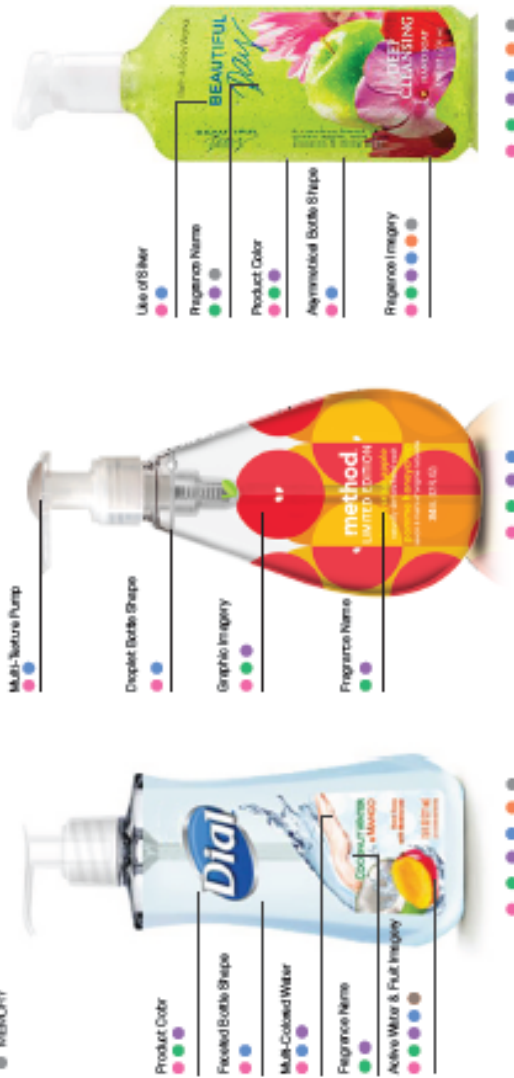
Figure 3. Products Used In The Research Test Broken Down By Potential Synaesthetic Effect Via Visual Examination.

1.6 Scope & Limitations

      This research will investigate the synaesthetic responses to the brand package designs from 3 liquid hand soap brands: Dial®, Bath & Body Works® and Method®, see Figure 4.

Figure 4. Brand Logos Of Test Stimuli.

1.6.1 Scope

      These three various brands were chosen for several reasons. First, visual representation of all designs is brought to life in different ways. For example, the Dial® design is strongly branded and uses action-oriented graphics that have a sense of energy. There is a lot of show through to the actual product itself creating an interaction between the label design and the bottle containing the product. The Method® product uses a graphic approach to the representation of

fragrance and branding is moderately emphatic. The Method® product uses a shrink sleeve for its bottle design decoration. The bottle of product is fully wrapped with graphics with areas that show through to the product. Finally, the Bath & Body Works® design uses very emphatic fragrance imagery, a strong product color and very minimized branding. All three products have very unique and differentiated bottle shapes. The Dial® product has jewel-like facets, the Method® shape is rounded and drop-like and the Bath & Body Works® shape is more square in overall form yet has a trapezoidal offset.

The Dial® product is mass marketed and offered at most locations from grocery to drugstores and gas stations as well as big-box retailer such as Target and Walmart®. Method® is available at Target®, Walmart® and Lowes® but in general has more limited distribution than the Dial® brand and therefore fewer impressions. Bath & Body Works® products are sold at the freestanding Bath & Body Wash® (BBW) retail stores. The brands of products chosen were intentional. These 3 products offer a range in distribution. Dial® is widely distributed, Method® has moderate distribution and BBW has freestanding retail stores. I intentionally chose to include the BBW product in the test because this brand and store is known for its large assortment of fragranced hand soaps, lotion and candle products.

1.7.2 Limitations

This topic is broad and complex and there are limitations to the study. First, this is not a study on synaesthetes as in the extreme condition, rather on synaesthetic responses. Synaesthetic responses as used in this study are referring to the connections made between the various senses that connect and

create an immediate impression that has a greater lasting impact with the consumer. As Smilek points out "synaesthesia is associated with positive cognitive effects, such as enhanced recall" (Smilek et al., 2002). These synaesthetic responses used during the design development process can aid in brand and brand expression recall as a positive heightened impression.

Secondly, the research test is mainly focused on gathering responses via the visual and olfactory senses. Stimulation of the secondary sense(s) based on this initial stimulation will be gathered; however, the initial primary inputs are primarily visual and olfactory. There is opportunity for a larger scale study that includes in-depth research on all 5 of the senses and how they overlap.

Third, I have touched on how designing for the senses can affect brand trust and ultimately brand loyalty. There is opportunity for further research to gain a deeper understanding of how connecting with the senses, especially synaesthetically – drives brand trust and loyalty.

1.7 Glossary of Definitions

It is important to define specific terms that will be used in the research and communication.

SYNAESTHESIA: Ashers' definition of Synaesthesia will be used. Synaesthesia is characterized by anomalous sensory perception: a stimulus in one sensory mode triggers an automatic and instantaneous response in another mode (ex. sound evokes color) or in a different aspect of the same mode (e.g., black text evokes color)" (Asher 2006).

SYNAESTHETIC RESPONSE: When "synaesthetic response" is used, that is referring to a response that is cross-modal, for example a "sour smell",

"loud color" or "smells like sunshine". This is not used assuming that respondents are synaesthetes necessarily. However, all humans have some level of synaesthetic response and this study is an attempt to understand what elements or attributes of a brand and product design may evoke these responses on an emotional level that ultimately drive preference and purchase intent.

BRAND EXPRESSION: "Brand expression" refers to any representative expression of a brand, ex. Advertising, website or product. In this study, the brand expression being tested, refers to the product package design and the elements that make up a design to express the brand personality and positioning as well as the product concept idea.

HOLISTIC DESIGN / HONEST DESIGN: Holistic Design is "The various elements chosen and blended into a holistic design to achieve a particular sensory affect" (Orth & Malkewitz, 2008, p. 64). The term "holistic" or "honest design" is referring to the product package design in which all components work together to express the brand positioning and communicate the concept idea. Components can create this through the proper application of shape, color, fonts, graphic treatments, composition, branding and choice of words. Working together to create a meaningful gestalt, honest designs immediately and innately "feel" right on a subconscious level to the person interacting (initially) visually with the product – nothing seems amiss.

Visual Preference plus additional sensorial preferences add up to ultimately validate or invalidate the design to the original concept idea.

CONCEPT: The "concept" is the idea that the product marketer or inventor uses to describe and means to ultimately "create", before the idea is

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fully created. However, it can be illustrated through words as in a description of a product, a rendering or a comp.

BRAND TRUST: Brand Trust according to Agustin and Singh can be defined as "a consumer's confident beliefs that he or she can rely on the seller to deliver promised services, whereas we define relational value as the consumer's perceptions of the benefits enjoyed versus the cost incurred in the maintenance of an ongoing exchange relationship". (Agustin and Singh, 2005).

BRAND LOYALTY: The research will use Richard Oliver's definition: Brand Loyalty is "a deeply held commitment to rebuy or repatronize a preferred product/service consistently in the future, thereby causing repetitive same-brand or same brand-set purchasing, despite situational influences and marketing efforts having the potential to cause switching behavior" (Oliver, 1999).

1.8 Conclusions to the Introduction

The introduction section of this thesis has presented background to the research as well as information and justification as to why this research is important to the design development process. The next chapters of this thesis will provide a thorough representation of the literature review of the topics that have been presented as well as more detail around the methods. Finally, results to the research findings and conclusion will follow in the final chapters.

CHAPTER 2

LITERATURE REVIEW

2.1 Achieving Holistically Honest Design Expression

The expression of a brand involves multiple considerations from the development of the positioning; deriving and expressing a meaningful position in the marketplace that connects with consumers on an emotional level to the physical manifestation of the product itself. One of the goals is to achieve the desired consumer response to the brand, product or packaging through the expression; communication and design we use to articulate these messages (Orth & Malkewitz, 2008). Following the definition established by (Bloch, 1995) and Gestalt psychologist (Kofka,1922), a package design is described as "the various elements chosen and blended into a holistic design to achieve a particular sensory affect" (Orth & Malkewitz, 2008, p. 64). In addition, Haverkamp describes the role of holistic design well in the following quote:

> The parallel processing of different strategies connecting the
> (sense) modalities is an important feature of the perceptual system
> and how products are perceived. For Product design, this provides
> a potential of referring to multisensory connections as well as to
> increase awareness of possible contradictions and errors in the
> configuration (Haverkamp, 2013, pp. 329).

Designers make decisions with every sketch, click of the mouse or recommendation. Designers determine what these messages are, how to mix them, what elements to use, what not to use, how to express them and the level of congruity among them (Lawson, 1983). In an article authored in 2011, the

writers state that "The main input of a branded relationship with a consumer is the branded experience and the main output of this experience is brand loyalty" (Sahin, et al, 2011, p. 1288). This branded experience is created and maintained by the designers, marketers and product developers that develop the brand expressions and products. Brands are the most important asset a company has, typically more valuable than the brick and mortar corporate buildings and plants that house the people and processes that develop them. "Marketing academics and practitioners have acknowledged that consumers look for brands that provide them with unique and memorable experiences" (Sahin, et al., 2011, p. 1288). In addition, branding expert David Aaker states "Brands and products, are symbols of a person's self-concept, and can provide a self-expressive benefit by providing a vehicle by which a person can express his or her self" (Aaker, para. 5, 2014). People derive their sense of place in this world based on self-image and through the purchase of commodities (Sturken, 2009).

In his book *Citizen Brand*, Gobé talks about the importance of the role of emotional branding, saying

"To be successful and gain consumer trust and support today, corporations must demonstrate that they will operate in a completely different manner and connect in a more profound way with consumers, developing their own "America" – a value-driven rallying point for people to meet behind and buy not only products, but also, and most importantly a corporate ethic" (2002).

He goes on to describe that the role of *emotional identity* should be at the core of any brand's culture; one of the primary vehicles companies can use

to deliver this message is their products and brand expression or design (2002). Successful brands articulate a consistent, holistic and strong message and vision about who they are to the world (2002).

In Gobé's list of the Ten Commandments of Emotional Branding, commandment number 2 states that honesty is expected, we need to move beyond honesty to trust (2002). A brand, like a person must embody the virtues of integrity and honesty to gain trust, see Figure 5. In order to maintain that trust the product must deliver on expectations and deliver a meaningful experience. Experience goes beyond delivering on functional benefits, as Gobé states, it fulfills desires, (Figure 5). The brand experience must connect on an emotional level and the messages must be consistent across all mediums.

As stated in *Emotional Branding*, the Ten Commandments are:

1. From Consumers → to People
   Consumers buy. People live.
2. From Honesty → to Trust
   Honesty is expected. Trust is engaging and intimate.
3. From Product → to Experience
   Products fulfill needs. Experiences fulfill desires.
4. From Quality → to Preference
   Quality for the right price is a given today. Preference creates the sale.
5. From Notoriety → to Aspiration
   Being known does not mean that you are also loved!
6. From Identity → to Personality
   Identity is recognition. Personality is about character and charisma!
7. From Function → to Feel
   The functionality of a product is about practical or superficial qualities only. Sensorial design is about experiences.
8. From Ubiquity → to Presence
   Ubiquity is seen. Emotional presence is felt.
9. From Communication → to Dialogue *Communication is telling. Dialogue is sharing.*
10. From Service → to Relationship
    Service is selling. Relationship is acknowledgement.

Figure 5. Gobé's Ten Commandments Of Emotional Branding (2002)

Developing, maintaining and consistently communicating meaningful

brand positioning and identity are both fundamental and key to maintaining

brand health. "A" (Sheth and Parvatiyar, 1995; Rust, Zeithaml and Lemon,

2004). Brand messages and all communication touchpoints should be developed

with the goal of strengthening brand loyalty by creating strong consumer bonds

to the brand thus strengthening the consumer / brand relationship over time

(Pearson, 1996; Duncan and Moriarty, 1998). Achieving brand loyalty can grow

profitability through increased market share. If a consumer is a loyalist to a

specific brand, they will choose that particular brand at shelf over the

competition.

In the context of the shelf set, you have seconds to capture and engage the

consumer's attention. It is critical to make those few seconds drive to the most

meaningful heart of the brand positioning and product proposition so a holistic

perception solidifies in the consumers' mind as an honest representation of the

product and brand experience. The consumers mind works very fast to weed

through these different packages and classifies them accordingly. If you can

create a holistic product package in which all of these sensorial connections

come together in an instant, you have created a holistic and honest design.

Holistic synergies between brand positioning and package designs lead to

positive brand attributes such as trust and loyalty.

This study and research will seek to understand if respondents, when

presented with Liquid Hand Soap packaging stimuli if there are synaesthetic

responses. Respondents will be presented with a packaging stimulus in two

ways. In Part 1 Visual includes a visual primary stimulus, respondents will be

presented with the products one at a time and asked a series of questions to determine if there are synaesthetic responses. These responses will be gathered and tabulated to determine which secondary sense responses are most frequent based on the primary *visual* sense stimulation. Finally, respondents will be asked their preference and purchase intent. In Part 2 Olfactory / Smell of the qualitative test, respondents will be presented with the same stimuli and asked to smell the product. In Part 2, smell is the primary sense stimulation. Again, a series of questions will be asked based on the respondent perception and expectations. These responses will be culled and tabulated to determine which secondary sense stimulations occur most frequently. Again, respondents will be asked for their preference and purchase-intent. Finally, the preference and purchase intent from Part 1 and Part 2 will be compared and combined with responses to determine if the designs were holistically honest and if the respondents' perceptions drove behavior or change in preference or purchase-intent. In addition, the initial test that is *visual* and the secondary that is *olfactory* will help determine if the addition of a second, primary sense stimulation (olfactory) activates more additional cross modal responses.
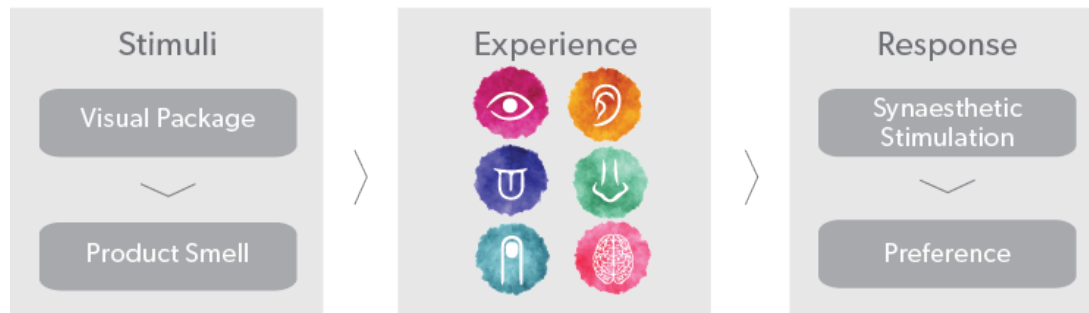
Figure 6. Conceptual Framework

The term "holistic" or "honest design" is referring to the elements of a product package design expressing the product concept in a clear and concise manner. A simple example of this is: if the fragrance of a particular hand soap is "pumpkin spice", pumpkin and spice used to depict the fragrance visually or through words is most appropriate. The use of apples for example would be a synaesthetic disconnect.

2.2 Designing for the senses.

"The branded experience is conceptualized as sensations, feelings, cognitions and behavioral responses evoked by brand related stimuli that are a part of a brand's design and identity, packaging, communications and environment" (Sahin, et al., 2011, p. 1290). Sensory marketing has been described as "marketing that engages the consumers' senses and affects their perception, judgment and behaviors" (Krishna, 2011, p. 332). According to Krishna, the notion of marketing to the senses is that you can more quickly and efficiently create connections on a subconscious level by creating "triggers that

define consumer perceptions of abstract notions of the product and the brand's personality" (2011, p. 332). While the idea of "efficiency" being applied to the idea of making connections may seem in and of itself like a disconnect – it is imperative because consumers make decisions based on perceptions and gut reactions at shelf in a matter of seconds. What interactions at shelf drive these perceptions? At certain times with certain products, one sensory modality drives a consumer engagement and response. However, in most brand and product experiences, (most experiences in general) multiple sensory modalities are involved and firing off at the same time. There is no way for the respondent to separate or distinguish between the individual senses that are sparking a response that they connect and streamline to result in an "impression".

Picture this, a mother in front of a shelf set for her weekly store visit to gather food and household supplies for the week. She has 2 children, one in the cart, another tugging at her shirt still talking about the candy she wants from the previous aisle. The mother needs to make quick decisions because this is one of many things on her "to do" list and her patience is wearing thin. She has a limited budget and needs to find the best possible products for her family and maybe one product that gives her the opportunity for a small indulgence. What happens in those few seconds when she is in front of the shelf with dozens of offerings? She is making split second decisions for herself and her family.

Assume in this scenario, she is in the personal cleansing aisle, looking for a body wash product. The product first *visually* compels her to pick it up. However, through this initial visual engagement, she is already making assumptions about what the product may smell and feel like based on the color,

shape, imagery or illustration, words and what she already knows about the product and brand. Next, her *haptic* sense is engaged as she picks the product up. She feels the shape of the product in her hand and the texture of the product material. Through the use of human factor associations, hopefully the product has been developed to fit comfortably into the curves and pads of the smaller female hand. She flips the cap open; there is a sound that validates the fact that she has "opened" the product. Hopefully the cap is not too sharp or hard to open as these factors all affect perception. Next with the cap opened, she *smells* the product and validation is either positively or negatively granted. The visual words and imagery connect to honestly express a scent that either meets her expectations of what the product will deliver or does not. This creates an immediate connection with the consumer and drives the intent to purchase or put it back and select a new product going through the same repeated process.

Given this scenario and considering many others, it may be more compelling and persuasive to design products with sensorial triggers that are immediate: imagery, specific colors, etc. that appeal to the consumers' basic senses and break through the clutter to engage. Additionally, making sure the brand personality and product concept is correctly and honestly expressed in all packaging touchpoints is critical. Furthermore, "these sensory triggers could result in consumers' self-generation of (preferably desirable) brand attributes rather than those verbally provided by the design" (Krishna, 2011, p. 332). Verbal as opposed to visual or graphic ways of depicting the product attributes could be perceived as a weaker way of convincing the consumer. This is the responsibility of the marketer and designer to determine during the

development process and (hopefully) validate through consumer testing.

Let us seek to understand the psychology behind the consumer experience and moment of engagement by first defining the difference in "sensation" versus "perception". These are 2 different stages of processing of the senses (2011). Krishna suggests the following conceptual framework of sensory marketing showing the different stages of processing as the consumer is engaged by sensorial stimuli, Figure 7:
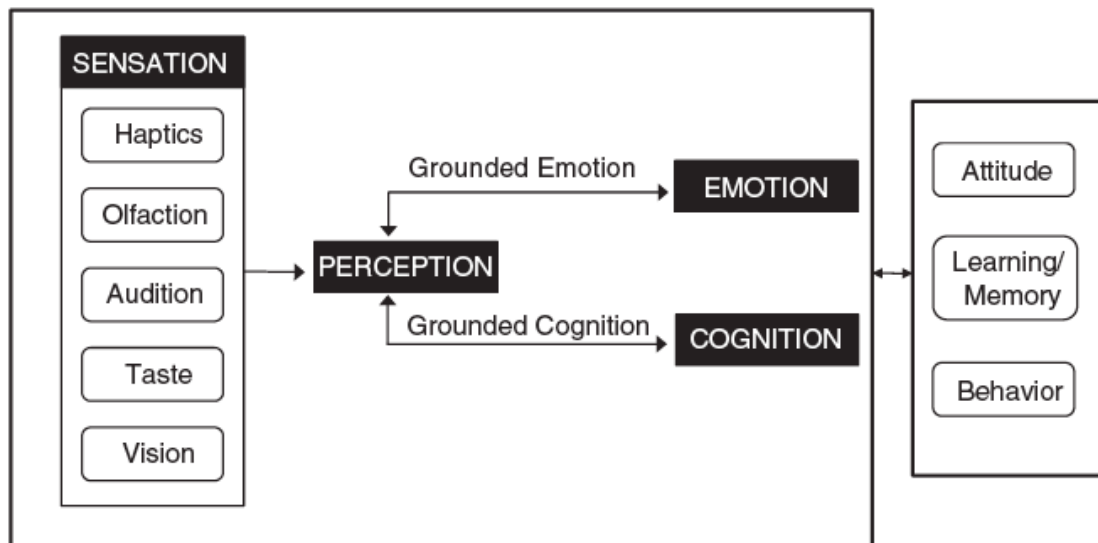
Figure 7. Krishna's conceptual framework of sensory marketing (Krishna, 2011).

Sensation is the first experience in the sequence of engagement, which includes all of the 5 senses. These five sensory modalities fire off at the same time, they are not linear or sequential. Sensation is when the stimulus, whatever it may be – affects the sensory receptors. According to Krishna, "it is biochemical and neurological in nature" (2011). "Perception on the other hand, is

the minds awareness of that sensory information" (2011, p. 334). Sensation happens first and perception second.

Taking this idea of the senses, perception and designing for the senses further, the concept of synaesthesia should be considered. "Synaesthesia is characterized by anomalous sensory perception: a stimulus in one sensory mode triggers an automatic and instantaneous response in another mode (ex. sound evokes color) or in a different aspect of the same mode (e.g., black text evokes color)" (Asher, Aitken, Farooqi, Kurmani, Baron-Cohen, 2006, p. 137). These sensorial responses quickly connect and tie together to create emotional responses to a stimulus such as a brand or a product package design that is either fundamentally positive or negative. While synaesthesia is a condition that affects some people strongly, all people experience synaesthesia on some level. The idea is that by stimulating more than one sense modality in a positive, synchronized manner, a stronger positive bond is created within the consumer.

If there is an understanding of synaesthetic responses to a brand and also how these synaesthetic responses can be applied to the design development process, designs can be developed that create a holistic user experience because they maintain an innately "honest" gestalt through the proper application of graphic treatment, typography, words, texture, form and color. It has been proven by Gestalt Psychologists that our perceptual system automatically categorizes visual elements based on their similarity to one another and then separates them from the surrounding area (Kohler, 1947). When we categorize entities based on their similarity we put a frame around them and separate out from background elements (Damle 2009). Damle states, "we attend to the

classified entities in a focused manner and ignore what falls in the background (or outside of the frame)" as in the frame of similarities (Damle, 2009, p. 537). We automatically create distinctions, as we perceive them on a sub-conscious level. This is key in forming our opinion about any "thing" we experience. Damle goes on to state that, "as we form classes and distinctions, we think of classified entities as being isolated from their context. As our mode of thinking becomes discontinuous, we fail to focus on or see continuities and relationships" (Damle, 2009, p. 537). If a product design starts to become discontinuous, something "feels" off about the design and it if not longer holistic. Verstijnen suggests, that synthesizing the various design solutions to each of the "sub-problems" into a solution that effectively and clearly communicates what it means to the consumer plays a critical role in the development of an original and holistic concept (Verstijnen, 1997).

Great product designs have 2 typical ingredients: 1) they meet perceived consumer need states or delight by appealing to unrealized need states (so they are appealing and relevant to begin with) and 2) they appeal to both the senses and intellect of the consumer (Mariotti, 2000). The way all of this is communicated to the consumer must be holistic or the proposition starts to fall apart.

In order to understand the importance of stimulating multiple sensorial modalities simultaneously, let's first begin with a breakdown of importance and thoughts on each of the 5 senses by scholars and experts who have studied them combined with examples and evaluations of what is currently in the market

place that appeals to the senses. Additionally, examples will be presented on how the senses overlap.

In product design we tend to focus first on the sense "sight", graphic and structure and secondarily on the smell of the product once opened. There is opportunity to further include touch, hearing and taste. For example to further emphasize smell in a package design, technologies such as scented inks or scented plastics could be applied. To invoke the sense of touch, certain types of materials could be used to connote a certain feel. For example, soft touch plastics could be used to denote softness or gentle (Haverkamp, 2013). In the following section, we will delve deeper into what makes each of the 5 senses important considerations as well as an introduction into the metaphorical "6th sense". I use the term 6th sense to describe the effect a package design or individual component of a package design can have if it invokes a sense of transportation or transformation in the person experiencing the expression.

2.2.1 Touch / Haptics

According to Aristotle, the sense of touch is the most important sense of the 5 and at the top of the sense modality hierarchy. For example, he surmised that the feel of an object such as a kitten and its soft fur, is indicative of the true nature of its innate character (Krishna 2011). The sense of touch is the first of our sensory modalities to develop and the last that we lose naturally through the aging process. It is known that we have a basic, fundamental human need: to touch and be touched.

A few interesting facts about the sense of touch are:

· It has been shown that in the U.S., when a waitress physically touches a customer, her tip increases though her service level is not judged as being better (Crusco & Wetzel, 1984).

· Studies have been conducted to determine whether a baby prefers a mother's touch or basic nutrition. This test was conducted on baby monkeys given the option of staying with a surrogate mother created out of wire mesh covered by a warmed soft cloth or a wire mesh with a baby bottle (Harlowe 1958). The baby monkeys chose the warmth of the cloth-covered surrogate over the option of nutrition.

With regard to product interaction, and the study of haptics - new problems and challenges have presented themselves in recent years. This is die to the increased aging population as well as purchases being made on-line, (Spence & Gallace 2011). This is challenging when it comes to products like clothes and shoes. In the role of the Internet and on-line purchases, there is no opportunity for the product to be touched prior to or to influence purchase. How do you gain the tactile validation of a soft sweater through the visual alone? Touch and texture are critical in the design development process and can be applied in various ways.

With the aging consumer, it is necessary that human factors be considered up front in the design development process. For example, for an elderly person with small hands, it may be difficult to pick up and dispense heavy products such as laundry detergent, cat litter or a hand soap refill. Including human factors objectives in the up front design development process

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and testing the product structures and packaging shapes with consumers can help solve some of these issues that occur during use.

Take for example, the two Liquid Hand Soap refill structures from 2 different brands, Soft Soap and Dial®. Liquid Hand Soap Refills are large and bulky and sometimes difficult to use.

Consider the hand soap refill experience and how touch and shape affect the experience. A user would typically refill a hand soap dispenser in 1 of 2 ways: 1) by holding a smaller bottle in place with one hand while trying to manage pouring the product out of the larger bottle with the other hand or 2) using both hands to hold the larger refill bottle and pour product into the smaller dispensing bottle. Either way, the refill bottles are large, bulky and difficult to manage. A well designed product can help make this experience easier for the user. The product designs in Figures 8, 9 and 10 all exemplify different ways the structure of a bottle can help or hinder the consumer.

For example, Figure 8, appears as though it would be very helpful in the pouring and refill process. The sculpts in the shape appear as though they offer great spaces for you to nest your fingers to help support your grip while pouring. The design is not very successful because the grip area on the far right is too close to the edge and does not give your hand a chance to wrap around the bottle enough. At some point the bottle needs to make contact with your palm for stability when holding the bottle. These sculpts are aesthetically pleasing, but not effective in helping the consumer use the bottle to dispense the product. In addition, there is a texture which helps create a friction point. However, the texture is too subtle to significantly help with gripping.

The bottle shape in Figure 9 is actually a better solution for the Soft Soap brand because it allows the user to get a good tight grip around the handle. Grip is the key feature here. The user can close contact of their palm to the handle and then wrap their fingers around the handle for strength.

The Dial® bottle in Figure 10 is a good example of a bottle without a solid handle or grip that helps the user. The front to back depth of the bottle is reduced so the user can get solid palm contact, which helps with strength. Through the very center of the bottle the indention is even greater so the user can "pinch" in to create a stronger contact touch-point with the bottle. Additionally, there are textured bumps on the bottle to help create a friction point that helps the user grip the bottle.

These are examples of how touch and the touch interaction can add to the user experience or detract from it if the bottle shapes are not actually helpful to the consumer.

Figure 8. Soft Soap
Liquid Hand Soap Refill
Bottle Image
(target.com).

Figure 9. Soft Soap
Liquid Hand Soap Refill
Bottle Image
(boxes4u.com).

Figure 10. Dial Liquid
Hand Soap Refill Bottle
Image (walmart.com).

John Mariotti in his article "Designing for the Senses" confirms that

tactile finishes are in style (Mariotti, 2000). As consumers continue to demand

more in terms of a user experience, tactile finishes on products like toothbrushes

and razors can garner a higher price point (2000). Many products in both of

these categories start at a higher price point. The don't bother with a lower end

offering that include tactile finishes.

Many toothbrushes now include vibrating heads as well. These not only

brush but also massage the gums and help shake off elements on the teeth for a

deeper clean. See example products of a standard toothbrush shape and 2

versions of the massaging toothbrush. In Figure 11, even the standard

toothbrush shape has a soft gel grip; this product sells at a price point of $3.44

at Oral-B.com. Figure 12 offers a solution that claims to be a manual brush with deep cleaning power. This product offers a comfortable grip as well as a massaging feature. Figure 13, The Pro 500 offers the superior clean that comes with the massaging feature option that according to the Oral-B website, removes 100% more plaque than with manual brushing. This high end toothbrush with Bluetooth Connectivity claims to "remove more plaque but also eliminate doubt". This brush has sensors that tell you if you are brushing too hard or not hard enough and sends results on your brushing habits to your smartphone. This toothbrush sells for $101.80 on the Oral-B.com.

Figure 11. Oral B Toothbrush – Basic With Gel Grip (Oralb.Com).

Figure 12. Oral B Toothbrush – Gel Grip Plus Vibrating Feature (Oralb.Com).

Figure 13. Oral B Toothbrush – Smartseries Pro 500 Vibrating With Bluetooth (Oralb.Com).

These examples offer a clear indication of how important the designed haptic characteristics of the products we choose to purchase help us better interact and make for a more positive experience with products we use frequently, if not everyday.

2.2.2 Smell / Olfactory

The sense of smell has long been associated with memory and is considered the strongest sense tied to emotion and emotional memory as well. According to Rachel Herz, expert and PhD in the field of olfactory senses, "the sense of smell is the primary sense by which most of our animal bretheren perceive the world and it is the sense of smell that they owe their survival" (Herz, 2007, p. 14).

Herz explains, "the areas of the brain that process smell and emotion are as intertwined and codependent as any two regions in the brain could possible be. "Smell and emotion are located in the same network of neural structures, called the limbic system" (Herz, 2006, p. 3).

Herz goes on to physiologically explain that the reason is because of the close proximity of the olfactory systems in the brain. For example, the limbic system contains several key mechanisms that work closely together: the olfactory bulb, amygdala, and hippocampus. These are located very closely to one another and the result is characterized by quick synaptic transfers among its members" (Herz, 2007). Very few synapses lie between the olfactory nerve and the amygdala and the amygdala and hippocampus, all of which have significant, strong roles in the determining emotional memory (Herz, 2007). Odors are

perceived as either good or bad. Humans are either drawn toward "good" smells or reject what smells "bad". This is an immediate response that must be carefully considered when developing fragrant associations to a product design.

To better understand the finite abilities of the olfactory sense, it is important to note that the sense of smell, as opposed to the sense of sight and taste, has many more receptors which play an important role. The sense of sight has 4 distinct receptors; the sense of taste has 5 basic different receptor interactions. In the olfactory modality, there are approximately 1,000 different genes that define distinct scent receptors (Krishna, 2011). These 1,000 receptors combined have the ability to distinguish between and recognize as many as approximately 10,000 different scents and scent combinations (Buck & Axel, 1991). Additionally, studies in odor recognition have proven that people are able to correctly recognize odor more accurately when experienced even years later than they are to accurately recognize or remember memories based on the other senses. For example, in an odor memory study conducted by Engen and Ross, accuracy for odor recognition dropped from 70% immediately after exposure to 65% one year later (Engen & Ross, 1973). The low rate at which this recognition drops is indicative of the strong sensorial "memory" associated with the sense of smell.

There is definite opportunity for improvement in this area of sensory marketing and more specifically, the package design development process in designing for the olfactory sense. Furthermore, given that this strategy has not been actively employed as a method of package design, there is further opportunity to surprise and delight the consumer. Given the strong nature of the

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deep-seated emotional connection, the olfactory sense stimulation could have strong connective qualities that capture and engage the consumer during their product evaluation process. Below are a few examples of how olfactory sense stimulation has been successfully used on products in various categories:

Take for example Katy Perry's Teenage Dream CD cover, Figure 14 that launched with a Cotton Candy fragranced varnish. The idea was clever enough, Katy Perry is after all found lying in what appears to be a large pink cloud made out of cotton candy. There could be a synaesthetic disconnect however, with the peppermint stripe graphic treatment that was applied to the album title. If one sees pink fluffy cotton candy clouds and also sees peppermint striped graphic treatment this could cause a split second of confusion if the consumer picks the package up and smells cotton candy. The package is close to a holistic message but falls just slightly short. I believe that (depending on the product type and what is driving the consumer) these mixed messages and small disconnects can throw the consumer off just enough to make them move on to the next item. Is is a smart idea to include the scented varnish that connects with the cotton candy visual and engage the consumer through multiple sensorial touchpoints.

Figure 14. Katy Perry, Cotton Candy Scented CD Cover (Katyperry.Com)

The premise of the Showtime hit show Weeds is based on an atypical drug dealer: a young widow and mother of two that sells cannabis as a way to support her family. In this advertisement of the show, Figure 15 Showtime uses a marijuana-scented varnish printed in strips to the right of the advertisement with the headline "Catch the buzz!". In a study on sensory imagery, Krishna states that including the sense of smell in a advertisement such as this can increase visual imagery memory; however, the inverse statement is not true – having a picture in the ad does not increase recall for the smell (Krishna 2011). An additional key element to note, that leads to a holistic design is the icon of the cannabis plant at the top right as well as the copy communication. One disconnect may be the heavy use of sunflowers.

Figure 15. Weeds Television Series: Marijuana scented advertisement

(www.aoltv.com)

These are good examples of how scent can be applied to a music product or advertisement to stimulate the olfactory sense. What if corporations and retail environments defined and validated the "smell" of their brand just as they define the style guides that describe their brand colors or fonts? For example, Tide® laundry detergent is famous for its scent of the detergent and the way your clothes smell throughout the day after its use. What if some of the fragrance that is used in the product was infused into the plastics of the bottle during development? This way there would be a light smell as you pass in front of the product in the store and it would trigger your senses.

According to Krishna, researchers have found that products and store environments with a pleasant aroma have the tendency to positively affect the

evaluations consumers have of these environments (2011). Additionally, the smell of a retail environment affected the time spent in that environment (2011). An additional opportunity lies in retail spaces defining their "store smell". Perhaps if a retail environment has an overall pleasant ambiance and a part of that ambiance is the brand smell, this same smell could be added to the varnish of advertisements or products sold outside of the retail space. The goal is not to manipulate but rather to invoke the senses. Starbucks® is a great example of this. If you go into a freestanding Starbucks®, and then go into a "store-within-a-store" concept like Starbucks® within Fry's®, the smell is the same. If the consumer at Fry's loves Starbucks, they will likely be drawn to the Starbucks® in their grocery store and make a spontaneous purchase.

Bath and Body Works® (BBW) is a retail environment that is successful at capturing the olfactory sense. You can't pass in front of a BBW store without your sense of smell being overwhelmed with fragrance. This has the strong ability to draw consumers in to look for what the interesting mix of scents is made up of and how to create that same sensorial experience in their house.

There are many ways to reach consumers through their sense of smell that are not being used today. This is an opportunity in the future for new, more innovative ways of capturing "The Enigmatic Sense of Smell" through various consumer touchpoints (Herz, 2004).

2.2.3 Taste

Taste is a critical sense that is closely tied to the olfactory sense. Zietz states that the sense of smell plays a great role in the "taste" of food or a meal, these two experiences are not perceived independent of one another (Zietz,

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1962). A synaesthetic connection naturally exists, however, this has not been systematically investigated on a large scale. Haverkamp suggests the reason is because, the connection between smell and taste is "thoroughly self-evident in daily life" (Haverkamp, 2013).

Taste is also associated with the feeling and "shape of words" as we experience and/or say them. Therefore, it is important to consider the implications of the word choices and typographic expression to express the ideas about a brand or product. Also, important to consider is how the shape of the words relate to the taste and the feel orally when spoken.

In a study conducted by Spence and Gallace on cross-modal sensory experiences they sought to determine the level of association taste has with shape and "nonsense" words in a given design, results provided valuable information on developing product shape, graphics and brand names that fit a product taste and how that ultimately affects consumer perception to the holistic experience (Spence and Gallace, 2011). Twenty participants were chosen, ages ranged from 18 to 60 years old, male and female. Respondents were given paper scales, which they were to use to score the food and drink stimuli on. The scales had "sharper" shape/nonsense words on one side of the scale and "softer/more organic" shape/nonsense words on the other side. Respondents were simply asked to make a mark on the scale line. The participants' responses were measured using a ruler and distance from the mean point (the center of the scale). Participants *did* have similar scoring patterns meaning there are taste associations to shape and words were consistent. For example, participants scored the sparkling water and cranberry juice much farther toward the angular

shape and still water toward the soft shape. Additionally, respondents scored the taste of brie and caramel covered chocolates toward the "Maluma" (softer sounding) word as opposed to the "Takete" (high-pitched) sounding word. This study proves that designers can use different visual and verbal elements to stimulate the visual and taste senses to play off of one another. This study provides useful insights into how to create "holistic designs". Designs that upon first glance "feel" right because the words, colors, graphics, smell, composition, fonts all work together to express the concept. All elements validate one another and thus, communicate the product concept through connecting the senses.

Food companies compete in a saturated market. Grocery store shelves are filled with product offerings. In order to maintain a competitive and engaging edge over the competition, developers can look to other product development categories ranging from personal care to technology to gain inspiration and ideas on how to develop products in a way that engages the senses. Looking to other categories for ideas can help create meaningful slants that help activate the way products are brought to life through the senses and aesthetics so that meaning in embedded resulting in an emotional response and experience.

Taste has the opportunity to tie into other stimulating factors in design by creating a sense of "craving". A craving can be created through enticing visual representations that compel the consumer to the product. Visuals can be created that affect the sense of taste perception when the consumer is in the context of the shelf set. Thus, craving drives product repeat purchase behavior.

The Campbell's® Soup packaging in Figure 16 is a strong example of how a product can create a sense of craving . The design on the left is an example of

the packaging as it existed for years with the iconic red in the top half of the can, the "Campbell's® logo with "CONDENSED" below it and the simply and clearly stated soup flavor in the bottom half of the packaging. When the brand relaunched, an image of an enticing bowl of soup is shown with steam to connote warmth and fragrance wafting. The wave shape that was incorporated in the bottom line of the red further communicates a sense of aromatic movement. The visual of the bowl of soup is reminiscent of memories enjoying a warm, savory bowl of soup and is enough to create a sense of taste and craving. Thus, compelling the consumer to pick the product up and put it in his or her basket.

Figure 16. Campbell's Chicken Noodle Soup Packaging Examples. (campbellssoup.com)

Taste has the opportunity to be a part of a brands equity. For example, Altoids®, Figure 17 is known for its distinctive, "Curiously Strong" taste. This adds value to the overall product and the design (Matiotti, 2000). According to

the wrigley.com website, Altoids was first introduced in the 1780's and marketed to relieve stomach discomfort. The history page of the brand website states that the brands irreverent, quirky personality has led Altoids to be a top-selling mint in the U.S. In the 1920's the brand started the campaign we know today touting "The Curiously Strong Mint". This is still going strong today. Because of the strong equity in the base peppermint flavor of the mint, Wrigley® has been able to successfully expand into additional flavors including spearmint and ginger as well as alternative forms such as gum. The base peppermint flavor being loved by consumers, combined with Wrigley's commitment to communicate a consistent message that ties with the heritage of the brand yet evolves with consumer desires through the years for additional flavors and forms is a good example of taste as a brand equity.

Figure 17. Altoids® Packaging. (www.wrigley.com)

2.2.4 Sight

When designing a brand, new product or an advertisement, sight is the primary way we communicate with consumers and is the dominant sense

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(Krishna, 2011). As designers, we select colors, typographic treatment and ultimately the composition of how the information is organized. In addition, designers select whether to use photography, graphic illustrations, words or icons to communication this information. All visual content carries meaning. The visual representation of how a package and design is brought to life is based on a number of inputs including, 1) information on the brand, brand positioning, 2) brand equities, historical information and future forward thinking that needs to be incorporated, 3) information specific to the product line – what it needs to communicate, 4) trends and 5) the filter of the designer and how he or she receives the inputs. All of this directly affects the visual output of an aesthetic or product design. Decision makers in the development process also influence the resulting aesthetic. If tested with consumers, they also have the capacity to influence. At the end of the day, consumers vote with their purchase by either placing the product in their cart or leaving it in the shelf set. Therefore, it is important to include consumers' feedback. If an innovative, groundbreaking idea is being presented, consumers might not have the right future-forward context or information to properly evaluate and give feedback and response to a stimulus. The company, designers or research agency launching the test will need to be able to apply the proper weight to consumer responses and how much influence they have in these instances.

According to an article from Brand Packaging magazine, Neuroscience is a new research-marketing tool that seems promising when combined with the information from eye tracking data. These two research methods are being used to study the emotions of respondents to a packaging stimulus. Neuroscience data

is being gathered and analyzed within a framework that considers information along two dimensions: emotions and cognition, see Figure 18 (Young, 2011). EEG readings are used that reveal both emotions and cognition (2011). The eye-tracking data is used in combination with the EEG readings. By linking the two, the test is able to give valid reliable information on consumer's actual responses without asking the respondent to claim or describe their feelings or behaviors. This can ultimately guide developers of products and designers to understand what was perceived as positive or negative and ultimately allow them to make visual design decisions on the content of the package. These decisions can help drive consumer engagement and appeal on an emotional level based on the output of the visual stimulus and what the package or product communicates visually via the design.

Figure 18. Biaxial Map Depicting Cognitive Versus Emotional Response Corridors (www.brandpackaging.com)

According to Young, in a crowded shelf set and busy marketplace, products that (visually) "break through" and make an immediate and strong connection will likely be the products that end up in the consumers shopping cart (2011). This breakthrough is visual. The product must be compelling and the right communication must be clearly communicated to consumers. Neuroscience and eye tracking data is being used to ensure the right information is in place. For example, Young states "marketers and designers would like to see their packages fall in the "interest" quadrant (with positive emotion and high cognitive engagement). However, they have found that many products fall into the "easy enjoyment" category" (2011). This means that the product invokes positive emotions, is comfortable and familiar; however, does not require significant thought. Marketers and product designers must make the experience as simple as possible for consumers shopping the category. In addition, designers of the product should design to help guide consumers to the right product for them.

In his article, Young uses the example of neuroscientific visual equity research that was conducted prior to a redesign of the Gerber® brand (2011). The Gerber® company wanted to determine what information on their current packaging was relevant or important to consumers. The research reinforced the importance of the Gerber® logo and iconic image of the baby at the top of the package, as shown in the green overlay, see Figure 19 (2011). In addition, the study revealed what information was not clearly communicated on the package, in the top right (red). Consumers had negative emotions to the iconic reference

used to communicate the stages in a baby life, and less prominent, difficult to read claims (2011).

Figure 19. Gerber Baby Food Packaging (www.brandpackaging.com)

In addition to visual equities that surround a brand and make up consumer perceptions of that brand – visuals are used to communicate ideals that surround a brand. The Dyson® brand is a brand that revolutionized the vacuum category through innovation. The Dyson® brand develops vacuums that have an easy to use rotating ball that helps the user maneuver around corners. In addition – Dyson® uses a unique process for suction. According to Haverkamp, "the visual attraction (in Dyson products) reflects the commitment to innovative technology" (Haverkamp, 2013). Dyson® products have a futuristic quality, stylish colors are used and they appear almost science fiction influenced (2013). Haverkamp goes on to state that the audible sounds and the pitch sounds like an aircraft engine, is synaesthetically appropriate when compared to the products aesthetic representation (2013), see Figure 20.

Figure 20. Dyson Cinetic Big Ball（www.dyson.com）

When considering how our world has evolved visually throughout the continuum of time, it is interesting to consider motion pictures and technological advances. Consider the sensorial evolution of the movie watching experience; one might say that science fiction is close to becoming a new reality. We have evolved from silent motion picture in the late 1800's, to black & white television and the introduction of sound, the proliferation of color in the 60's, and finally 3D televisions in the 21st century. Some of the visually realistic depictions of the 3D experience and simulation have the potential to visually transport us to semi-alternative experiences that help us temporarily leave our current place in time and existence. These advances have become ever more seemingly "realistic" through 3D technological advances. Video games have also become a form of escape, as these simulated worlds are visually readily accessible and simulate reality closely. Many of the new movies and video games are using types of animation that visually appear even more real than real, meaning they seem to

be "perfect" in their representation leading the consumer to "aspire" higher than ever before.

As examples of the manifestation of the visual continuum associated with movies, I have included movie posters from the Modernist, Post-Modernist and current 21st Century eras for review and evaluation.

Modern movie posters appear to be flat in color, using two and three color, schemes and iconic graphic representations, see Figures 21 & 22. The flat style is due in part to printing limitations during that time. The style of the modernist era denotes the rise of the industrial revolution and as the example in the "Metropolis" movie poster, because of the way the buildings are viewed in a way like "looking up into heaven". This connotes the role of industry and technology in a light comparable to a deity role. This shows how highly technology and industry were thought of. In modernist time periods, society had clearly defined gender roles which were very black and white; men went to work and women stayed home, while upholding a certain image of what was standard in "keeping up with the Jones'" and maintaining the "white picket fence" appearance.

Figure 21. Modernist Era
Metropolis Movie Poster.
(imdb.com)
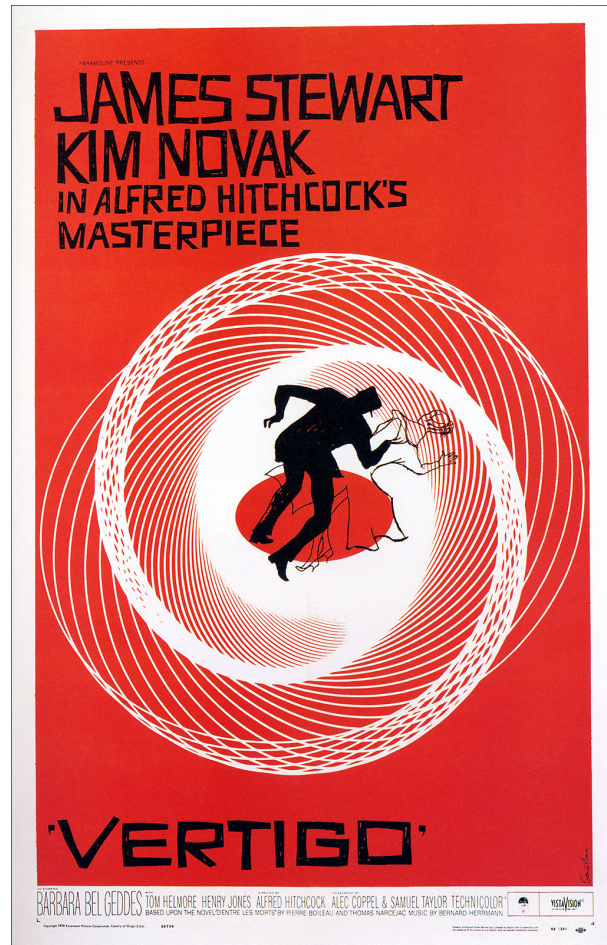
Figure 22. Modernist Era
Vertigo Movie Poster.
(imdb.com)

Everything changed in the post-modernist era, as everything was not

necessarily seen as "rosy" and positioned as "perfect" like it was in the modernist

era. Everything in the post-modernistic era was questioned, parodies were made

and technology became at times, the villain. In the movie "Blade Runner" (made

in 1982) humans were developed that were "more human than human" that

terrorized society, see Figure 23. The movie took place in 2019. Now in the 21st

century, we are creating animated characters based on actual human characters

and movements and then optimizing them during post-production animation to make them more advanced, superior to the actual filming of humans, more perfect. Perhaps Ridley Scotts' ideas in Blade Runner were prophetic and the idea of humans as "more human than human" is coming true as we approach 2019 and see how the representations in cinema have evolved as shown in movies such as Avatar, see Figure 24.

Figure 23. Post-Modernist Era Blade Runner Movie Poster. (imdb.com)
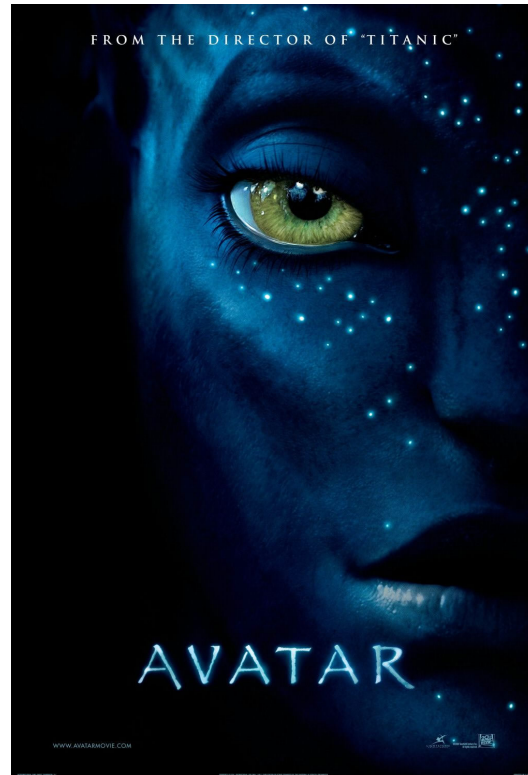
Figure 24. Late 20th Century Avatar Movie Poster. (imdb.com)

What is next? When will scent and touch be added to the visual experience? Scent could be created in a similar manner as printing with extended gamut. In extended gamut printing, there are 6 standard colors that

are used, modified CMYK + Orange and Green, which when combined can create millions of different colors. This could be the same for scent reproduction, fragrance houses could develop this technology and come up with 6 or so standard fragrances that when combined could create millions of fragrance combinations. First, this technology could be launched into movie theatres to determine its effectiveness. Touch could be more challenging; however, certain types of air feel could be simulated through the use of humidifiers and fans to create a breeze or wind to simulate a storm. It all depends on how "real" we really want the movie experience to get. As far as the visual representation, our expectation is quite real. This is proof that we place the visual sensorial experience at the top of the sensorial pyramid.

2.2.5 Sound / Auditory

Sounds can be a very powerful branding tool. Krishna states that much of all marketing communication, be it songs, jingles, music and phrases are developed that invoke brand recognition are auditory in nature (Krishna, 2013). Often times these jingles get stuck in your head to remind you of a brand. In Germany, these sounds are called "ear worms".

Sound can have so much impact, they can even create a lasting impression on canines. Take my pug Sophie for example, Sophie watches television very intently and barks at her favorite commercials usually containing dogs or horses. On several occasions, Sophie has broken into a barking fit while in the front room when the TV in the back room plays one of her favorite, antagonizing commercials. From the back room she hears the sound and it sets her off. It is fascinating.

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Sounds are used for many brands. The tempo of the sound chosen in a commercial to represent a brand has proven to have an impact and persuade mood (Krishna, 2012). A quick tempo can have a positive uplifting impression. A slower, calmer tempo can leave a more relaxing feeling. Sounds that climb higher and lighter in pitch can have a positive connotation, while sounds that get progressively lower and slower can have a more dramatic feel.

Sound can attach meaning to certain words chosen to describe a brand or communicate information about a product. For example, in a test conducted by Yorkston and Menon for ice cream brand names, it was proven that the brand name "Frosh" sounds creamier than the name "Frish" (Klink, 2000). I surmise that this is because of the "o" in the middle of the word. Sounding out an "o" has a softer, rounder shape to it than sounding out an "i". Krishna states, "when a brand name sounded congruent with expectations, they found the brand evaluations to be positive" (Krishna, 2012).

Sounds can also be used in product design to communicate that something is closed and secure. For example, when the cap of a body wash is opened or dispensing a sound is made, validating that the action of opening was completed. Additionally, if the cap is closed, there is usually a latch-like sound that validates back to the user that the product is closed. This subtle reinforcement offers reassurance if, for example, a user is planning to toss the bottle of body wash into a gym bag. To achieve a synaesthetic design that is holistically honest - if the product is meant to be a moisturizing product, the sound of opening and closing should also reflect this softness.

Sounds are also associated with quality and symbolism that should align with consumer expectations. For example, in luxury cars, the sound of the door shutting should be smoother and with a lower frequency than in lower quality vehicles (Krishna, 2012). Also, a higher frequency bark is expected from a smaller "yappier" dog than with a large bulky dog. A deeper sound, or lower frequency deeper bark or growl is expected with a larger breed dog (Krishna, 2012).

In the motorcycle market, enthusiasts take great pride in a loud rumbling engine when roaring down a long stretch of road or through town. The Harley-Davidson® brand attempted to trademark the sound of its engines through the U.S. Patent office. The attempt to prove uniqueness continued for several years, from 1994 to 2000 (Tsay, 2014). This was ultimately unsuccessful and the company discontinued its pursuit of protecting the sound. Tsay goes on to explain, "Much to the disdain of Harley loyalists, the US Patent and Trademark Office and other motorcycle manufacturers believed there was nothing unique about the sound from a Harley-Davidson®" (Tsay, para. 2, 2014). The signature sound is described as sound such as a repeated phrase: "potato-potato-potato". The Harley Davidson brand has since switched its focus to developing products that speak to new potential customers. The Harley-Davidson® brand's new project, "Livewire" is focused on developing a motorcycle with an electric engine similar to the approach the Tesla brand took, see Figure 25 (2014). What will an electric engine sound like? According to Tsay, the electric engine "Livewire has an explosive, almost fighter jet-like scream that instantly becomes its differentiator" (Tsay, para. 9, 2014). Though this will undoubtedly be a major

differentiator, it will be interesting to see if this positively or negatively influences the brand given the loyalty is in part due to the brands signature sound. I believe this all depends on how the line of products is positioned, how the target market is identified and how these messages are communicated to the target consumer. This is an interesting innovative territory for sound and the marketing of a brand with equities in this sense.

Figure 25. Harley Davidson Livewire Electric Motorcycle (www.harley-davidson.com)

Brand logos can be developed with a multisensory affect depending on how they are composed and the elements of design choices, typographic treatment, color, sound, meaning and brand name. Haverkamp uses the example of the brand logo of the Milk Union Hocheifel, shown in Figure 26. In this example, the logo does several things: 1) creates an acronym for the company

name, 2) creates a graphic representation of a cow and 3) the acronym if sounded out creates the onomatopoetic imitation of the quintessential sound a cow makes (2013). This logo is a synaesthetic representation of a logo design in that it has the potential to stimulate the senses on multiple levels through the visual and auditory components. Haverkamp goes on to state that the blue swoosh line below the cow-acronym could represent either the animal connected with a stream of water in a field or could reference and emphasize the melody of the animal sound (2013).

Figure 26. Milch-Union Hocheifel eG logo. (http://www.arlafoods.de/)

Like the other senses, sound can become a part of a brands equity. For example, the sound of Pat Sajaks' voice from Wheel of Fortune, or the sound of the spin of the wheel from the show, may instantly transport one back to a place in time. For example, their grandparents living room, where the show was watched every evening. In addition, ambient sound or background music in a retail environment can have a lasting impression and build either a (relaxing)

positive or (irritating) negative impact on the person shopping the store. These sound impressions combined with other multi-sensorial stimulations work together to create a holistic impression about a brand, show, store or hotel environment.

2.2.6 The Metaphorical 6th Sense

This research and study will introduce the Metaphorical 6th sense. This sense deals with the *transformational* or *escape* effect a consumer may experience as they perceive a product or brand. Examples of *transformational* and *escape* sense expressions are: "smells like sunshine" or "the smell makes me think of the beach in Belize". In addition, the definition of *escape* expressions includes reminiscence and/or feeling. Examples of such responses could include "reminds me of baking cookies with my grandmother" or "looking at this product makes me feel calm".

Responses that are metaphorical in nature can also be greatly influenced by social circumstances, trends and culture. For example, if a set of products were tested to understand responses in the United States and in India – the responses would be very different because of the role of culture. The role culture plays into a design is an important consideration from a global perspective as brands proliferate and grow into new and emerging markets. Simply stated, brands need to "speak the language" of the market they intend to engage with and appeal to, on an emotional level. What specific elements a design intends to connote or denote will have significant impact on perception.

Levinson (1983) argues that "an understanding of metaphor lies beyond the realm of semantics, claiming that: an important part of the force of any

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metaphor thus seems to involve what might be called the connotational penumbra of the expressions involved" (Levinson, 1983, p. 150). This includes "the incidental rather than the defining characteristics of the words, and knowledge of the factual properties of the referents and hence knowledge of the world in general. All of these matters are beyond the scope of a semantic theory, as generally understood within linguistics" (Levinson, 1983, p. 150). Since these effects tend to be incidental rather than necessarily intentional, they can be more personal to the viewer of the object. It can be difficult therefore to apply a general synaesthetic effect to something that has an intended metaphor. Levinson makes a good argument that metaphors, if taken too literally, have the capacity to violate the maxim of quality, or in other words are conversationally inadequate, especially with regard to relevance (or simply stated as 'make your statement relevant to the conversation') (Levinson, 1983 and Day, 1996). Since metaphorical 6th sense responses to a stimuli can be interpreted in any number of ways and be very personal to the respondent or consumer, it may be difficult to cull actionable feedback during the testing process.

The Calgon® brand is a good example of using a metaphor for product design and development. The metaphor may be perceived uniquely by each person using the product. Calgon® played on this metaphor in it's marketing message with the tagline "Calgon®, take me away!". Calgon® did not however explicitly define what "take me away" meant. For example, they didn't say "take me to the beach". However, they do connote the place of escape being the ocean, with the use of "ocean breeze" as the fragrance name and depiction of watery

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imagery on their product, Figure 27. The specific place of escape is left to the imagination of the person using the product.

The personal cleansing category is a good category to use a metaphor to communicate the product experience. Cleansing products have a washing away or cleansing aspect that can be refreshing and *transformational* to the user. As with the Calgon example, bathtime can be a relaxing time of calm and escape. Soothing, warm water in general is calming. Bathing with pampering types of products can add to the effect of a calming, pleasant escape through the senses including scent, touch (lather) and the metaphorical sixth sense of escape. Stealing a few minutes away from work, family and household responsibilities. The Calgon® product was designed to transform your simple bathtime into an escape through the fragrance name of the product, "ocean breeze" the imagery and likely the fragrance and feel of the washing experience. The product package looks as though it would smell fresh and watery. This is a synaesthetic response to this package because the smell is being described based on the visual. The visual is stimulating the idea of what the product will smell like.

The next step for a consumer in validating the product is determining whether or not the product delivers on the consumers expectations, in-use. Ultimately, this will drive the decision to repeat purchase or move on to the next product option. This is where brand trust can be built or broken. If the product does not deliver on the consumer expectation of "fresh and watery" in a positive way, this will chip away at brand trust. If the product smells fresh and watery, is reminiscent of a happy memory near the water, and in addition, has the

transformational quality of leaving the consumer refreshed, this is a positive

product experience that should drive brand trust.

Figure 27. Calgon Bath Beads. (http://www.bedbathandboyond.com)

Another interesting way to break down designs and images that convey

metaphorical expression is to analyze and define what the content means to

denote and/or connote. It would be important to understand whether or not the

viewer has more synaesthetic responses to what a design denotes (more specific

and explicit) versus connotes (less literal, more contextually or culturally

specific). If so, what senses are tapped by these different types of messages?

Connotations in the designs could generally be categorized as metaphorical,

because connotations communicate something that leaves a familiar feeling that

ties to culture or some other familiar context. Having a deeper understanding of

what a multi-modal sensorial expression can achieve along with an

understanding of how to express it; helps a designer achieve two things: (1) effectively express the intended message and (2) help reach the intended consumer target. Not all products are mass marketed and intended for all people. If a particular set of products is directed at a specific audience, the communication should be more explicitly directed to that audience via all communication touchpoints. However, it can be done in a connotational way, if you want to keep the target audience "exclusive". In other words, the designer may not want to simplify the message so much that everyone in the mass market "gets it". In this case, keep the message authentic so the intended exclusive audience will delight in the fact that the metaphorical connotation was meant just for them.

The example, Figure 28 is intended to show connotative representations versus denotative representations, from the fine fragrance category. This is a category that tends to use suggestive or connotative imagery, bottle shapes, etc. As opposed to being explicit, it is meant to be left to the imagination and more "experiential". My observation is that this is used to create more of an *escape* or *transformational* experience for the consumer. In the examples below, I will compare and contrast two perfume advertisements on the basis of whether they denote or connote the messages they intend to communicate.

Figure 28 is more metaphorical in its representation of the product Midnight Poison®; and expresses via connotative visual representations. The composition is wrapped in a syntagmatic flow. Colors of night are mystical; contrasting darkness & light plus purple denotes allure & imagination. Black fingernails connote danger and allure. Red lips, signify daring, sparkles signify

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fairytale, magic, the unknown. The copy "A new Cinderella is born" signifies

fairy tale. Iconic figure, Ava Green is depicted with mysterious violet eyes, her

hands frame her face as though she is floating. Her pale skin, which has not

seen light is contrasted with dark eyeliner. Symbolic use of the perfume bottle

looks like it is filled with an elixir that is smoking, this connotes mystery and

power.

Figure 28. Christian Dior Midnight
Poison Advertisement With Ava
Green. (www.mimifroufrou.com)

Figure 29. Hidden Fantasy fragrance
Advertisement By Britney Spears.
(www.mimifroufrou.com)

The second example of the perfume by musical pop star Brittany Spears is

more literal in it's fragrance representation, Figure 29. Hidden Fantasy is

connotative. The colors are bright and happy, yet the viewer can see into a

darker background, which denotes something hidden. Earrings and the abundant floral motif in the foreground and background clearly denote a floral fragrance. Sparkles on the bottle connote fairytale, magic. Britney Spears is imbued with light, sensuality & deception as an intentional contrast with the word "Hidden". These visuals all carry meaning and the messages in this particular advertisement are more denotative or literal in their representation. Midnight Poison is more metaphorical and connotative in its representation.

It would be interesting to understand, if the sense of taste could be evoked during the fine fragrance experience once the perfume is sprayed. Imagine if a fragrance not only smelled good but also had a subtle mouth-watering taste as well to stimulate the sense of taste. This is an example of more opportunity that exists within the realm of synaesthetic design and product development.

2.3 The Synaesthetic Approach to Design

Synaesthesia is an immediate and involuntary response such. When one sense is stimulated it immediately and involuntarily stimulates an additional sense modality or additional senses. "Although synaesthesia has been known to exist as a phenomenon for more than 100 years, it has only recently become the topic of renewed scientific investigations" (Hubbard, 2007, p. 197).

There are multiple types of synaesthesia since the phenomenon can occur between any two sensory perceptual modes. Synaesthesia can range from "tasting sounds" to "seeing smells". All people experience synaesthesia on some level and synaesthesia should be considered during the design development process. To achieve the goal of a synaesthetic design expression, it is important

to understand consumer needs and expectations and design products that deliver on these expectations.

When a consumer experiences a brand logo, advertisement, product or package design, multiple senses are stimulated simultaneously that within seconds result in an immediate impression that is either naturally "good" or "bad". The stimulus either positively affects the brand message or something feels amiss. Consumers and people in general don't have the capacity to separate out the information they receive through the senses. It is important that all sensorial touchpoints consistently and accurately represent the brand and product communication (refer to Figure 4). The qualities of the perceived object that are subjective and personal to the viewer are referred to as "qualia" (Haverkamp, 2013). The perceptual properties can change or be influenced within seconds and are described as "the qualitative aspects of consciousness" (2013, p. 114).

As stated in the introduction, often times consumer testing is done at specific yet various stages in the design development process. For example, structure is developed and tested. Next a label design is developed and tested. Finally, a product is developed and tested. Sometimes, no consumer testing is conducted at all. This does not give consumers the chance to give holistic feedback to the total product experience that includes both product and package. Qualitative testing is a great approach since it gives consumers the chance to interact with the product so that designers and researchers can gain rich, quality data. Qualitative testing is more concerned with the subjective data (words, images, etc) and responses from consumers as opposed to quantitative

which is more concerned with the gathering of objective data, variables, etc. (O'Grady, 2006). Within the past twenty years, the importance of gaining an understanding of the subjective qualities of perception has regained scientific acceptance (Haverkamp, 2013).

Qualia is an important component in understanding how consumers receive the information developed that manifests itself in the form of a package, an advertisement or a logo. As the research from the literature review has proven, if the perceivable components of a product begin to feel discontinuous, "we form classes and distinctions, we think of classified entities as being isolated from their context. As our mode of thinking becomes discontinuous, we fail to see continuities and relationships" (Damle 2009). Discontinuity chips away at the perception of a products quality and trust. Discontinuity gets in the way of the total product experience. This is why it is important that a common brand message is threaded through all consumer touchpoints. In addition, communications specific to the product line extension or concept is clearly and succinctly communicated by way of the brand. According to Havercamp, synaesthetic product development has 2 main areas of concentration, 1) "The manufacturer's image, brand identity as represented by the multisensory characteristics of the brand – brand image as part of the corporate image and 2) the multisensory appearance of the product within the manufacturer's product range" (Havercamp, 2013 p. 43). This must include all elements of the brand expression: color, shape, typography, scent, feel and words to create a holistically "honest" design. According to Haverkamp, "synaesthetic design has

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the goal of achieving the optimal figuration of objects based upon the systematic connections between the (sensory) modalities" (Haverkamp, 2013 p.15).

In addition, according to Havercamp, "the human perceptual system is not capable of following and cognitively evaluating a variety of signals simultaneously with the same degree of concentration; therefore, the design process must provide for the clear selection and the hierarchical organization of (information and) signals" (Havercamp, 2013 p. 196). Marketers, product developers and designers must choose the right information that appropriately represents the brand while clearly and quickly communicating the product benefits and key functions. There is generally a lot to communicate about a product; however, it is important to be selective with what is included on a package. Besides the brand, consumers can generally process 2 – 3 key points of information about a product.

The overarching goal of the synaesthetic design approach is to create a harmonious gestalt that delivers on consumer expectations. This can be done through the careful composition of all elements that have the opportunity to create sensations stimulated by the object to communicate a synaesthetic and holistically honest design (Haverkamp, 2013). This should be done in an easy to understand, pleasing manner that delights the consumer. In addition, coinciding with the particular function(s) that drive the consumer and solve their need state (2013).

An optimal design that uses the synaesthetic approach, should deliver a feeling of "well-being and high standard of living" (2013, p. 28). Consumers should feel good about the products they purchase and not have to second-guess

what is inside or whether or not the product will deliver to their expectation

once in-use. Positive consumer connections should occur through all of the

sensory modalities working in unison with and through the product in use.

(2013).

2.4 Examples of Synaesthesia

Synaesthesia, described as "sensory overlap" or "the blending of the

senses", is a phenomenon that manifests itself in multiple ways. In order to

better understand this phenomenon, several examples will be described.

There are many different types of synaesthesia, such as "the taste of

shapes" or color grapheme synaesthesia which is the ability to remember the

spelling of words based on the "color" of the word or numbers based on the

"color" of the number. Synaesthesia has also long been associated with music.

According to Havercamp, "the hearing of colors is one of the forms of involuntary

parallel sensations" (Havercamp, 2013, p. 295). In French this condition is

referred to as "audition coloree", in English as color hearing (Havercamp 2013,

p. 295). Havercamp explains that most people in general have the ability to

assign color to an auditory "by virtue of analogy relationships" (Havercamp,

2013, p. 295). The ability to assign colors is not necessarily absolute, rather it is

dependent upon circumstances, situations and context (Havercamp, 2013, p.

295). I will explain further the connection to analogy in a later example.

Some testing has been done to understand the most common synaesthetic

responses to a stimulus. There are certain combinations that naturally emerge

more than others. The most common types of synaesthetic responses in the

English language are "colored sounds" (Day 1996). Day describes that the sense of hearing is the most expanded upon sensory perception.

Furthermore, "hearing outstrips the other senses as the most common for which to attach metaphors; touch is the most common sense things are expressed in. In other words, the most common synaesthetic response are along the lines of 'hearing -> touch'; that is, for example, a "harsh sound" or a "soft word" (Day, 1996).

In a study conducted by Day, he sought to determine if there are "sensory ranking patterns of synaesthetic associations and synaesthetic metaphors" (1996). And, if so, what are they? Like Days' study, the conducted research will rank the synaesthetic response patterns in the qualitative portion of the test.

While Days' study is not related to brand or products, understanding the frequency and use of certain types of synaesthetic metaphors found to be most common in writing and linguistics is an important contextual slant for understanding the overarching reach of the synaesthetic effect. Content management, words and brand storytelling are after all an important part of the brand development and management process.

Day culled information from his study about *6 senses* rather than the standard 5 senses, he used: hearing, vision, smell, temperature, taste and touch. Day pulled metaphorical text from a range of known and popular books to rank patterns of synaesthetic associations and metaphors. The books were sourced from the world's library greatest books collection, the Oxford Text Archive and Project Gutenberg. The time range included books from *The Canterbury Tales*

(1837) to Shakespeare (19th Century) to Michael Crichton (modern day author). The author and researcher used tabulation to synthesize and derive the data.

The first step in Days' research included metaphoric text extracted from the aforementioned writings such as "a sour smell" "humid green" and "sharp crack" (Day, 1996). Each books' phrases were captured and tabulated in terms of which senses they trigger and connect. A total of 1,269 synaesthetic metaphors were derived. Next, they were further tabulated. The senses were referenced by "primary senses" and "secondary synaesthetic senses" (responses to the initial trigger) to determine the connections. Day then used an algorithm to rank the senses by subtracting the times a "primary" sense was talked about from the times the sense was used in a metaphorical sense to describe other senses.

Tactile sounds were the most common. Hearing -> touch had the highest rate of occurrence at 42.6% (nearly 4 times more common than the next combination) frequency among the metaphors culled. Next most frequent was hearing -> taste at 11.7%, ranking second. It should be noted that there is a very large gap between the first and second ranking. The third ranking was vision -> touch at a frequency rate of 10.6%. Of the 23 combinations the top 3 accounted for 64.9% of the frequency rating. Falling to the bottom with the lowest frequency of (.1%) were hearing -> smell, taste -> temperature, and vision -> smell. Of all the 1,269 synaesthetic metaphors - some pairings did not even make the list, such as taste -> vision. Taste was the least common metaphor used, even less common than temperature (Day, 1996). Understanding which senses have a greater tendency of connecting is important for designers to

understand as they determine how to connect various points of communication to deliver a meaningful message to consumers.

The next section will deepen the literature review and detail on several different types of synaesthesia.

2.4.1 Lexical-Gustatory Synaesthesia

Synaesthete James Wannerton recorded and mapped out the tastes of 350 plus stations on the London underground. Wannerton has a type of synaesthesia that involuntarily converts sounds into taste. Wannerton has experienced sounds converting to taste since he was a child riding the bus to school and decided to turn his experience into a "gastronomic experience via the underground subway map", see Figure 30 (Brownlee, 2013). Wannerton's map includes descriptions of what "tastes" he experiences at each stop because of the sounds in that particular stop. The tastes are very descriptive, for example, one of Wannerton's favorite stops is Blackhorse Road, which "tastes like Fruit Pastille that is slightly hard on the outside, soft in the middle, and has a lingering aftertaste of burnt sugar" (2013).

Wannerton's sense of sound and taste don't operate as independent senses, they blend and overlap completely. As a result, every word and sound has a distinctive flavor (Samuelson, 2015). For example, hearing a specific sound such as the name Kate, converts to the experience of taste, which includes "a creamy bar of Cadbury's Fruit and Nut chocolate" (2015).
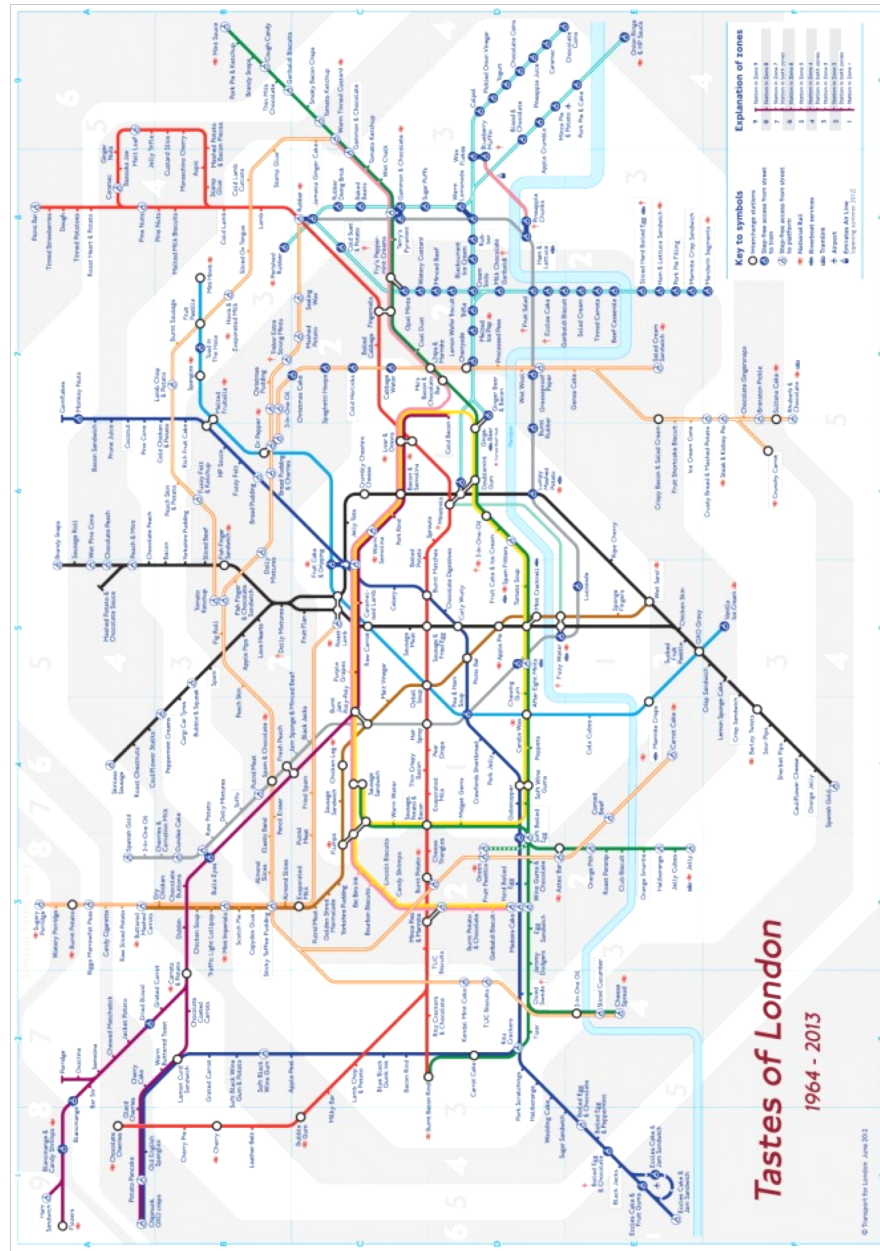
Figure 30. James Wannerton's London Underground Map of Tastes

(www.fastcompany.com)

2.4.2 Color-Grapheme Synaesthesia

Color-Grapheme synaesthesia is one of the most common types of synaesthesia. This is a phenomenon where the synaesthete may see letters or numbers (graphemes) in specific colors. For example, 1's are always green or 7's are always seen as orange, see Figure 31 below.

<p style="text-align:center; font-weight:bold; font-size:2em;">1 2 3 4 5 6 7 8 9</p>

Figure 31. Example of Color-Grapheme Synaesthesia

There has been no "typical" or standard identification among synaesthetes of a set of colors applied to a set of numbers or letters. However, some synaesthetes do see colors and numbers in a similar manner.

Often times in elementary grades, color is used in the teaching of the alphabet and numbers as a method of retention. This is an example where a synaesthetic method is used in teaching for memorization.

Synaesthetes and synaesthetic effect is important to understand and consider during the design development process because synaesthetes have elevated levels of recall, tied to their ability to memorize. According to Dr. Nicolas Rothen as it relates to "binding" and memory, "by studying those with synaesthesia, we can learn about what leads to that specific memory advantage and use it to draw (more) conclusions about the general population" (Samuelson, 2015). It is important to understand how multi-modular processing affects synaesthetes and non-synaesthetes. If affects of synaesthesia can be applied to design to enhance recall, we can create more lasting bonds with the consumer.

In the example below, a study was conducted by Kadosh and Henik to

compare a synaesthete to a group of non-synaesthetes to gain an understanding how synaesthesia affects numerical processing (Kadosh and Henik, 2006). A standard congruity test was conducted that compared two numbers of different font sizes. In this test color congruity was used, the different sizes on the aforementioned test was replaced with different colors. The first respondent, named "MM" was a color-grapheme synaesthetic. The synaesthete was tested versus 10 non-synaesthete controls. The stimulus was two colored numbers shown on a gray computer screen. The distance between the two numbers was 10 cm. Respondents viewed from a distance of 55 cm. Respondents viewed number combinations in three different paired combinations using different number distances (ex, $1 - 2$ up to $1 - 6$ as a distance) The numbers were shown both as congruent to MM's color/number association as well as incongruent; two of the numbers colors were swopped – a total of 6 different combinations were shown. Participants were asked to decide which of the two stimuli shown were numerically larger. Participants were asked to respond as quickly as possible but to take time to avoid error, all while ignoring color. MM participated in 6 groups conducted on different days. Control participated in a single session.

MM, responded faster and more accurately to a larger numerical distance. There was a *significant effect on color congruity*, see Figure 32 (2006). MM was able to process the numbers faster that were within her standard set of color associations (2006). Results of the control group were such that they also responded faster and more accurately in numbers with a greater numerical distance. In contrast to MM, however, *there was no real effect on congruity (2006)*. Therefore, color processing affects numerical processing in synaesthesia.

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In other words a certain color associated with a certain number helped with accuracy in recall by the synaesthete respondent, see Figure 33 (2006).
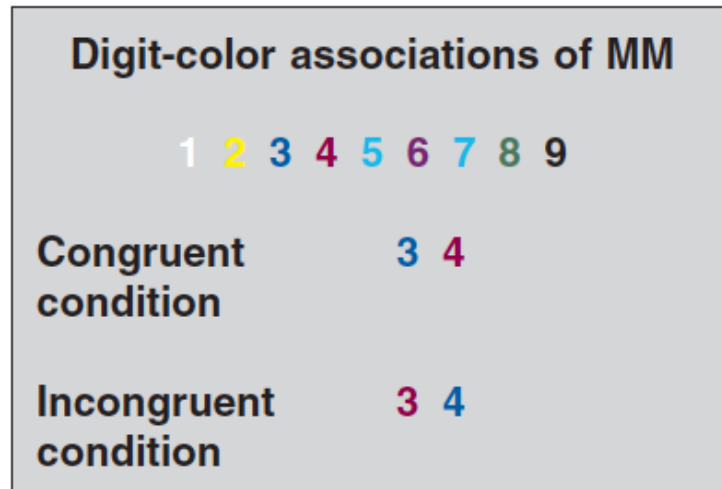
Figure 32. Infograph 1 from the referenced study (Kadosh and Henik, 2006)
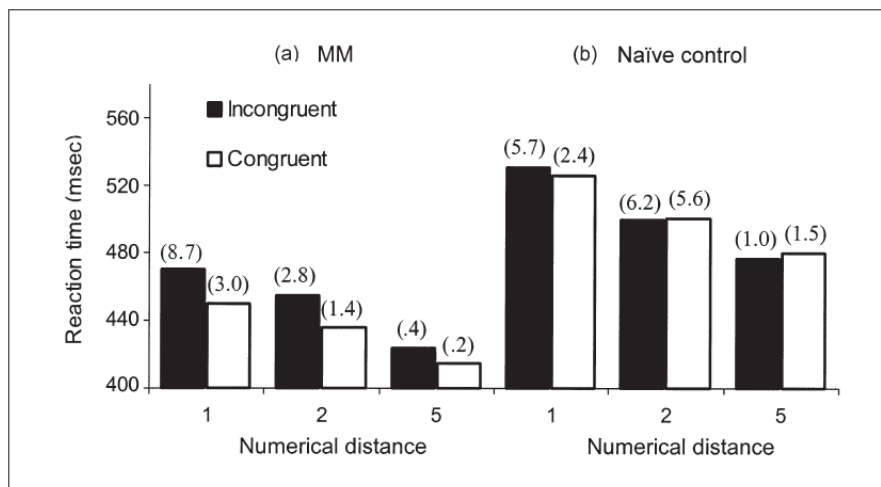
Figure 33. Infograph 2 from the referenced study (Kadosh and Henik, 2006)

2.4.3 Ordinal-Linguistic Personification Synaesthesia

According to Smilek et. al, this type of synaesthesia is a phenomenon in which a synaesthete "attaches personalities to inanimate objects such as numbers, letters, shapes and even furniture" (Smilek, et al., 2006, p. 991). In addition,

many times this phenomenon is associated with sequential linguistic units (e.g., letters, numerals, days, months) (Simner, J., Holenstein, E., 2007)

In the article "When "3" is a Jerk and "E" is a King: Personifying Inanimate Objects in Synaesthesia" is referred to as "TE", a synaesthete with ordinal-linguistic personification was studied, called TE. TE offered rich, and even detailed descriptions of certain objects (2006). It was also observed that "TE's eye movements were at times proved to be biased by her own emotional associations she has with certain objects (specifically letters and numbers) (2006). "This demonstrates that synaesthesia can involve complex semantic personifications, which can influence visual attention" (Smilek, et. al, 2006, p. 991). If found through research that there are specific patterns of feedback surrounding the visuals we create, it is important to understand the meaning behind these patterns. Designers should understand the semiological elements used in design and what these combinations of elements communicate to consumers. Moreover, it is important to understand what the *perception* of these elements is.

A designer from Seattle named Jesse Jaren, has a wife with Ordinal-Linguistic Synaesthesia (Jaren, 2010). Jaren has developed a typeface based off of his wife's description of how she perceives the characters of the alphabet Figure 34 shows the letters that spell out the word "synaesthesia". In addition to personalities; colors and gender are applied to each letter, see, Figure 35.

Figure 34. Letters From The Synaesthetic Alphabet.

(cornfedinseattle.blogspot.com)
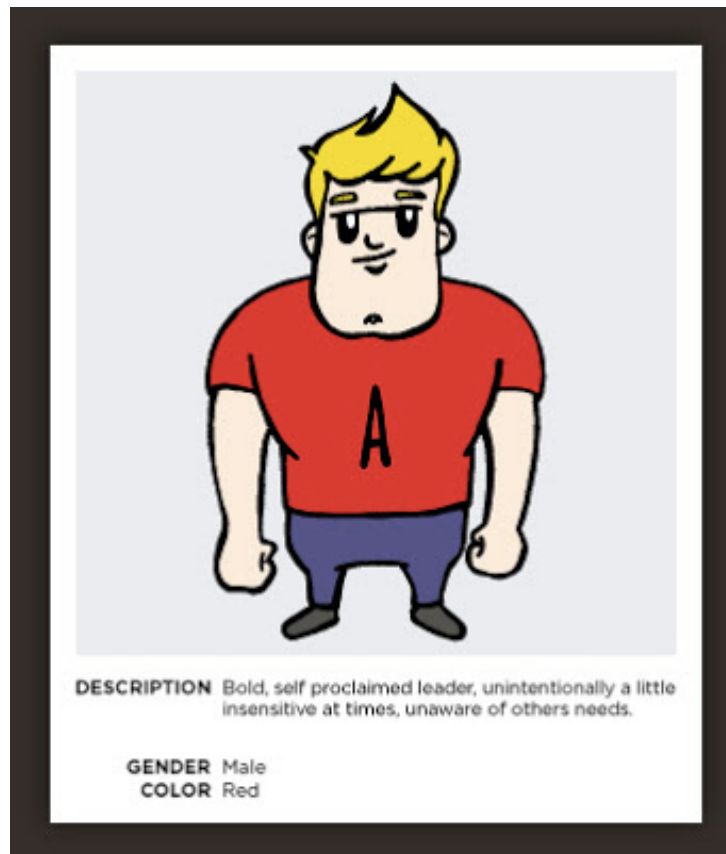
Figure 35. The letter "A". (cornfedinseattle.blogspot.com)

The letter "A" is described as bold, a leader, the color red and male. In stark contrast, the letter "F" is described as a shy piglet, spineless, purple and feminine, see Figure 36.

DESCRIPTION Piglet, shy, hesitant, some would say spineless, helpless, worrier.

GENDER Female
COLOR Soft purple

Figure 36. The letter "F". (http://cornfedinseattle.blogspot.com)
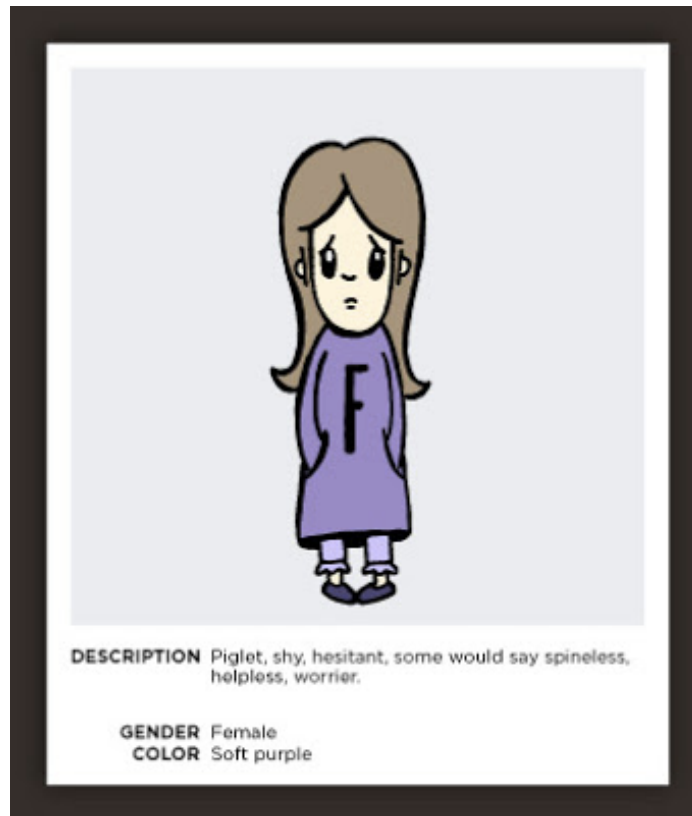
2.4.4 Auditory-Visual Synaesthesia

Auditory-visual synaesthesia is described as the "hearing of colors" or "colored sounds". This type of synaesthesia is understood as being "the sensation of colors as experienced during the hearing of acoustic tones and sounds and involves subjective color-sound relationships" (Haverkamp, 2013, p. 295). Examples of these subjective descriptions may include statements like; a cello

may sound like a "dark velvet or reddish-brown tree trunk-like texture" and a flute may be "dry and transparent with pastel colors" (Mills, Boteler, & Larcombe, 2003). As stated earlier, we all experience synaesthesia on some level, Haverkamp explains that, in addition to synaesthetes, most people are also capable of relating colors, and visuals to an auditory event through analogy relationships. Analogy relationships will be further explained according to Haverkamp's description.

Analogy relationships are determined through a complex series of steps that happen through our perceptual system. For example, the various components of an object or product, such as the objects, texture, color, shape, size, weight, meaning, etc are processed based on distinct chemical and physical phenomena (Haverkamp, 2013).

"These elements are processed through various and distinct receptors, within the neural system. At the end of this complex processing of the elements, an easily comprehensible object appears and the associated properties are sensibly attributed. The coupling of properties is achieved by a neuronal analysis of correlations, revealing the analogy relationship between the attributes." (Haverkamp, 2013, p. 157).

Synaesthetes that experience colored hearing are often times capable of depicting what they experience through drawings and artwork. In the figure below, Max Gehlsen created a drawing based on how he perceives the dramatic song by Richard Wagner, Tristan and Isolde, see Figure 37 (2013). As the song

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progresses, it "gains" layers, continues to "grow" in intensity. This seems to fit the visual beginning from lower left corner and projecting toward the top right.

Figure 37. Drawing by Max Gehlsen depicting his visual perception of Tristan and Isolda by Richard Wagner. (Haverkamp, 2013, p. 298) (Gehlsen, 1927).

This section of the Literature Review has described several different types of the synaesthetic phenomena. There are many other ways the senses overlap and any of the senses have the potential of overlapping. As far as synaesthetes go, experiencing one type of synaesthesia does not mean you experience all types of synaesthesia. However, some people do experience multiple types of synaesthesia. Though the topic has become more prevalent and more research has been conducted during the last 20 years to understand synaesthesia, there is still a lot to learn, where the senses overlap.

2.5 Conclusions to the Literature Review

This literature review focused on three main areas that inform this specific research: Achieving Holistically Honest Design Expression, Designing For The Senses and The Synaesthetic Approach To Design. Designing for the senses and creating products that connect is essential to the overall health and management of a Brand. The products and designs we create must be holistically honest, and communicate the product attributes and features in a concise and accurate manner that delights the consumer and meets their needs. Furthermore, understanding the sensorial connections, what they mean to consumers and where they overlap is an important component that is not typically considered or tested during the design development process. Connecting through the senses, via the synaesthetic approach has the potential to create strong bonds with the consumer.

The Conceptual Framework Diagram 2, Figure 38 connects the research from the literature to the overarching research strategy that will be presented in more detail in Chapter 3. Through an approach that introduces multiple primary sense stimulations in the qualitative interviews (visual then olfactory), we can understand if there are synaesthetic responses. By asking a series of questions, respondents have the opportunity to describe their experience and synaesthetic responses can be culled and tabulated. Through the introduction of the olfactory sense in Part 2 of the test, it will be determined if the stimuli that are presented to respondents hold together as holistically honest designs based on responses from the Part 1 visual responses.

When designing a brand, new product or an advertisement, sight is the primary way we communicate with consumers and is the dominant sense (Krishna, 2011).

"In a crowded shelf set and busy marketplace, products that (visually) "break through" and make an immediate and strong connection will likely be the products that end up in the consumers shopping cart (Young, 2011).

"Most of the research on experiences to date has focused on functional, utilitarian product attributes and category experiences, not on total experiences provided by brands" (Sahin, Zehir, Kitapci, 2011, p. 1289).

"Marketing academics and practitioners have acknowledged that consumers look for brands that provide them with unique and memorable experiences" (Sahin, et al., 2011, p. 1288).

Positive consumer connections should occur through all of the sensory modalities working in unison with and through the product in use (Haverkamp, 2013).

Synthesizing the various design solutions to each of the "sub-problems" into a solution that effectively and clearly communicates what it means to the consumer plays a critical role in the development of an original and holistic concept (Verstijnen, 1997).

"Synaesthetic design has the goal of achieving the optimal figuration of objects based upon the systematic connections between the (sensory) modalities" (Haverkamp, 2013 p.15).

Stimuli

Visual Package

Product Smell

Experience

Response

Synaesthetic Stimulation

Preference

It has been proven by Gestalt Psychologists that our perceptual system automatically categorizes visual elements based on their similarity to one another and then separates them from the surrounding area (Kohler, 1947).

One of the goals is to achieve the desired consumer response to the brand, product or packaging through the expression; communication and design we use to articulate these messages (Orth & Malkewitz, 2008).

Very few synapses lie between the olfactory nerve and the amygdala and the amygdala and hippocampus, all of which have significant, strong roles in the determining emotional memory (Herz, 2007).

"The areas of the brain that process smell and emotion are as intertwined and codependent as any two regions in the brain could possible be. "Smell and emotion are located in the same network of neural structures, called the limbic system" (Herz, 2006, p. 3).

"Sensation is when the stimulus, whatever it may be – affects the sensory receptors, it is biochemical and neurological in nature" (Krishna, 2011).

"Emotional benefits add to the richness and depth to the brand and the experience of using the brand" (Aaker, 2014, para. 6)

"Perception is the minds awareness of that sensory information" (Krishna, 2011 p. 334)

The parallel processing of different strategies connecting the (sense) modalities is an important feature of the perceptual system and how products are perceived. For Product design, this provides a potential of referring to multisensory connections as well as to increase awareness of possible contradictions and errors in the configuration (Haverkamp, 2013, pp. 329).

Figure 38. Conceptual Framework Diagram 2

In an article authored in 2011, the writers state that "The main input of a branded relationship with a consumer is the branded experience and the main output of this experience is brand loyalty" (Sahin, et al, 2011, p. 1288). If we can deliver an experience that is honest and meets or exceeds consumer expectations through its delivery of benefits and sensorial engagement, we can drive trust and therefore brand loyalty.

CHAPTER 3

METHODOLOGY

3.1 Introduction To The Methodology

As stated in the introduction, the product development process has been a linear, systematic process where "product characteristics have been designed for each individual sensory channel on a separate basis" (Haverkamp, 2015, p. 8). In most cases, not all sensory channels are even considered. For example, in the Liquid Hand Soap category, the aesthetic and olfactory qualities tend to be the main focus without consideration for the sounds the bottle makes or how the bottle and product feels in the hand. Furthermore, according to the literature review, there has not been consideration for how the multi-sensorial experience comes to life for the consumer as multiple sensorial touchpoints begin to overlap. For example, in the product development scenario for a body lotion, the potential overlapping sensorial touchpoints include: in hand product softness, visual graphics that appear soft and primary package to look and feel soft when touched.

Limitations due to timelines and budgets often result in fractured, limited or no research for products developed by CPG's and Retailers. This leaves a gap in the product development process allowing room for improvement in creating products that connect through designing for the senses. By including a step in the process that tests a near final product – there is a chance to gain meaningful insights to consumer responses. This will help ensure product designs meet consumer needs, desires and expectations. Ultimately resulting in companies

and designers delivering products that are holistically honest with a pleasing

synaesthetic effect that drives consumer trust and ultimately brand loyalty.

A multi-strategy approach was used that included a *concurrent*

triangulation design. This involves "qualitative and quantitative methods which

are used separately, independently and concurrently and results were analyzed

and compared to determine their convergence." (Robson, 2011, p. 165). The data

was collected in three different phases: the literature review, qualitative

interviews and quantitative surveys. These three methods for collecting data

have provided a rich triangulation of information surrounding the topics of

branding, designing for the senses and synaesthesia. The separate data

collection methods will be described in more detail in a later section of this

chapter.

3.2 Research Questions.

There is a primary research question that leads this study:

Research Question 1) Do consumers have synaesthetic responses to Brand

Expressions ie. Package design?

Rationale: The goal of this research is to gain an understanding of

whether or not consumers have cross-modal or synaesthetic responses to the

visual and verbal expressions of the brand. An example of a synaesthetic

response is "the product smells sweet". This is a synaesthetic response because

the scent is being characterized with a taste description "smells sweet". Smell is

specific to the olfactory sense and sweet specific to the sense of taste. Therefore,

in the statement "the product smells sweet", two sense modalities are blended

together. Additionally, through testing both a visual stimulus and olfactory test,

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we can understand if a consistently holistic product message is threaded through the essence of the branded product through it's expressions.

Secondary questions this research will answer:

Research Question 2) What are the synaesthetic responses to the brand expressions?

Rationale: Determine what synaesthetic responses respondents have to the stimuli to understand the interaction and overlap of the sensory perceptions.

Research Question 3) Do holistically honest design expressions drive consumer preference?

The hypothesis is that consumers do have synaesthetic responses to design stimuli. Additionally, the hypothesis is that these synaesthetic responses will drive preference. For example, if a product meets respondents' visual expectations but does not deliver on the respondents' olfactory expectations; their preference will be negatively affected and likely change.

3.3 Research Strategy

In order to deliver complete, valid research and to answer the three research questions, a multi-strategy approach will be used that includes a literature review, qualitative and quantitative test methods. Qualitative is the primary method and quantitative will be used to support the qualitative findings. The corroboration between the three research methods will enhance the overall data and validity of the research findings (Robson, 2011, pp. 167). In addition, the combination of these methods will enable the researcher to deal with the complexity of the phenomena that includes sensorial and synaesthetic responses (2011). It is possible that the results will be metaphorical in nature

and quantitative data alone would not offer enough context to gain a greater understanding. In many cases to answer the types of subjective questions being asked, respondents need the opportunity to describe their response, which is why qualitative interviews are the primary method.

These strategies will create a rich triangulation of information. The qualitative and quantitative research findings as well as the literature review will result in a perspective that will be directly applicable to the design development process and inform how consumer input can be gathered and included in the design development process.

3.4 Data Collection Methods

3.4.1 Literature Review

A literature review will be conducted to gain valuable insights and understanding from experts that have studied branding, sensorial stimulation, package design and synaesthesia.

A review of the literature regarding the various topics discussed was completed, (Table 1) with the goal and intention of gathering as much existing research on synaesthesia as possible. Many research studies have been conducted on Branding, Designing for the Senses and Synaesthesia as it relates to the known phenomena. To date, there has been little research conducted on the specific relationship of synaesthesia and design

Synaesthesia as a topic is reemerging and starting to emerge specifically within the field of design. Michael Haverkamp published "Synaesthetic Design Handbook For A Multisensory Approach" in 2013; a comprehensive book on this subject matter to support the research. The combination of research on these various

topics helped to develop the research questions, as well as methods for gathering

data and discovering the answers. Listed below is a table of research topics:

RESEARCH TOPICS
1) Synaesthesia
2) Color & Design
3) Designing for the Senses
4) Marketing to the Senses
5) Scent / Olfactory Sense
6) Sight
7) Touch
8) Taste
9) Hearing & Sound
10) Metaphors in Design
11) Research Design
12) Research Methods
13) Neuroscience
14) Branding
15) Brand Loyalty

Table 1. Literature Review Topics.

3.4.2 Qualitative Interviews

Based on the subjective nature of the research being conducted and the type

of data being collected, qualitative interviews are the primary research method. The

qualitative interview method was selected in order to gain rich, contextual

information from respondents and probe for insights, thoughts and reactions. The

interviews were conducted at the Phoenix Public Library in a meeting room that

provided a quiet setting without distraction. The interviews were semi-structured in

nature as to maintain flexibility in the discussion. 1:1 interviews were conducted to

give each of the 12 individual respondents the chance to talk about how they felt

about the designs without the influence of others (Laurel, 2003). The respondents were a convenience sample and offered a range of income levels, ethnicity, types of consumer and both female and male respondents.

Three Liquid Hand Soap products were presented to the respondents, and they were asked as series of questions about each, see Figure 39. The Hand Soap bottles were presented in a sequential monadic fashion. There were two parts to the Qualitative test. Part one included a series of questions to cull sensorial and potentially synaesthetic responses based on the respondent <u>looking</u> at the product, not interacting with it. At the end of Part 1, the respondents were shown all three hand soaps side by side and asked their preference and purchase-intent.

In Part 2, the hand soaps were again presented in a sequential monadic fashion. Respondents were allowed to interact with each bottle and asked to <u>smell</u> the product. They were asked a series of questions to determine if the <u>smell</u> met their expectations based on the <u>visual</u> from Part 1. Again, at the end of Part 2, the respondents were shown all three Hand Soaps side by side and asked their preference and purchase-intent.

The goal of the 2 Parts was to determine if the design met respondent expectations through 2 sensorial touchpoints, first <u>visual</u> and second <u>smell</u>. If the

Figure 39. Visual Of 3 Product Stimuli Used In The Research

smell test matches respondent expectations from the visual, the product is considered holistic. If it doesn't then its was not holistic. Finally, at the end of Part 1 and Part 2, respondents were asked their preference and purchase intent, see Figure 40. The data from these questions will help to determine if the design being holistically honest (or not) drove a change the overall preference and purchase-intent. Figure 38 is a visual workflow of my qualitative research as outlined in detail above.

A research guide was used during each interview to help maintain the flow and semi-structured nature of the discussion. Respondents were chosen at random among friends and family members, 9 respondents were women and 3 respondents were men, over the age of 18. The research hypothesis was that respondents would have sensorial, synaesthetic responses to the designs. Additional questions were, 1)

what are the synaesthetic responses be and 2) do holistically honest designs drive purchase intent?

Responses were collected, tabulated and organized in Excel, in order to determine overall themes in the responses as well as determine which combinations of sensorial, synaesthetic responses were more prevalent. This is further described in the Data Analysis section.
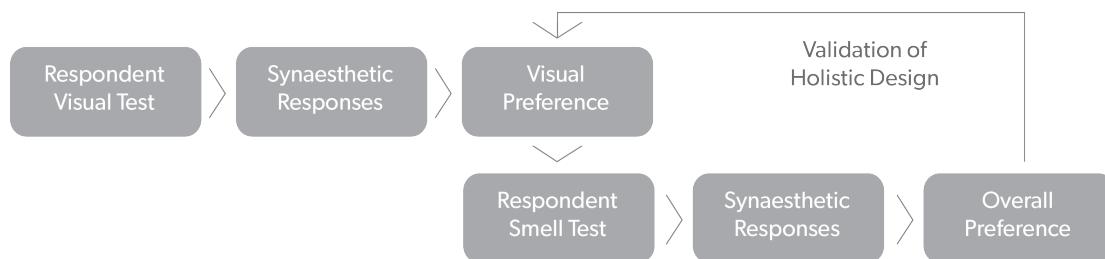
Figure 40. Qualitative Research Framework Diagram

3.4.3 Quantitative Survey

This research approach was used in order to "measure objective data such as variables, measurements and ratings so that it can be analyzed and the relationships between collected information sets gathered" (O'Grady 2006).

A quantitative survey was issued to 80 respondents, the test closed after the first 40 people respond. The quantitative questionnaire mirrored the qualitative questionnaire as closely as possible, yet phrased the questions in a way that used a 5-point scale so data could be gathered and analyzed. The type of data analysis used included interval data collection using a 5-point Likert-scale (Likert, 1932).

This data was used to support the qualitative findings. The quantitative survey was an online test. Forty respondents were asked a series of questions about the Liquid Hand Soap products. The goal was to determine if by looking at a <u>visual</u>, respondents were able to make assessments that related to <u>other senses</u> such as what the products' <u>scent</u> may be (fresh, floral, strong), what the product may <u>feel</u> like (harsh, etc). A series of statements were given to respondents such as, "Product Smells Fresh" and respondents were given a 5-point Likert-scale and asked to rank their level of attitudinal response and ranging from "Disagree" to "Agree". Quantitative questions that met the threshold of 30% or less "Neutral" response were considered directionally significant meaning respondents were having a synaesthetic response to the statement whether they agree or disagree. The exception to this is questions related to the metaphorical 6th sense such as "Product reminds me of a memory". In this case Top 2 box must equal 50% or higher to meet the synaesthetic responses threshold. The rational is, if respondents are neutral or disagree, they are not having a synaesthetic response.

The quantitative test was a visual, online-only survey. In order to determine if consumers have synaesthetic responses, the questions were phrased in a way in which the respondent would technically have needed to be able to touch and smell the product to agree or disagree with the statements.

Additionally, respondents were asked their preference and purchase intent once all 3 products had been presented. The idea was that if the respondent's rating was polarizing, either high (agree or strongly agree) or low (disagree or somewhat agree); respondents made a synaesthetic connection based on the visual.

3.5 Sampling Strategy

A random, convenience sampling strategy was used for both the qualitative and quantitative methods. This includes the process by which each element in a population has an equal chance of selection (O'Leary, 2004). Respondents for the qualitative interviews were chosen among acquaintances and friends of varying age, sex and ethnicity, all over the age of 18. Respondents for Quantitative test have were chosen through Facebook. The Recruit/Consent Form has been sent to 80 potential respondents of varying age, sex and ethnicity, all over the age of 18. Only 40 were needed for the quantitative survey. Once the first 40 respondents completed the survey, the survey was closed. The qualitative interviews were scheduled at the convenience of the respondents and conducted in a quiet, public setting at the Phoenix Public Library, 1221 N. Central Avenue Phoenix AZ, 85004. Burton Barr Central Library. Other than age, no respondent information was gathered; so both the qualitative and quantitative tests are completely confidential.

3.6 Qualitative Subjectivism

There were limitations to the methods. For example, the sample size for both the qualitative and quantitative studies was small. Because of this the resulting data could be considered directionally significant, not statistically significant.

This research was primarily based on a qualitative approach in which subjective interpretation took place in order to make sense of the data collected. According to O'Leary, subjectivism is defined as, "emphasizes the subjective elements in experience and accepts that personal experiences are the foundation for factual knowledge" (O'Leary, 2004). In cases where additional contextual description was unavailable, the researcher took steps to make sure data was equally

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represented to avoid biases between separate interpretations. An example of this is how to tabulate the phase "the product looks refreshing". The term refreshing could have been a visual tied to taste (refreshing taste) or touch (refreshing as in a refreshing sensation). If there was enough additional contextual description that helped me understand what the respondent meant, I was able to categorize under one of the two, "taste" or "touch". If there was not enough, I categorized it under both to be fair.

Finally, a limitation to the quantitative survey is that respondents could not smell the product to relate the smell back to the visual and validate if the design is holistically honest. This is the reason qualitative is the primary research method.

3.7 Data Analysis Methods and Procedures

3.7.1 Tabulation for Sample Entries (Day, 1996)

Day's method of tabulating synaesthetic responses was used for organizing the data. Data was organized by: 1) primary sense and 2) secondary, synaesthetic sense(s). The following topics were tabulated: (1) synaesthetic responses from part 1, (2) synaesthetic responses from part 2 and (3) purchase intent. After initially gathered, in order to rank the synaesthetic responses, I used the Tabulation for Sample Entries (Table 2) and Five Entries (Table 3) from Day's ranking of synaesthetic responses in the article "Synaesthesia and Synaesthetic Metaphors" (Day, 1996).

A spreadsheet was created for each hand soap product. In the table, synaesthetic responses were gathered and tabulated in the column on the left (ex. sour taste). Day's method was used in describing which sense precedes the other

(Day, 1996) For example, a smell is used to describe so this response was tabulated as "smell -> taste". A secondary table was created to gather and rank which synaesthetic responses were most prevalent (Table 3).

Table 1: Sample Entries From *Gravity's Rainbow* by Thomas Pynchon (1973)		
Page		
3	smell --> taste	a sour smell
6	vision --> touch	humid green
10	hearing --> taste	the bitter chuckles
25	hearing --> touch	a sharp crack
25	hearing --> touch	a heavy explosion

Table 2. Example Table of Organization Method, 1 (Day, 1996).

Table 2: Sample Spreadsheet for the Tabulation of Five Entries From *Gravity's Rainbow* by Thomas Pynchon (1973)							
Primary Senses	**Synaesthetic Senses**						
	Hearing	**Vision**	**Smell**	**Temperature**	**Taste**	**Touch**	**Total Primes**
Hearing	n/a	0	0	0	1	2	3
Vision	0	n/a	0	0	0	1	1
Smell	0	0	n/a	0	1	0	1
Temperature	0	0	0	n/a	0	0	0
Taste	0	0	0	0	n/a	0	0
Touch	0	0	0	0	0	n/a	0
Total	0	0	0	0	2	3	

Table 3. Example Table of Organization Method, 2 (Day, 1996).

3.7.2 Generation of Themes (Miles and Huberman, 1994).

During evaluation of the qualitative data, overarching themes emerged. A spreadsheet was created to organize the themes into groups. This is a common method of data analysis used in qualitative research.

3.7.3 Quantification of Words (Miles and Huberman, 1994).

At the conclusion of both the qualitative and quantitative tests, respondents were asked to list five descriptive words for each product. These words were tabulated to determine which were most prevalent in describing the product (Miles and Huberman, 1994). This was then compared back to the qualitative interviews to determine if the words were consistent to the qualitative verbatim responses.

3.7.4 Interval Data Collection Using Likert Scale (Likert, 1932)

Likert-scale is a response scale used in questionnaires to measure respondent's attitude to a particular question or statement (Robson, 2011). For my survey, a 5-point scale was used ranging from "Agree" on one end to "Disagree" on the opposite end with "Neutral" in the middle. Likert-type data must be treated like ordinal data since it can only be said that one score is higher than another, not the distance between the points. Data analysis used in the research will be based on percentage or number of responses to a given statement.

The Likert-scale was used for the quantitative survey. The survey included forty respondents and ninety-six-questions. The test was conducted via the on-line tool the Survey Monkey.

Ultimately, Content Analysis was conducted for both the Qualitative and Quantitative Research (Weber, 1990). In addition, the qualitative and quantitative research was analyzed in tandem to determine if there is an opportunity for the convergence of data.

CHAPTER 4

RESEARCH FINDINGS / ANALYSIS OF DATA

4.1 Introduction

This chapter contains the results and findings obtained from the qualitative interviews and quantitative survey as well as how these findings relate back to the literature review. The analysis of the qualitative and quantitative data was analyzed separately and converged whenever possible. This chapter answers the research questions through detailed descriptions and chart visualizations, discusses compelling themes that emerged from the research and also gives an overview of each of the qualitative respondents' feedback.

4.2 Brief Recap of Methods

4.2.1 Qualitative Interviews

As previously stated, qualitative interviews were the primary research method. The following three liquid hand soap products were shared in a two-part qualitative interview. In Part 1 of the survey, respondents were asked to respond to a series of questions based on just looking at the hand soap (visual test). In Part 2, respondents were allowed to interact with and asked to smell the product and respond to a series of questions. A convenience sample was used, there were twelve respondents of varying age, sex and ethnicity. The hand soaps were presented in a sequential monadic fashion in the order of Dial, Method and Bath & Body Works.

Figure 39. Visual Of 3 Product Stimuli Used In The Research

4.2.2 Quantitative Survey

As previously discussed, a quantitative survey was conducted to support the qualitative findings. The quantitative survey used a Likert scale. The Likert-scale is a response scale used in questionnaires to measure respondent's attitude to a particular question or statement (Robson, 2011). For the study survey, a 5-point scale was used ranging from "Agree" on one end to "Disagree" on the opposite end with "Neutral" in the middle. The survey included forty respondents and a ninety-six-question survey that was conducted via the on-line tool Survey Monkey. The hand soaps were presented in a sequential monadic fashion in the order shown in Figure 39.

Likert-type data must be treated like ordinal data since it can only be said that one score is higher than another, not the distance between the points. Data analysis used in the research will be based on percentage or

number of responses to a given statement. Directional significance will be determined if neutral responses to a given question are 30% or lower. The rational behind this is: if 60% or more than half of the respondents have an attitudinal response that is in agreement or disagreement to the statement, they are having a synaesthetic response. Exceptions to this rationale are questions related to the metaphorical 6th sense. Top 2 box agreement rating of 50% or higher will be used to determine directional significance for questions relate to the metaphorical 6th sense.

4.3 Research Questions and Findings

In the findings that follow, when the term "synaesthetic response" is used, it is referring to a primary sense stimulation; in this test *visual* or *scent*, which triggers an additional sense(s). This is not used assuming that respondents are synaesthetes, but all humans have some level of synaesthetic response. This study is an attempt to understand what elements or attributes of design may evoke these responses on an emotional level that can be applied to the design development process.

The term "holistic" or "honest design" is referring to the product package design in which all components work together to express the brand positioning and communicate the concept idea consistently. For the qualitative portion of the test, visual evaluation plus scent evaluation will be used to ultimately validate or invalidate the design as holistic.

4.3.1 Research Question 1: Do consumers have synaesthetic responses to Brand Expressions ie. Package design?

Yes.

Qualitative Interviews: The results showed, all twelve respondents had synaesthetic responses to the package designs, during Part 1 Visual, Part 2 Smell or in most cases, during both parts of the test.

It is evident from the findings that the senses do overlap for consumers when presented with the packaging stimulus. A total of 126 synaesthetic responses were culled during the qualitative interviews. These 126 synaesthetic responses resulted in 150 cross-modal secondary-sense stimulations. The 150 secondary-sense stimulation number is higher than the 126 responses because in some cases, a responses connected with more than one sense. 83 responses were recorded during the visual portion of the interview and 43 responses were gathered during the second smell portion of the interview. More detail will be provided on exactly what those synaesthetic responses were in answering Question 2 (Section 4.3.2).

Quantitative Survey: It is evident in the results from the quantitative test that supports the qualitative research that consumers have synaesthetic responses to a packaging stimulus.

Quantitative survey found directional significance to synaesthetic response to both touch and smell. See Chart 1, in this "smell" example respondents are given a 5-point scale and asked to select a response based on the statement, "Product Has No Scent" for the Bath & Body Works® (BBW). Top 1 box reports that 72.5% of respondents do not agree with this statement, meaning

respondents think the product has a scent based on visual examination, tying together visual -> smell. In addition, in Chart 2, respondents were shown the Dial® product and given the statement "Product Looks Fresh". Respondents agrees, top 2 box results are 89.47%.

4.3.2 Research Question 2: What are the synaesthetic responses to the brand expressions?

The qualitative interviews offered respondents an opportunity to give
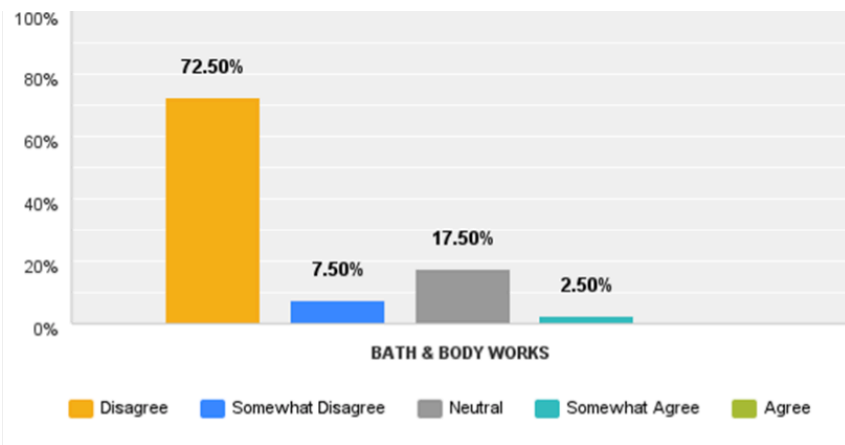
Chart 1. Product Has No Scent
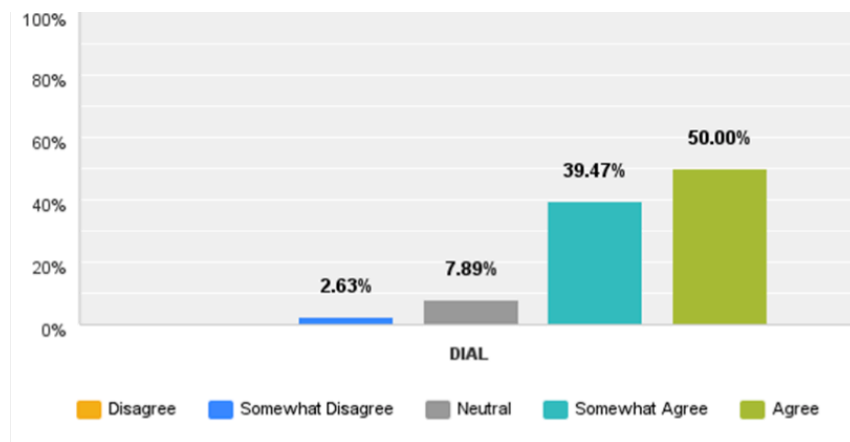
Chart 2. Product Looks Fresh

descriptive, open-ended answers to the questions. Verbatim responses from the interviews were analyzed to determine if there were synaesthetic responses. In this section tabulation of the synaesthetic responses will be presented as follows; 1) Overview of the findings, 2) Part 1 Visual, Responses by Brand and 3) Part 2 Smell, Responses by Brand.

4.3.2a Overview of the Findings

A total of 126 synaesthetic responses were culled during the qualitative interviews. Verbatim synaesthetic statements were tabulated to determine which secondary senses were most frequently stimulated.

In Part 1 – *visual* was the primary sense stimulation. A total of 102 secondary senses were stimulated, based on the primary stimulation of sight, see Table 4. The most frequent secondary sense stimulation was the metaphorical sense including statements such as, "Coconut makes me think of being in Belize or on an island".

During Part 2, *smell* was introduced as the primary sense. Respondents were asked a series of questions based on the smell of the product. A total of 48 secondary senses were stimulated based on the primary olfactory stimulation. The most predominant secondary sense was also metaphorical, including statements like "smells like sunshine".

During Part 1 and Part 2 of the qualitative interviews, a grand total of 150 secondary sense (cross-modal) stimulations were gathered. This is larger than the total number of synaesthetic responses (126) because in some cases a synaesthetic statement connected with 2 additional senses; for example, "Hoping its very fruity, for a very refreshing cocktail smell" (1) visual -> (2) taste -> (2)

smell. Of all of the senses studies, hearing did not score during the research.
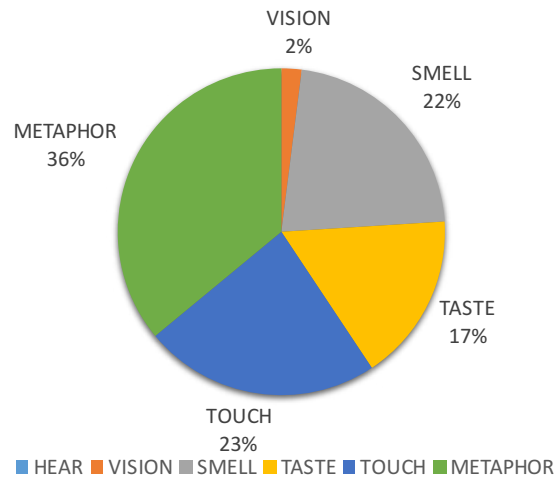
QUAL PART 1	TABULATION OF SECONDARY SYNAESTHETIC SENSE STIMULATION					
VISUAL	HEAR	VISION	SMELL	TASTE	TOUCH	METAPHOR
DIAL TOTALS	0	0	12	8	16	8
METHOD TOTALS	0	0	6	2	1	11
BBW TOTALS	0	0	15	3	9	11
TOTALS	0	0	33	13	26	30
Secondary Sense Stimulation Totals						102
QUAL PART 2	TABULATION OF SECONDARY SYNAESTHETIC SENSE STIMULATION					
SMELL	HEAR	VISION	SMELL	TASTE	TOUCH	METAPHOR
DIAL TOTALS	0	0	0	5	3	10
METHOD TOTALS	0	2	0	5	1	7
BBW TOTALS	0	1	0	2	5	7
TOTALS	0	3	0	12	9	24
Secondary Sense Stimulation Totals						48

GRAND TOTALS	0	3	33	25	35	54
Secondary Sense Stimulation Grand Totals						150

Table 4. Qualitative Data, Summary of Part 1 & 2

In Part 1 Visual, a total of 83 synaesthetic responses were culled which connected with 102 secondary sense stimulations. The volume of synaesthetic responses was significantly higher than Part 2, the *smell* portion. During Part 2 a total of 43 synaesthetic responses were gathered, which connected with 48 secondary sense stimulations. In the next sections, more detail will be given to

each part of the test, broken out by brand.

4.3.2b Qualitative Part 1 Visual

Figure 41. Dial® Coconut Water & Mango Product

Dial®, Figure 41: The synaesthetic responses gathered from Part 1 for the Dial® stimuli were primarily visual -> touch driven, 16 responses were gathered resulting in 37% of secondary sense mode responses, see Chart 3. This is due to the large number of respondents that described the product as looking cool/cooling or fresh/refreshing, Table 5. These responses based on the visual stimulus invoked a response to the sensory modality of touch, in this case a sensation of freshness or coolness.

The second highest-ranking secondary modality stimulated was visual -> smell, totaling 12 or 27%, see Chart 3.

PART 1 VISUAL - DIAL
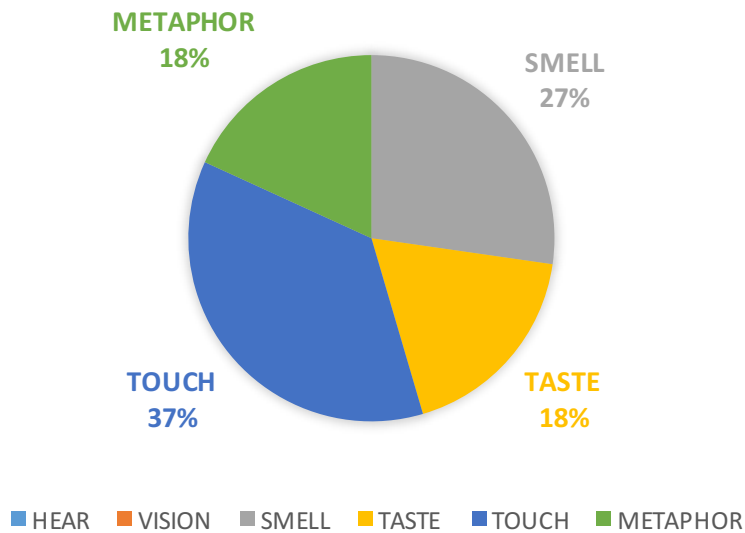
Chart 3. Percentages of Secondary Sense Responses, Dial®

It us interesting to note that visual -> taste was the fourth ranking secondary modality since "coconut water" first launched as a beverage before being used in the body care category. This is interesting because, one might assume that there would be a higher ranking on visual -> taste since coconut water first launched as something you drink therefore, taste; responses totaled 8, or 18%.

Synaesthetic Response Verbatims from Qualitative
PART 1 VISUAL

	DIAL			TABULATION OF SECONDARY SYNAESTHETIC SENSE STIMULATION					
RESP	VERBATIM RESPONSE	PRIMARY SENSE	SYNAESTHETIC SENSE	HEAR	VISION	SMELL	TASTE	TOUCH	METAPHOR
PAU	Hoping its very fruity, for a very refreshing cocktail smell	Visual	Smell -> Taste	0	0	1	1	0	0
CIN	Looks refreshing, like it would be a good scent.	Visual	Smell	0	0	1	0	1	0
CIN	Looks refreshing, like it would be a good scent. Looks natural and their is movement to the imagery.	Visual	Smell -> Touch	0	0	1	0	1	0
SOL	My hands will feel refreshed	Visual	Touch	0	0	0	0	1	0
SOL	Coconut & Mango, would smell clean & cool	Visual	Touch	0	0	0	0	1	0
GRA	Expect it to smell clean, slight citrus	Visual	Smell	0	0	1	0	0	0
MEL	Looks cool & refreshing	Visual	Touch -> Taste	0	0	0	1	1	0
MEL	Pleasing colors, looks cooling	Visual	Touch	0	0	0	0	1	0
DOL	Looks like it will smell fresh, like the ocean, tropical and comforting	Visual	Metaph -> Scent	0	0	1	0	0	1
DOL	Soothing, good product in it	Visual	Touch	0	0	0	0	1	0
DOL	Good, appealing, cool blue, like a fresh stream of water & cold water	Visual	Touch	0	0	0	0	1	0
DOL	Looks like it would have good ergonomics	Visual	Touch	0	0	0	0	1	0
DOL	Smell like the ocean, like my place in Mexico - a place I enjoy being and that is comforting to me	Visual	Metaphorical	0	0	0	0	0	1
DRU	Coconut Water & Mango looks delicious. It sounds delicious.	Visual	Taste	0	0	0	1	0	0
DRU	Fragrance reminds me of my daughter because she is a coconut water drinker.	Visual	Metaphorical	0	0	0	0	0	1
DRU	Love the color of blue, looks clean and refreshing	Visual	Taste	0	0	0	1	0	0
KAT	I have a positive feeling about it, good job of not overscenting	Visual	Metaphorical	0	0	0	0	0	1
KAT	Smells like coconut water and mango because they are generally true to their label	Visual	Smell	0	0	1	0	0	0
KAT	Would have guessed it is a different scent, would think of it as yellowish orangish	Visual	Smell	0	0	1	0	0	0
KAT	Would have guessed fresh, natural, watery fragrance	Visual	Smell	0	0	1	0	0	0
JOA	Expect it to smell clean, slight citrus but not overpowering. Coconut water is very light	Visual	Smell	0	0	1	0	0	0
JOA	Color is insignificant, it is the smell and texture that I like	Visual	Scent -> Touch	0	0	1	0	1	0
JOA	Looks clean	Visual	Touch	0	0	0	0	1	0
JOA	Looks refreshing & hydrating	Visual	Taste -> Touch	0	0	0	1	1	0
MAR	Very clean & fresh	Visual	Smell -> Touch	0	0	1	0	1	0
MAR	It looks refreshing, you want to drink it; coconut water & mango are flavors you would drink.	Visual	Taste	0	0	0	1	0	0
DAR	Don't expect it to smell a lot like mango because of the color	Visual	Smell	0	0	1	0	0	0
DAR	The watery part & light color make me feel relaxed	Visual	Metaphorical	0	0	0	0	0	1
DAR	Coconut makes me think of being in Belize or on an island	Visual	Metaphorical	0	0	0	0	0	1
DAR	Clean, natural water, refreshing	Visual	Taste -> Touch	0	0	0	1	1	0
DAR	Refreshing, watery, cooling	Visual	Taste -> Touch	0	0	0	1	1	0
DAR	Reminds me of a womans body	Visual	Metaphorical	0	0	0	0	0	1
DAR	Reminds me of childhood, Gold	Visual	Metaphorical	0	0	0	0	0	1
KAR	Make me feel fresh	Visual	Touch	0	0	0	0	1	0
TOTAL 33			TOTALS	0	0	12	8	16	8

Table 5. Qualitative Data, Part 1 Visual, Dial®

Figure 42. Method® Honeycrisp Apple Product

Method®, Figure 42: The highest frequency of secondary sense stimulation response for the Method® product was visual -> metaphorical, totaling 11 or 55%, see Chart 4. A theme emerged during the interviews connecting this product with public institutions such as restaurants, nursing homes and locker rooms. In many cases the graphics were described as "busy", "overwhelming" and (making the respondents) "feel uncomfortable", see Table 6. These responses were all metaphorical because of the feelings associated with them. The second-highest frequency was visual -> smell, totaling 6 or 30%. Many of the respondents had a difficult time discerning what the fragrance was supposed to be.

PART 1 VISUAL - METHOD
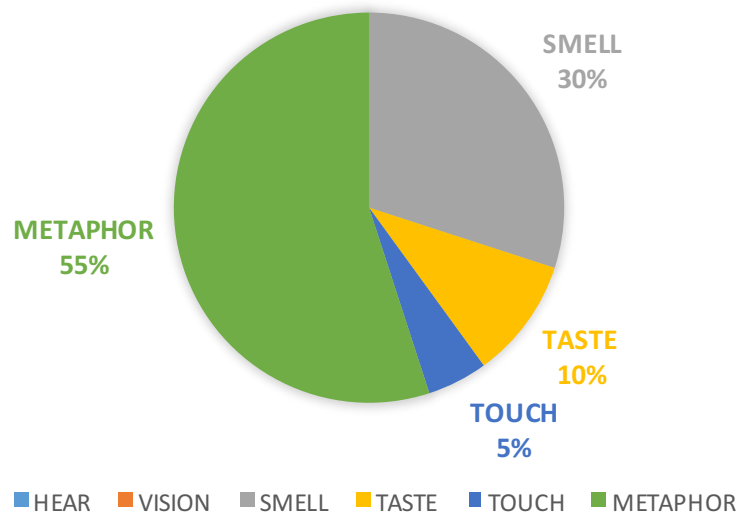
Chart 4. Percentages of Secondary Sense Responses, Method®

The fragrance description on the product is "honeycrisp apple" and respondents were confused by the use of orange in the design. The combination of red and orange colors was a disconnect for respondents. When one respondent was asked what they thought the product would smell like, GRA said "Immediate thought is that it will smell "Round", I look at it and all I see are circular patterns", see Table 6. The respondent couldn't articulate what round smells like.

Synaesthetic Response Verbatims from Qualitative									
PART 1 VISUAL									
METHOD				TABULATION OF SECONDARY SYNAESTHETIC SENSE STIMULATION					
RESP	VERBATIM RESPONSE	PRIMARY SENSE	SYNAESTHETIC SENSE	HEAR	VISION	SMELL	TASTE	TOUCH	METAPHOR
PAU	I was just looking at this and the bottle shape just brought to mind a public restroom or institutional bathroom or restaurant.	Visual	Metaphorical	0	0	0	0	0	1
PAU	This will have that fake green apple smell from childrens candy.	Visual	Metaph -> Smell	0	0	0	0	0	1
GRA	Immediate thought is "Round", I look at it and all i see are circular patterns. (Couldn't articulate what round smells like).	Visual	Metaph/Abstract	0	0	0	0	0	1
GRA	Citrus because of the orange color used.	Visual	Smell	0	0	1	0	0	0
DOL	Overwhelming, too much	Visual	Metaphorical	0	0	0	0	0	1
DOL	Smells like an apple between name and label, has apples.	Visual	Smell	0	0	1	0	0	0
DOL	Reminds me of something out of China	Visual	Metaphorical	0	0	0	0	0	1
DRU	Says Diabetes because it is shaped like an apple. My Dr. recently told me I am an apple shape because I have Diabetes	Visual	Metaphorical	0	0	0	0	0	1
KAT	Shape and color looks like it matches apple scent	Visual	Smell	0	0	1	0	0	0
KAT	Smells like an apple between name and label, has apples.	Visual	Smell	0	0	1	0	0	0
JOA	Reminds me of feeling attractive, Beauitful Day	Visual	Metaphorical	0	0	0	0	0	1
JOA	Looks refreshing & hydrating	Visual	Taste	0	0	0	1	0	0
MAR	Reminds me of fall, I wouldn't pick this out in the summer. The apples and colors are very fall like.	Visual	Metaphorical	0	0	0		0	1
DAR	Says apple but I think its going to smell more bitter than sweet because of the orange color.	Visual	Smell -> Taste	0	0	1	1	0	0
DAR	Makes me feel uncomfortable,for some reason this whole design and colors makes me feel uneasy.	Visual	Metaphorical	0	0	0	0	0	1
DAR	Makes me think of a musty smell or old person, like the smell of a nursing home.	Visual	Metaphorical	0	0		0	0	1
DAR	Looks like it would smell musty	Visual	Smell	0	0	1	0	0	0
DAR	Reminds me of the 70's, Vintage yet modern.	Visual	Metaphorical	0	0	0	0	0	1
KAR	Looks like it would slip out of my hands.	Visual	Touch	0	0	0	0	1	0
TOTAL	19		TOTALS	0	0	6	2	1	11

Table 6. Qualitative Data, Part 1 Visual, Method®

Figure 43. Bath & Body Works® Beautiful Day Product

Bath & Body Works®, Figure 43: The highest frequency of secondary sense stimulation for BBW was visual -> smell, totaling 15 or 39%, see Chart 5. Based on responses to the stimulus, this is due to the large, emphatic fragrance imagery, which includes apples and flowers. The second highest frequency of secondary sense stimulation response for the BBW product was visual -> metaphorical, totaling 11 or 29%. These metaphorical responses were both positive and negative including statements such as "reminds me of the song Little Green Apples" as well as "makes me feel anxious if I look at it for too long", see Table 7.

PART 1 VISUAL - BBW
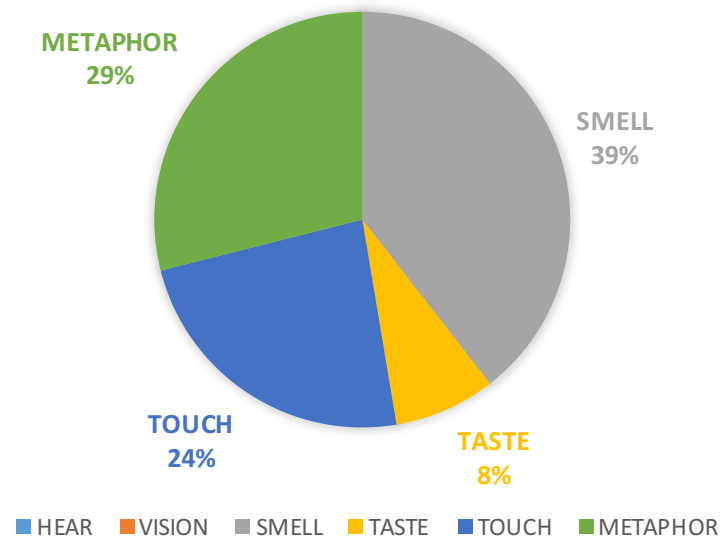
Chart 5. Percentages of Secondary Sense Responses, Bath & Body Works®

In addition, there was a group of respondents that said the BBW brand reminds them of high-school, this added to the number of metaphorical responses. This will be described in more detail in Themes, Section 4.4.

Synaesthetic Response Verbatims from Qualitative

PART 1 VISUAL

RESP	VERBATIM RESPONSE	PRIMARY SENSE	SYNAESTHETIC SENSE	TABULATION OF SECONDARY SYNAESTHETIC SENSE STIMULATION					
	BBW			HEAR	VISION	SMELL	TASTE	TOUCH	METAPHOR
PAU	Use less because it is very rich, would love the feel of it.	Visual	Touch	0	0	0	0	1	0
PAU	its going to be clean and refreshing	Visual	Taste -> Touch	0	0	0	1	1	0
PAU	It's gonna be big	Visual	Metaphl/Abstract	0	0	0	0	0	1
PAU	Expect apple & floral	Visual	Smell	0	0	1	0	0	0
SOL	Will smell very strong, like artificial apples.	Visual	Smell	0	0	1	0	0	0
SOL	Reminds me of my mom and something fancy.	Visual	Metaphorical	0	0	0	0	0	1
SOL	Looks like it would have a really strong smell	Visual	Smell	0	0	1	0	0	0
SOL	It's green and has an apple with flowers. Choosing green color for that reason. Will smell more apple-y.	Visual	Smell	0	0	1	0	0	0
GRA	Reminds me of fresh morning Dew, early morning.	Visual	Metaphorical	0	0	1	0	0	1
GRA	Confusing. Beautiful Day is a clean scent not fruity.	Visual	Smell	0	0	1	0	0	0
MEL	A happy, positive feeling	Visual	Metaphorical	0	0	0	0	0	1
DOL	Refreshing, clean, crisp deep cleansing would clean good	Visual	Touch -> Taste	0	0	0	1	1	0
DOL	Will smell good and fairly strong	Visual	Smell	0	0	1	0	0	0
DOL	Not bad, its soothing as light green	Visual	Metaphorical	0	0	0	0	1	0
DOL	A big nice apple on the front, makes you think of the smell of the apple when you look at it.	Visual	Smell	0	0	1	0	0	0
DOL	Like the song "little Green Apples" reminds me of the song.	Visual	Metaphorical	0	0	0	0	0	1
KAT	Looks like it will smell like a combo of apple & flowery scent. Will be interesting.	Visual	Smell	0	0	1	0	0	0
KAT	Reminds me of being a teenager, you had the sprays and lotions, etc	Visual	Metaphorical	0	0	0	0	0	1
KAT	It's green and has an apple with flowers. Choosing green color for that reason. Will smell more apple-y.	Visual	Smell	0	0	1	0	0	0
KAT	Looks like it is going to have a strong scent	Visual	Smell	0	0	1	0	0	0
JOA	Smell like green granny smith apple	Visual	Smell	0	0	1	0	0	0
JOA	Picture the sun shining because of the imagery and the word Day.	Visual	Metaphorical	0	0	0	0	0	1
DRU	More like apples. Poppies and pears don't have a scent	Visual	Smell	0	0	1	0	0	0
DRU	Like it, lime green is my favorite. Limes usually have a natural scent and I love the smell.	Visual	Smell	0	0	1	0	0	0
MAR	Pleasant color, clean color	Visual	Touch	0	0	0	1	1	0
MAR	Reminds me of all seasons	Visual	Metaphorical	0	0	0	0	0	1
DAR	Makes me anxious if I look at it for too long. Cant figure out where to rest my eyes.	Visual	Metaphorical	0	0	0	0	0	1
DAR	Green looks toxic like something I shouldnt put on my body, toxic.	Visual	Touch -> Metaph	0	0	0	0	1	1
KAR	I love their colors, they are bight and fresh.	Visual	Smell -> Touch	0	0	1	0	1	0
KAR	Like dewey apples, reminds me of being fresh.	Visual	Touch	0	0	0	0	1	0
KAR	Freshness. Might use it and have a beautiful day	Visual	Metaphorical	0	0	0	0	1	1
TOTAL	31		TOTALS	0	0	15	3	9	11

Table 7. Qualitative Data, Part 1 Visual, Bath & Body Works®

4.3.2c Qualitative Part 2 Smell/Olfactory

In Part 2 a total of 43 synaesthetic responses were culled. The number of secondary-modality synaesthetic responses from Part 2 was 48. This is a significantly lower number than Part 1 which resulted in 83.

The highest frequency secondary sense stimulated across the 3 brands was smell -> metaphor, totaling 24. The next highest frequency was smell -> taste, totaling 12. This is supported by findings during the literature review – the sense of smell is closely tied to the sense of taste.

Figure 41. Dial® Coconut Water & Mango Product

Dial®, Figure 41: The highest-frequency secondary modality responses gathered from Part 2 of the Dial® product were primarily visual -> metaphor

driven. Ten responses were gathered in total or 55%, see Chart 6. A large number of respondents experienced a sense of escape or reminiscence, making statements such as: "smell like the outdoors, summer and a fun day outside", see Table 8. The second highest-frequency secondary modality stimulated was visual -> taste, totaling 5 stimulations. Many respondents described the fragrance in terms of a taste, for example "this smells like a drink, if this was a drink, I would be all about it".
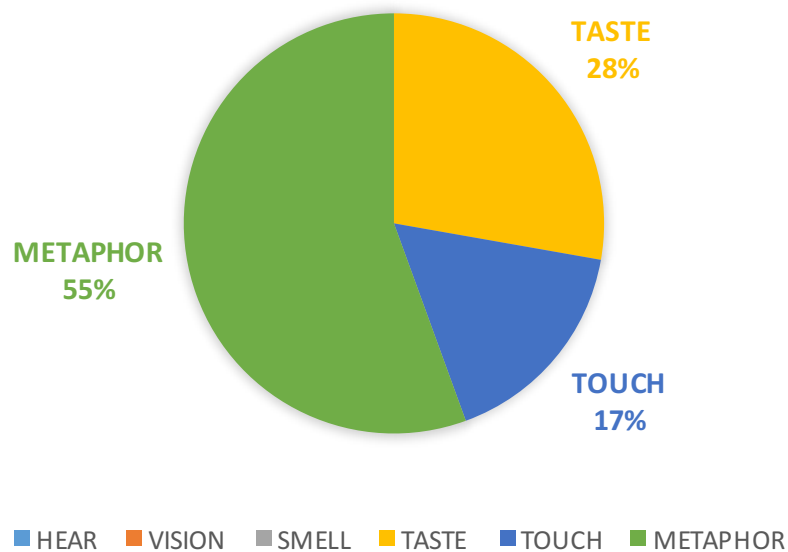
PART 2 SMELL TEST - DIAL

Chart 6. Percentages of Secondary Sense Responses, Dial®

	DIAL				TABULATION OF SECONDARY SYNAESTHETIC SENSE STIMULATION					
RESP	VERBATIM RESPONSE	PRIMARY SENSE	SYNAESTHETIC SENSE	HEAR	VISION	SMELL	TASTE	TOUCH	METAPHOR
PAU	Smells like someones garden	Scent	Metaphorical	0	0	0	0	0	1
CIN	Smells like sunshine, (being outside on a nice day and the freshness of springtime and a warm sunny day)	Smell	Metaphorical	0	0	0	0	0	1
CIN	The outdoors, summer and a fun day outside	Smell	Metaphorical	0	0	0	0	0	1
GRA	Smells beachy - like Banana Boat tanning oil	Smell	Metaphorical	0	0	0	0	0	1
MEL	Summers in Mexico, we had mangos down there	Smell	Metaphorical	0	0	0	0	0	1
DOL	Smells fresh	Smell	Taste -> Touch	0	0	0	1	1	0
JOA	Sweeter than I expected	Smell	Taste	0	0	0	1	0	0
DRU	My daughter because she loves coconut, I would purchase because of this	Smell	Metaphorical	0	0	0	0	0	1
MAR	This smells like a drink, if this was a drink, I would be all about it.	Smell	Taste	0	0	0	1	0	0
MAR	Reminds me of summer. Mango is summery, I like to drink mango.	Smell	Metaphorical	0	0	0	0	0	1
DAR	Makes me feel refreshed like after I use it	Smell	Taste -> Touch	0	0	0	1	1	0
DAR	Makes me feel comfortable, reminds me of feeling relaxed.	Smell	Metaphorical	0	0	0	0	0	1
DAR	Smells like something very familiar, like coconut water	Smell	Metaphorical	0	0	0	0	0	1
KAR	Refreshing & clean	Smell	Taste -> Touch	0	0	0	1	1	0
KAR	Islands and tropics which is a really good place for me	Scent	Metaphorical	0	0	0	0	0	1
TOTAL	15		TOTALS	0	0	0	5	3	10

Table 8. Qualitative Data, Part 2 Smell, Dial®

Figure 42. Method® Honeycrisp Apple Product

Method®, Figure 42: The highest frequency of secondary sense stimulation response for the Method® product was visual -> metaphorical, totaling 7 or 47%, see Chart 7. The continued theme emerged regarding this product that connected it with public institutions such as restaurants, nursing homes and locker rooms. Additional responses connected this product with fall, Christmas and baking, see Table 9. These were all metaphorical responses because of the feelings associated with them as reminiscence. The second-highest frequency was visual -> taste, totaling 5. Many of the respondents connected the fragrance of this product with granny smith apple synthetic type smells and children's candy, specifically Jolly Ranchers®.
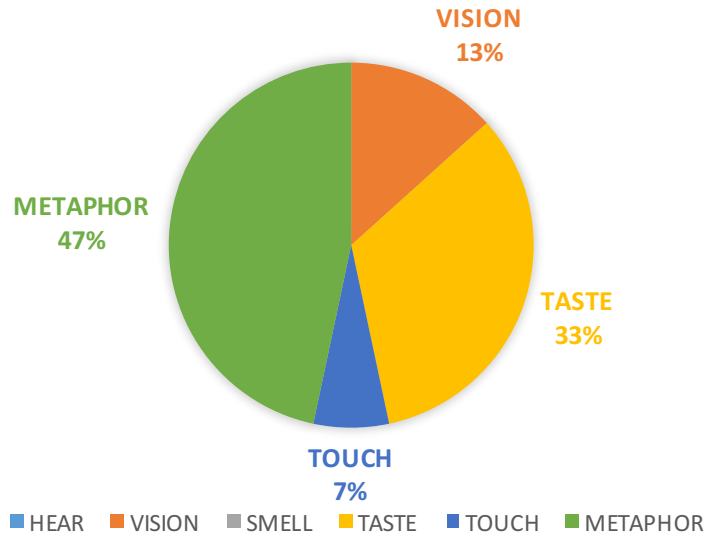
PART 2 SMELL TEST - METHOD

VISION 13%
TASTE 33%
TOUCH 7%
METAPHOR 47%

HEAR ■ VISION ■ SMELL ■ TASTE ■ TOUCH ■ METAPHOR

Chart 7. Percentages of Secondary Sense Responses, Method®

Synaesthetic Response Verbatims from Qualitative									
PART 2 SMELL									
METHOD				TABULATION OF SECONDARY SYNAESTHETIC SENSE STIMULATION					
RESP	VERBATIM RESPONSE	PRIMARY SENSE	SYNAESTHETIC SENSE	HEAR	VISION	SMELL	TASTE	TOUCH	METAPHOR
PAU	Expected it to be cheap and hideous.	Scent	Visual	0	1	0	0	0	0
PAU	Granny smith, sour apple Jolly Rancher	Scent	Taste	0	0	0	1	0	0
PAU	Piercing, ozone smell	Scent	Touch	0	0	0	0	1	0
CIN	Baking but its too sweet	Smell	Metaphorical -> Taste	0	0	0	1	0	1
SOL	Apple cider and Christmas. Christmas smells like apple & cinnamon.	Smell	Metaphorical	0	0	0	0	0	1
GRA	It smells sour.	Smell	Taste	0	0	0	1	0	0
DOL	Very faint, like toilet cleanser			0	0	0	0	0	1
DOL	A football locker room, a cover-up smell, air fresheners they put in a urinal	Smell	Metaphorical	0	0	0	0	0	1
DRU	Baby Powder, reminds me of working in the nursing home	Smell	Metaphorical	0	0	0	0	0	1
JOA	Should be green apples on the product based on the smell. - even more of a disconnect of what I expect from a red	Smell	Visual	0	1	0	0	0	0
KAT	apple versus Jolly Ranchers.	Smell	Taste -> Metaphorical	0	0	0	1	0	1
DAR	Reminds me of my childhood home because my mom was obsessed with all things apple	Smell	Metaphorical	0	0	0	0	0	1
DAR	Smells like a very strong bitter apple	Smell	Taste	0	0	0	1	0	0
TOTAL	13		TOTALS	0	2	0	5	1	7

Table 9. Qualitative Data, Part 2 Smell, Method®

Figure 43. Bath & Body Works® Beautiful Day Product

Bath & Body Works®, Figure 43: The highest frequency of secondary sense stimulation was visual -> metaphor, totaling 7 or 47%, see Chart 8. Respondents had somewhat random metaphorical responses such as "good memories, smelled like my adopted grandma" and "smells like Herbal Essence® shampoo", see Table 10. The second highest frequency of secondary sense stimulation response for the BBW product was visual -> touch, totaling 5. The responses included statements that connected the smell to physical pain, such as "eyebrow piercing strength".
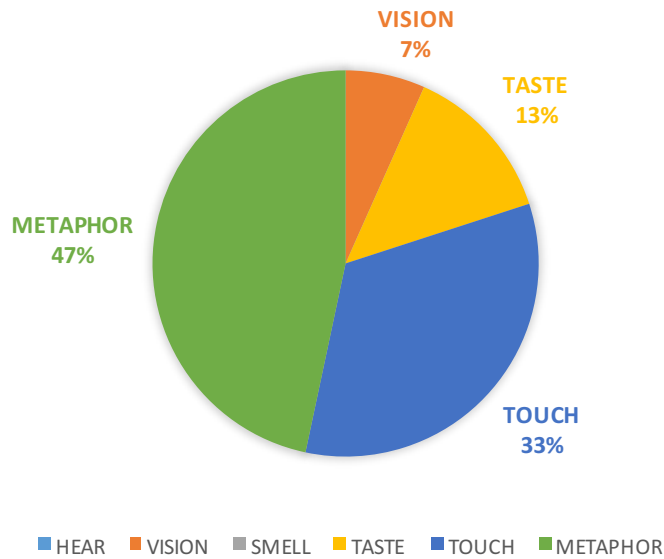
PART 2 SMELL TEST - BBW

Chart 8. Percentages of Secondary Sense Responses, Bath & Body Works®

| Synaesthetic Response Verbatims from Qualitative									
PART 2 SMELL									
BBW				TABULATION OF SECONDARY SYNAESTHETIC SENSE STIMULATION					
RESP	VERBATIM RESPONSE	PRIMARY SENSE	SYNAESTHETIC SENSE	HEAR	VISION	SMELL	TASTE	TOUCH	METAPHOR
PAU	Eyebrow piercing stength, could get a headache if I smell it too long	Scent	Touch	0	0	0	0	1	0
PAU	Massive, Big	Scent	Metaphorical	0	0	0	0	0	1
CIN	Too sweet, more floral than an apple	Scent	Taste	0	0	0	1	0	0
SOL	Reminds me of Mothers Day because of the floral	Scent	Metaphorical	0	0	0	0	0	1
SOL	Beads are fakey, reminds me of high school youth - anti-acne product with beads that never worked.	Visual	Metaphorical	0	0	0	0	0	1
GRA	Smells like a tart flower	Smell	Taste	0	0	0	1	0	0
DOL	Smells like it would deep clean	Smell	Touch	0	0	0	0	1	0
KAT	Reminds me of shampoo like Herbal Essence®	Smell	Metaphorical	0	0	0	0	0	1
JOA	Doesn't smell like a sunny day.	Smell	Metaphorical	0	0	0	0	0	1
MAR	Smells like a moderately priced older womans perfume.	Smell	Metaphorical	0	0	0	0	0	1
MAR	Bold scent	Smell	Visual	0	1	0	0	0	0
KAR	Fresh, clean	Smell	Touch	0	0	0	0	1	0
KAR	Wouldn't use this all the time because it exfoliates	Smell	Touch	0	0	0	0	1	0
KAR	Hands would feel softer with this	Smell	Touch	0	0	0	0	1	0
DAR	Good memories, smelled like my adopted Grandma. Reminds me of her house.	Smell	Metaphorical	0	0	0	0	0	1
TOTAL	15		TOTALS	0	1	0	2	5	7

Table 10. Qualitative Data, Part 2 Smell, Bath & Body Works®
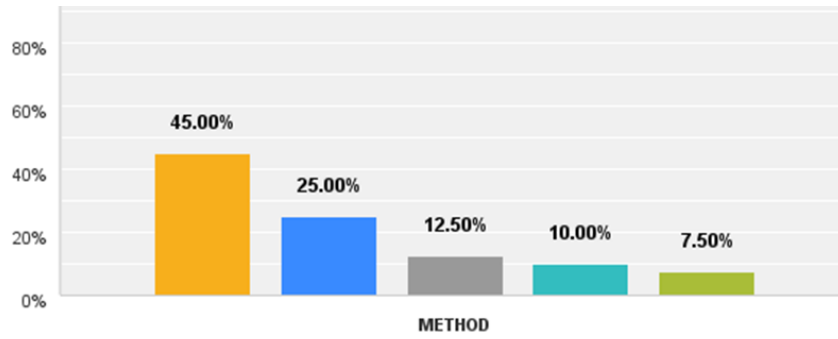
4.3.2d Quantitative

The quantitative survey found directional significance to synaesthetic response to touch, smell and taste to support the qualitative data. Metaphorical responses were the most predominate during the qualitative interviews, followed by touch, smell and taste. Metaphorical responses in the quantitative test did not match the predominance of responses from the qualitative test.

The questions related to the metaphorical 6th sense did not meet the established Top 2 box agreement threshold of 50% or greater. The following statements were presented to determine if respondents had a metaphorical response: 1) When I Look at the Product, Thoughts or Feelings come to Mind, 2) Product Reminds me of a Memory and 3) Product Takes me to a Place. Respondents were neutral to these statements or disagreed, meaning they did not have metaphorical responses. Responses specific to certain senses, were aligned with the qualitative responses and will be described further below.
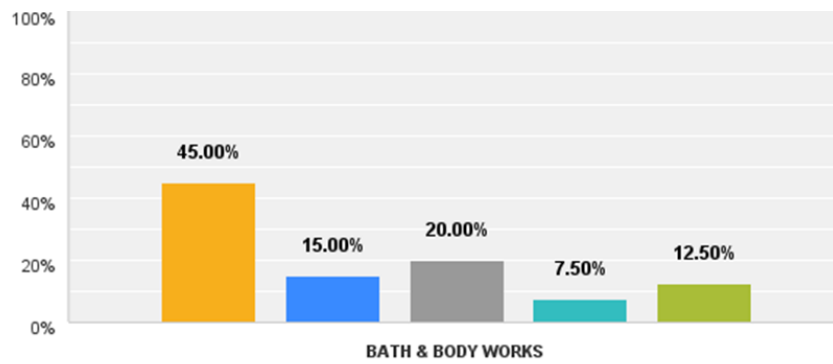
For the question "Product Looks Harsh", visual -> touch, all products meet the less than 30% Neutral response threshold for directional significance. Bottom two box scores for all three show a strong synaesthetic response to touch with 82.5% for Dial, 70% for Method and 60% for BBW. Respondents do not find the product to look harsh.
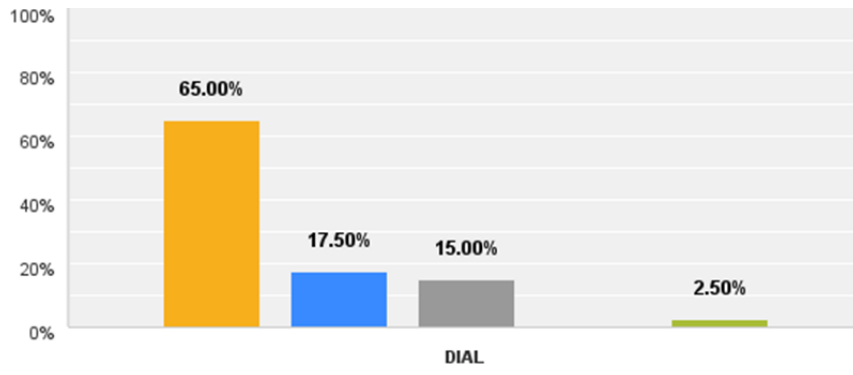
Chart 9. Quantitative, Product Looks Harsh

For the question "Product Looks Easy to Use", visual -> touch scored the highest. All products meet the less than 30% Neutral response threshold for directional significance. Top two box scores for all products show directionally significant synaesthetic response to touch with 97.5% for Dial, 92.5% for Method and 95% for BBW. By looking at the product visually, respondents were able to make the connection to usage or touch, see Chart 10.
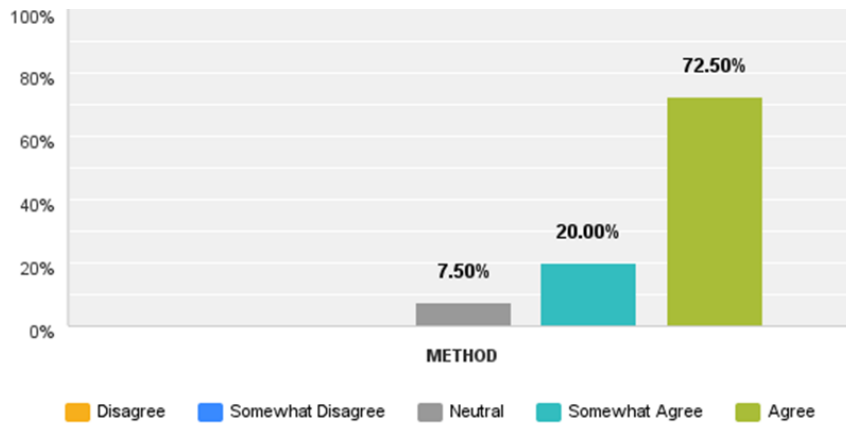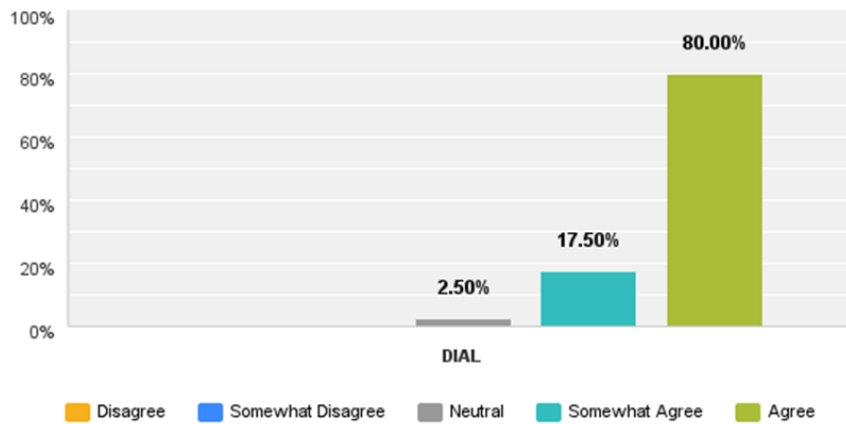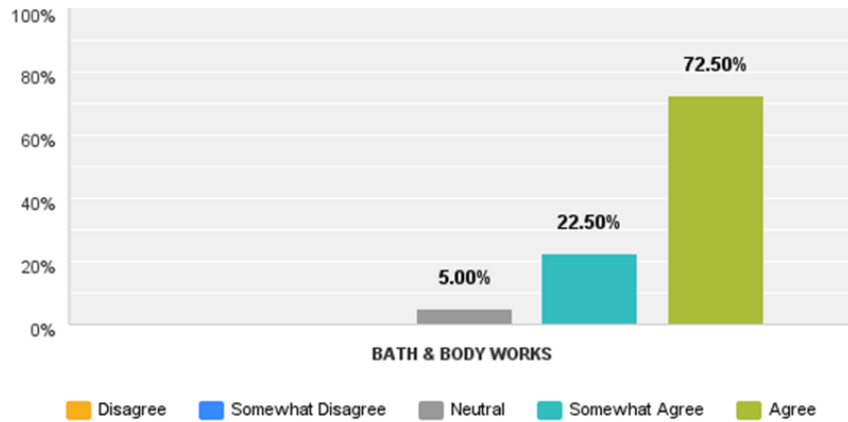
Chart 10. Quantitative, Product Looks Easy to Use

For the question "Product Smells Fruity", both Method and BBW meet the less than 30% Neutral response threshold for directional significance. Dial did not with a 32.5% Neutral response. Method had a top two box score of 66.66% and BBW was 70% showing a synaesthetic response to smell. Both Method® and BBW package designs have visual elements that help to communicate the smell, including the fruit – apple(s). BBW also had green product to communicate smell, which matched to the green apples that were depicted on the primary label, see Chart 11.
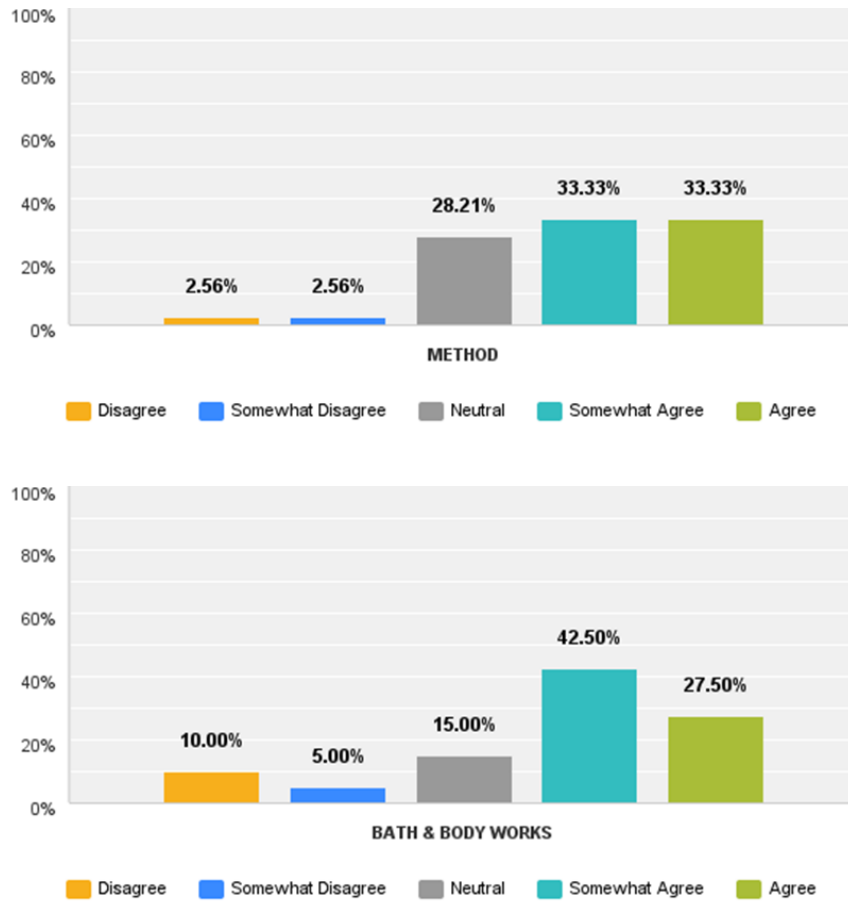
Chart 11. Quantitative, Product Smells Fruity

For the question "Product Smells Floral", BBW meets the Neutral response threshold for directional significance. BBW had a top two box score of 82.5% showing a high synaesthetic response to smell. Respondents connected the BBW product floral imagery from to how the product would smell. The other two products did not have floral imagery, see Chart 12.
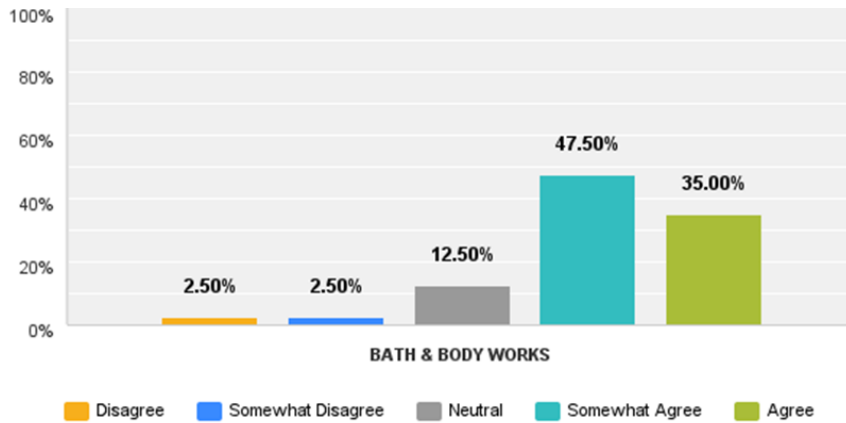
Chart 12. Quantitative, Product Smells Floral

For the question "Product Smells Clean", Dial® is the only product that

meets the less than 30% Neutral response threshold for directional significance

with 22.5% Neutral response. Top two box score was 75% showing a synaesthetic

response to smell, see Chart 13.
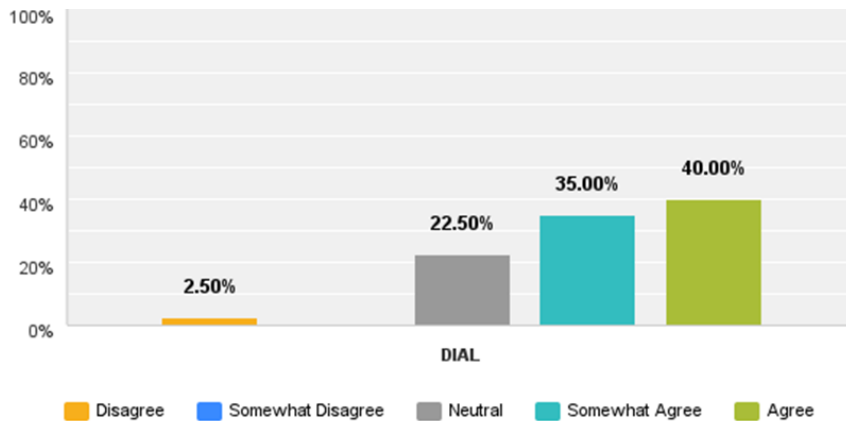
Chart 13. Quantitative, Product Smells Clean

For the question, "Product Looks Juicy", all 3 brands meet the less than

30% Neutral response threshold for directional significance. Top two box scores for all products show directionally significant synaesthetic response to taste with 47.5% for Dial, 52.5% for Method and 52.5% for BBW. By looking at the product visually, respondents were able to make the connection to taste.
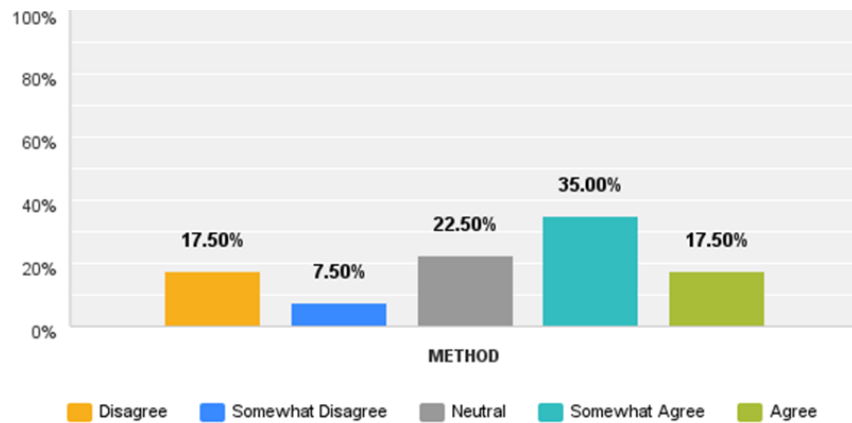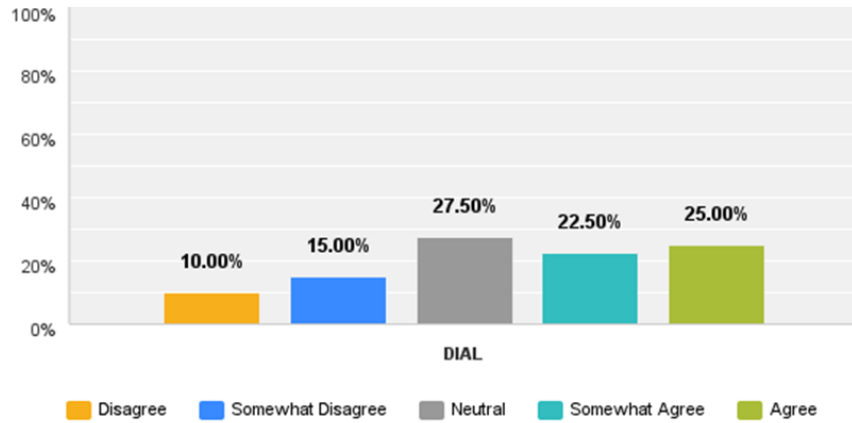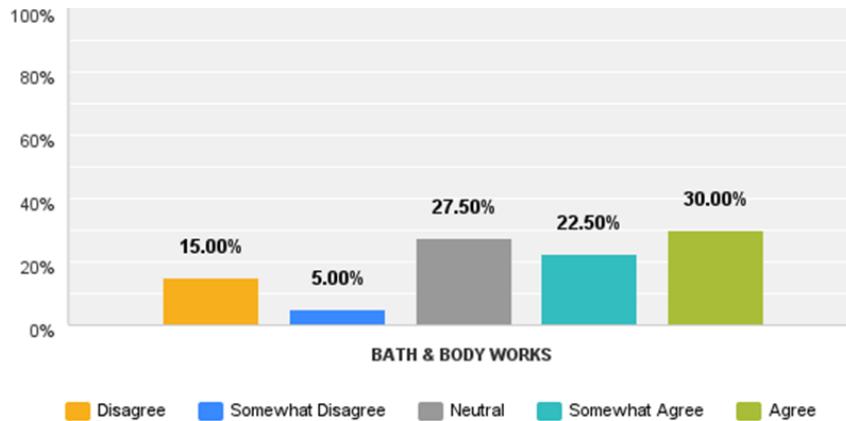
Chart 14. Quantitative, Product Looks Juicy

4.3.3 Research Question 3: Do holistically honest design expressions drive consumer preference?

The final qualitative questions from Part 1 and Part 2 were designed to elicit responses on, expectations, trust and purchase interest. Part 1 was visual, by adding in smell to Part 2, the responses either confirmed or denied the expression of a holistically honest design. The responses were analyzed and, the research was able to answer the third research question of "do holistically honest design expressions drive consumer preference?".

Part 1 Questions included:

1) What do you expect the product to smell like?

2) Which product do you expect to smell the best?

3) Do you trust the brand to deliver on the scent you expect?

4) Which brand do you trust the most?

5) Which product would you purchase?

Respondents smelled the product.

Part 2 Questions included:

1) Which product best delivers on your expectations?

2) Which brand do you trust the most?

3) Which product would you purchase?

The data gathered confirms that a synaesthetic disconnect or lack or a holistic design does drive a change in consumer preference. Overall, 7 of the 12 respondents or 59% of respondents found that one particular product aligned with their expectations throughout the study, visually and olfactory. Therefore, the designs held together as holistically honest.

3 out of the 12 respondents or 25% found a disconnect between the initial visual of BBW and the smell validation and changed their preference after Part 2. The product was discontinuous. Two respondents who chose BBW, changed their purchase-intent choice to Dial® in Part 2 of the test. The third respondent selected none of the products for purchase intent, because none met their expectations based on the visual after smelling them. One respondent was considered "neutral" because they initially chose Dial® but changed their purchase-intent preference because he noticed the "deep cleansing" copy on the BBW product at the end of Part 2. The respondent worked in construction and deep cleansing was an important feature, to scrub the grime off when washing. The respondents' preference changed because of a point in the copy, not because of a disconnect due to scent, this respondents thought both BBW & Dial® scents aligned with the visuals, so I defined this as neutral. Finally, 1 of the 12 respondents or 8% experienced a disconnect but still chose their original Part 1

preference of Method®. In Part 2 of the test, the Method® fragrance did not match the respondent's expectations, yet they still chose Method®.

When a design meets respondent or consumer expectations based on the senses, the result is a holistically honest design. If there was a disconnect that changed preference, this also proves that holistically honest designs drive preference. This leads to a total of 84% of respondents that connected holistically honest design with their choice for purchase intent.

HOLISTICALLY HONEST DESIGN + PURCHASE INTENT
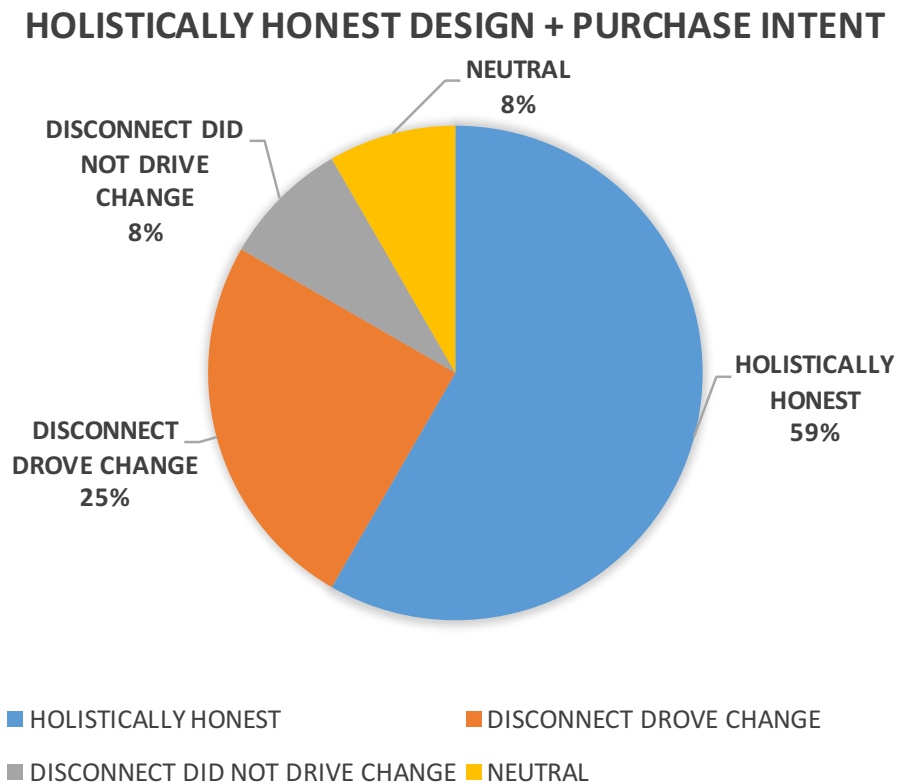
Chart 15. Qualitative Holistically Honest Design Drives Purchase Intent

Table 11. Qualitative Data, Holistic Design & Purchase-Intent Results

Preference & Holistic Design Results

	PART 1 / VISUAL									PART 2 / SMELL										
	EXPECT TO SMELL THE BEST			TRUST MOST			PURCHASE INTENT			DELIVERING ON EXPECATIONS			TRUST MOST			PURCHASE INTENT			NOTES ON RESPONSE	RESULT
RESP	Dial	Method	BBW	Dial	Method	BBW	Dial	Method	BBW	Dial	Method	BBW	Dial	Method	BBW	Dial	Method	BBW		
PAU			1			1			1			1			1			1	Loyal BBW user. He is a lover of scent. All were scent disconnects so he chose none.	PROVES
CIN	1			1				1		1			1			1			Trusted Dial, was swayed visually by Method, went back to Dial because of scent match exceeded her expecations. Method was too sweet.	PROVES
SOL	1			1				1			1			1			1		Visually thought method would smell like citrus because of the orange. It did not meet his expecations but he still chose it. Both Dial and Method were disconnects for him. He is not a fan of BBW saying it is o feminine	DISPROVES
GRA	1			1			1			1			1			1			Consistently Dial throughout. BBW user for lotion but had disconnect with fragrance	PROVES
MEL			1	1					1	1			1			1			BBW initially, fragrance did not deliver based on expecations, changed preference.	PROVES / CHANGE
DOL			1	1			1			1			1					1	This respondent went back and forth between Dial and BBW, both delivered. In the end the "Deep Cleansing" copy communication swayed him, saying it would clean soot.	NEUTRAL
DRU	1			1			1			1			1			1			Consistently Dial throughout. Delivered beyond expecations.	PROVES
KAT	1			1			1				1		1			1			Liked Method. She selected Dial in the end because she was not familiar with the Method brand. Said she was going to look for it though.	PROVES / TRUST
JOA			1			1			1	1					1	1			Loyal BBW user. Selected BBW in visual. It did not deliver in smell, changed preference to Dial.	PROVES / CHANGE
MAR	1			1			1			1			1			1			Liked Dial, trust Dial, it is THE soap brand.	PROVES / TRUST
DAR	1			1			1			1			1			1			Open to all, preferred Dial, Dial delivered.	PROVES
KAR	1			1			1			1					1			1	BBW did not deliver on her scent expecations and she stilll chose it because she liked the scent strength and wanted to seek out other products.	PROVES
TOTAL	8	0	4	10	0	2	7	2	4	9	2	1	8	1	3	7	1	2		

Through delivering on respondent expectations that holistically connected the visual and olfactory expression of the product, the Dial® brand that did the best job There was scent confusion among the Method® and BBW brands. This created a synaesthetic disconnect as respondents did not think the smell was a fit based on the visual. The disconnect from respondents came from, the graphic representation of the fruits on the Method® product. The graphically depicted fruits were not a quick read and the orange color design element confused respondents. Additional disconnections came from BBW, using a metaphorical description of the fragrance with "Beautiful Day"; which is not explicitly descriptive of a fragrance. The graphics depicted both apples and flowers so respondents from the qualitative test were not able to determine if the fragrance would be fruity or floral. Most respondents selected apple because of the color of the product. However, when they smelled the product, the predominant response was that it smelled perfumey and more floral than apple. This created a disconnect that affected respondents purchase-intent decision.

It is important to note that two of the respondents that chose Dial® claimed to be brand loyalists. They trusted the brand throughout and were very clear about this, see Table 11 respondents MAR and DRU. The brand continued to deliver on their expectations in this test, with the Coconut Water & Mango product.

There were also two respondents that claimed to be BBW loyalists, JOA and PAU. Both respondents found a disconnect with the BBW product scent. JOA changed preference to Dial® in Part 2 of the test and PAU chose none since none of the products delivered on the respondents' expectations.

In evaluation of the quantitative data to help support this answer to this research question, it is evident that brand familiarity seemed to drive trust and purchase-intent for the Dial® brand. There was a theme of consistent data throughout the study, ranking Dial® highest in these questions. BBW ranked second highest in all of the same questions. For example, when comparing the two questions, there is a clear correlation between the questions "Are You Familiar with This Brand?", Chart 16 with "Do you Trust this Brand to Deliver the Scent You Expect?", Chart 17. Chart 16, shows Dial® Top 2 box at 75%, Method® 47.5% and BBW 67.5%. Chart 17, Dial® Top 2 box 97.44%, Method® 57.5% and BBW 77.5%.
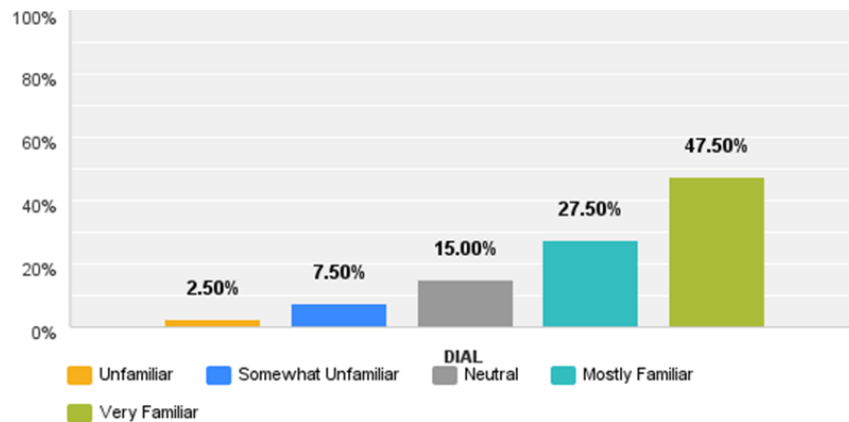
Chart 16. Quantitative, Are You Familiar with This Brand?
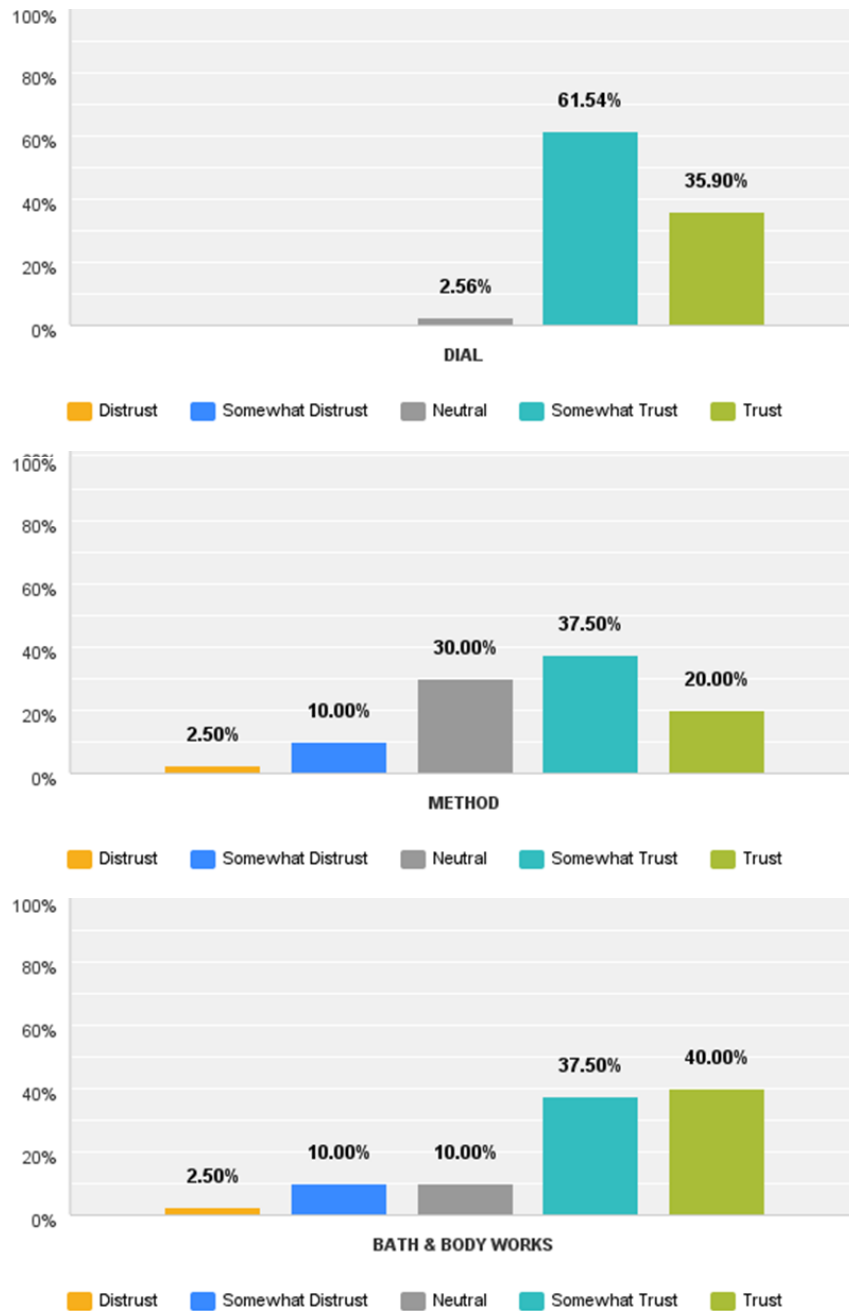
Chart 17. Quantitative, Do You Trust this Brand to Deliver the Scent You Expect?

There is clear familiarity and trust for the Dial® brand which drives trust,

preference (Chart 18) and purchase intent (Chart 19). Heritage emerged as a theme

for the Dial brand. Among the 3 brands tested, Dial® is the most mature, hence familiarity would follow. Heritage and familiarity were positive responses from the respondents and has created the bond of trust.
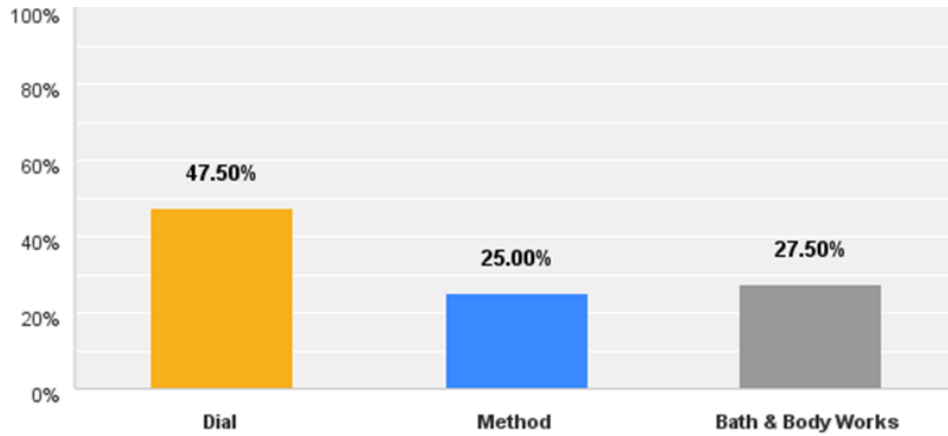
Chart 18. Quantitative, Which Product Do You Prefer?
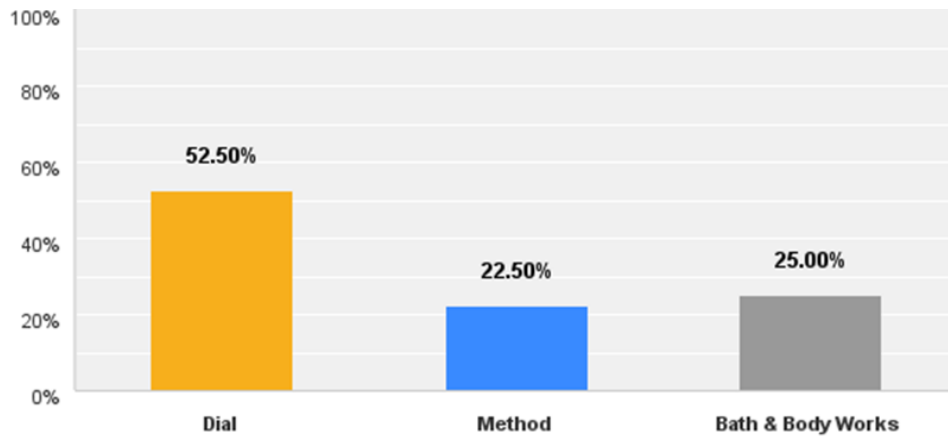
Chart 19. Quantitative, Which Product Would You Purchase?
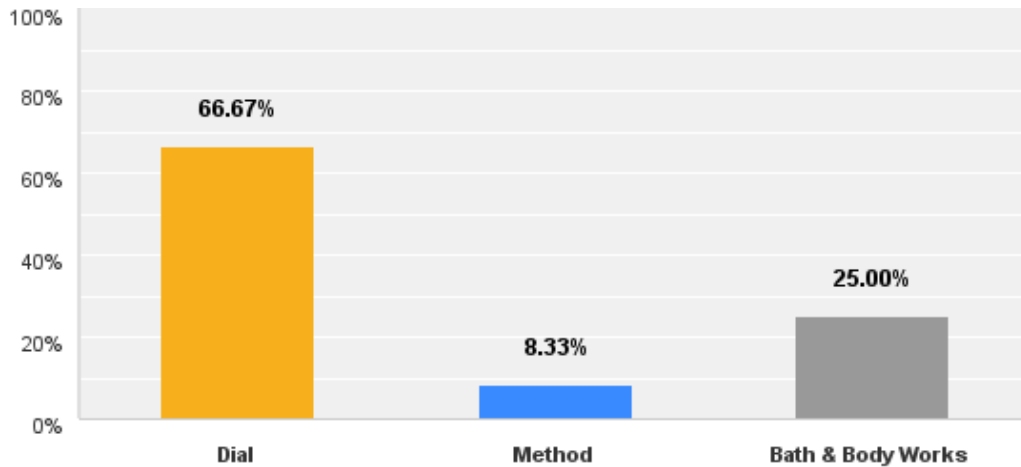
Chart 20. Qualitative, Which Product Do You Prefer?
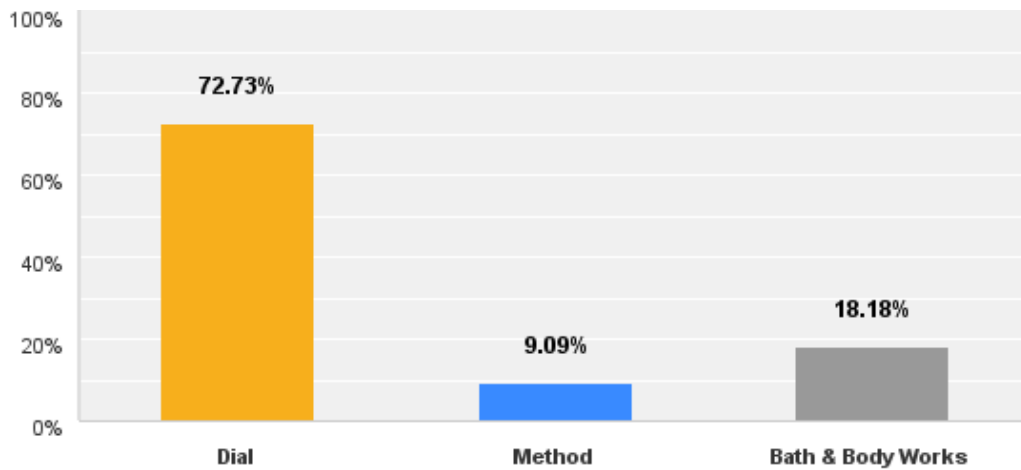
Chart 21. Qualitative, Which Product Would You Purchase?

The data from the quantitative survey supports the qualitative interview results; however, quantitative respondents were not given the opportunity to smell the product to determine whether the product met their expectations and ultimately delivered a holistically honest design.

In comparing the response charts on preference from both tests, - Charts 18 (quant) and 20 (qual) and Charts 19 (quant) to 21 (qual) – respondents were more likely to choose Dial after having the opportunity to smell the product, as shown in the higher qualitative results. Dial had the highest scores on delivering against respondent expectations from Part 1 Visual to Part 2 Smell (7 respondents). For two of the respondents, the holistically honest design of the Dial® product, drove a change in purchase-intent from the BBW brand, to the Dial® brand. Given the fact that respondents did not have a chance to smell the product still ranked Dial® highest in the quantitative, proves the directional significance that 1) brand trust and 2) brands delivering a holistically honest design expression linked to purchase-intent.

4.4 Themes

4.4.1 Visual Quality Perception

During the analysis of data several themes emerged. Brief descriptions will be provided of the key themes. One of the themes that emerged was centered around product color. Several respondents from the qualitative testing were very focused on the intensity of the product color in relation to the strength of the smell. 33% of respondents commented specifically on the product looking weak and connecting it with a weak fragrance or formula. These comments were made about the Dial® and Method® brands. In addition, lightness of color was at times related to being "cheap". The lightness of color was connected to the lightness of viscosity of the product and sometimes this "cheapness" was described as the formula being thin or not very substantial. Lighter formulas were seen as being thinner and the BBW

formula as being thicker because of the intensity of color. There were polarizing views on the topic of color as it relates to smell strength.

As a Marketer or Product Developer, this could lead one to believe that if developing a range of Hand Soap products to appeal to multiple consumer targets, there should be sets that appeal to the light color/light fragrance consumer and stronger color/stronger fragrance consumer.

4.4.2 Institution

A theme that emerged in the interviews from 4 different respondents connected the Method® product with a public establishment or institution (as opposed to a home). These responses tie to the metaphorical 6th sense. Two respondents mentioned that they would not use this product in their homes but would use is in a "public restroom" or if they "ran a high volume establishment". In addition, after the smell test, one respondent said this product reminded her of a nursing home because "it smelled musty and old". Another respondent said it reminded him of a locker room or the scent used as a "cover-up scent used in a men's urinal". This could be due to the higher volume, since it is 12 oz as opposed the BBW which 8 oz and Dial® which is 7.5 oz. In addition, some of the responses came after the respondents smelled the product. Based on the responses, there appears to be opportunity to improved the fragrance of this product.

4.4.3 Escape

Respondents connected the Dial® hand soap visual and fragrance to the metaphorical 6th sense of escape. 5 of 12 respondents or 41% responded making statements such as "makes me think of Mexico, being on the beach - this is relaxing for me". Also, coconut makes me think of being in Belize or on an island". This is due

to the nature of the imagery depicted tying directly and clearly to the fragrance name. It creates a quick read for consumers and takes them to a tropical place.

4.4.4 Scent Confusion

Scent confusion emerged as one of the primary themes. There was scent confusion among all three brands. Dial® had the least confusion. Method's® package design used graphic illustration to depict the fragrance which was not a quick read for consumers. In addition, 5 of 12 respondents or 41% responded on the use of orange color that was used on some of the graphic depictions of the apples. The orange color was a disconnect for respondents once they read the fragrance name of "honeycrisp apple". One respondent said, "apples are the wrong color, half orange/half red is very confusing; crazy coloring because of orange". There was definitely an opportunity for optimization of the design to help negate this consumer confusion of the fragrance.

The BBW product received the most comments on scent confusion for several reasons. First, there is no traditional fragrance name on the front of the package, instead the words "Beautiful Day" is used as the fragrance name, which is metaphorically descriptive, not literal. Second, the emphatic fragrance imagery includes both apples and flowers. Respondents could not determine for certain what the fragrance was upon visual examination. Most determined it would be apple with some floral because of the product color, lime green combined with the granny smith apple. This confusion continued after respondents smelled the product in Part 2 of the qualitative test. Respondents found the smell to be more floral and perfumey than fruity. There is room for design optimization of representation of the visuals to

the scent to create a more holistic design for both the Method® and BBW® products as well as fragrance to tie more closely to what is depicted.

4.4.5 Method® and the Target® Connection and Private Label

Four respondents connected the Method® brand with Target®, thinking that it was a private label brand for Target®. Any time this was mentioned, there was a connotation that the product was of a lower quality because of this. One respondent stated, "it's a knock-off type look; trying to compete with major brands". Another respondent said, "is this a Target brand? It seems generic, we don't buy generic. We are a branded household".

In addition, according to the responses, Method® may be "overdesigned" as the product tested was described by respondents as "too busy". One respondent said, Method® product looks "gimmicky because of the overdesign package; they focused on the package and not the product". They are potentially too focused on package design and not enough on product.

Many times there is a visual overlap between high quality products and cheap products when they both have a minimalistic look/feel. It seems there is an overarching thought in consumers' minds that this product lacks in quality. The clear product was not liked by consumers, they thought it "lacked" either scent or substance. The response to the clear color tied to fragrances is an indication that there should be more focus on testing fragrance and product with consumers. There are consumer product perception issues.

Method® did first launch into Target® stores but has since branched out to other retailers. Having ties to a major retailer such as Target® may be great for

recognition and sales. In this case, being tied to a private label brand was not helping the image of quality for the brand.

4.4.6 Seasonality

Several respondents described the products and scents as being something seasonal or that they would use during a certain season. For example, the Dial brand was described as "looks summery but I would use it year round". Another respondent said she would only use the Method® product during the fall. Hand soaps are a low involvement, low commitment purchase, making them the perfect accent to the season. This continues to be a big opportunity for producers of hand soaps.

4.4.7 Heritage of the Dial® Brand

Trust as it relates to the Dial® brand was mentioned as high in relation to the brands longevity and heritage. Many respondents said they used it as a child growing up and this carried positive connotations. Respondent SOL said, "I remember the Gold one as a kid and trust it because I grew up with it". Another respondent said, "at my age I have used Dial for a long time and it is familiar". There was one negative verbatim in a respondent that said "everything smells like the orange antibacterial". This is referring to the Dial Gold variant. Dial has trust that is rooted in their longevity and should use this to their benefit.

4.4.8 Bath & Body Works® and High School

Three respondents or 25% of those interviewed, connected the BBW brand with "teeny-boppers" and described it as "reminds me of high school and is specific to "that time in my life". All three of these respondents said they would not use this brand today. There is an opportunity for the BBW to determine how to evolve and

"grow up" with their consumers so they continue to purchase the brand as adults.

Themes are a great way to organize data that emerges from qualitative interviews. If a negative theme emerges from more than half of the respondents (depending of course on the sample size), a designer, CPG or retailer may want to consider making adjustments to the design to better align with consumer needs, desires and expectations.

4.5 Quantification of Words

During both the qualitative interviews and quantitative survey, at the end of the test, respondents were asked to come up with 5 words, preferably on their own to describe each product. A list of words was also provided in case the respondent got "stuck" or could not come up with words.

The words that were provided were a range of descriptive words including: Modern, Contemporary, Old Fashioned, Uplifting, Clean, Cluttered, Happy, Boring, Friendly, Approachable, Refreshing, Renewing, Cold, Trusted, Soft, Cleansing, Drying, Warm, Fresh, Gooey, Simple, Creamy, Juicy, Loud, Quiet, Gentle, Medicinal, Antibacterial, Herbaceous, Harsh, Fragrant, Flowery, Stinky, Earthy, Watery, Fruity

All words from the quantitative and qualitative tests were gathered and a word cloud was created for each brand, to determine which 3 words were used to describe the brands most frequently. The highest frequency of words were gathered from the quantitative survey and the words were in alignment with how respondents described the products during the qualitative interviews. This was a good validation of respondent answers from one method to the next.

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Figure 44. Dial Brand Word Cloud

The top three words used to describe the Dial brand were: 1) Clean, 2) Fresh and 3) Refreshing and Fruity tied for 3rd most frequent. Clean was used 32 times, Fresh 16 and Refreshing / Fruity, 13 times, see Figure 44.

Method® Brand

Figure 45. Method® Brand Word Cloud

The top three words used to describe the Method® brand were: 1) Fruity, 2) Modern

and 3) Clean. Fruity was used 19 times, Modern 17 and Clean 13 times, see Figure

45.

Figure 46. Bath & Body Works® Brand Word Cloud

The top three words used to describe the BBW brand were: 1) Flowery/Floral, 2)

Fragrant and 3) Clean. Flowery/Floral was used 18 times, Fragrant 11 and Clean 10

times, see Figure 46.

In conclusion, it is clear from the research findings that consumers do have

synaesthetic cross-modal responses to a stimulus. These perceptions form

consumers' thoughts, opinions and level of trust for a brand and should be an

important consideration during the design development process. In addition, testing

actual product examples, concepts or comps with consumers is important so they can

interact with and experience the product.

CHAPTER 5

CONCLUSION / DISCUSSION

5.1 Introduction to the Conclusion

This final chapter discusses the conclusions based on the findings of the research and testing. The primary focus of this research was to determine if consumers have synaesthetic responses to a stimulus, in this case a liquid hand soap product. Secondarily, the research was conducted to determine what the synaesthetic responses were and to ultimately determine if holistic design expression had an impact on purchase intent. The goal of this research was to provide a body of information to aid designers and companies so they might gain a greater understanding of the potential impact of cross-modal responses through the research and findings that have been presented. Although the research findings are specific to a category (personal cleansing), the literature review and findings are applicable to all categories to help others understand the potential implications of synaesthetic design, and its impact on consumer response.

Throughout the literature review, it was clear that most research in consumer psychology as it relates to product development has been on the study of individual senses (Spence 2010) or tests with consumers that are conducted at specific points in the development process resulting in fragmented results. In addition, there was a gap in scholarly study that connects synaesthetic multi-sensory stimulation to the design development process. "Most of the research on experiences to date has focused on functional, utilitarian product attributes and category experiences, not on total experiences provided by brands" (Sahin, Zehir,

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Kitapci, 2011, p. 1289). Utilitarian benefits and responses are not as lasting for consumers as consumers do not have a visceral reaction to them like they do to brands that appeal on a sensorial or emotional level. According to David Aaker, "Emotional benefits add to the richness and depth to the brand and the experience of using the brand" (Aaker, 2014, para. 6). In order to maintain the health of a brand, it is imperative that we create brands and products that connect.

5.2 Research Question 1) Do consumers have synaesthetic responses to Brand Expressions ie. Package design?

Clearly as supported by the data – respondents and therefore consumers do have cross-modal responses to a (packaging) stimulus. It is known that respondents have *sensorial* responses. The goal here was to determine if consumers have *synaesthetic* responses and if so, what are those responses? 126 synaesthetic responses were gathered from the qualitative interviews which resulted in 150 secondary sense stimulations.

The objective is to gain a greater understanding of synaesthetic design expression to help aid designers, marketers and product developers in the meaningful development of design and products. Sensory marketing has been described as "marketing that engages the consumers' senses and affects their perception, judgment and behaviors" (Krishna, 2011, p. 332). According to Krishna, the notion of marketing to the senses is that you can more quickly and efficiently create connections on a subconscious level by creating "triggers that define consumer perceptions of abstract notions of the product and the brand's personality" (2011, p. 332). In most brand and product experiences, (most

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experiences in general) multiple sensory modalities are involved and firing off at the same time. There is no way for the respondent to separate or distinguish between the individual senses that are sparking a response, they connect and streamline to result in an "impression". This was evident in the cross-modal verbatim responses that were gathered that helped to answer the next question.

5.3 Research Question 2) What are the synaesthetic responses to the brand expressions?

A secondary goal of the research was to determine what synaesthetic responses, respondents have to the stimuli to understand the interaction and overlap of the sensory perceptions. It was important to gain an understanding of which cross-modal responses emerged more than others during both the visual and smell portions of the test. Depending on the product category one may be designing or developing for, this would be important to understand and the needs may vary.

It is clear from the results of the 150 secondary sense stimulations gathered and tabulated - metaphorical, touch, smell and taste were the most emergent connections. The high volume of metaphorical responses was contrary to what was expected. The hypotheses was that 1) the majority of the responses based on the visual would be smell (visual ->smell) and 2) that the metaphorical would be more frequent in the secondary step of smell (smell -> metaphor). The latter was true. The amount of metaphorical responses warrants a separate test of its own which is described in section 5.6.

Consumers have the ability to make synaesthetic connections as they perceive products. Developers should consider the cross-modal expression of

brands and products as they are being developed and then test them with

consumers to ensure expectations are being met. Consumers ultimately have the

say as they purchase the products or leave them sitting on the shelf and move on

to another product they connect with.

5.4 Research Question 3) Do holistically honest design expressions drive consumer

preference?

Respondents were presented with Liquid Hand Soap packaging stimuli

and asked a series of questions to tease out sensorial responses based on how

their senses receive the stimulus. In analyzing through the two different tests,

visual and smell – it was clear that if a design was discontinuous in the mind of

the consumer, it chipped away at their trust toward the product and in many

cases, changed their purchase-intent decision. A clear example from the research

was the BBW product which was confusing to respondents in terms of trying to

determine what the product would smell like. The smell was not clear and even

when respondents made their best possible assumption; in most cases based on

the visual and product color, apple - the product then smelled floral; this did not

delight the consumers. This created disconnects that changed the respondents

purchase-intent away from the BBW brand.

Damle states, "As we form classes and distinctions, we think of classified

entities as being isolated from their context. As our mode of thinking becomes

discontinuous, we fail to see continuities and relationships" (Damle 2009). If a

package design lacks in holistic expression, the continuity becomes

discontinuous and this chips away at the idea of a solid proposition and clear

product understanding. What product package designs communicate and how

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they are perceived through the senses has the potential to drive preference. It is important that designs communicate in a holistically honest and consistent manner that meets consumer expectations.

5.5 Design Implications

This topic and research has a tremendous impact on design. As stated throughout the literature review, many companies develop visuals surrounding their brand – they even create brand style guides so that anybody developing for the brand knows how to use the visual vernacular, graphic and typographic elements created to express the brand. Retailers specifically should develop multi-modal style guides, including what their brand "sounds", "smells", "tastes" and "feels" like. Retail and store environments have a certain smell when you walk in – this has an immediate influence on the consumer. Fragrance houses exist that could help develop a smell, signature to their brand. This fragrance could be very subtle, but fitting to the brand, delightful (if even subconsciously) and branded. In a sense this will start to influence certain aspects of the metaphorical 6th sense because the environment will be properly "expressive" of the brand to the consumer and if maintained and delivered consistently, this could have a lasting impact.

It can be concluded that all of the senses and how they overlap should be considered when briefing a project and throughout the development process. This depends on the product of course as to whether one focuses on all senses or senses important to that specific category or project goal. In the end, to be successful and meaningful, brands and products must connect with consumers through the development of holistic designs.

Humans are sentient beings. Connections are created through the senses and bonds through emotions. It has been proven that people connect with brands that are meaningful and relevant to them. Branding expert David Aaker states "Brands and products, are symbols of a person's self-concept, and can provide a self-expressive benefit by providing a vehicle by which a person can express his or her self" (Aaker, para. 5, 2014). Moreover, developing synaesthetically expressive products that consumers love, have the potential to develop into a relationship through the brand. Through delivering experiences to consumers that meet or exceed their needs and expectations – brands have the potential to create bonds that last a lifetime.

Brands are the most important asset a company has. "Marketing academics and practitioners have acknowledged that consumers look for brands that provide them with unique and memorable experiences" (Sahin, et al., 2011, p. 1288). Through meaningful application of synaesthetic expression, companies can create holistic experiences and brand expressions that are loved and trusted by consumers and thus achieve brand loyalty.

5.6 Challenges

One of the challenges was how to converge the qualitative and quantitative data. In this study, qualitative was the primary research method. The quantitative was used to support the quantitative data and ultimately did. One thing that could have helped the quantitative data to further support the qualitative data would have been to ask some Why? type open ended questions in the quantitative survey to gain a greater understanding of why consumers responded like they did.

In addition, having a larger sample size for the qualitative research portion would have added to the validity of the findings. An opportunity for a future study includes having a larger sample size that will help result in statistical significance as opposed to directional significance.

Finally, it would have added to the research to have interviewed someone who specializes in the field and study of synaesthesia to include the answers to more specific questions related to the research topics and questions.

5.7 Future Research

There is an opportunity to take the research surrounding the topic of synaesthesia and how it applies to the design development process of consumer products, much further. There were very few books and scholarly articles specific to synaesthesia in design. Multi-modal experiences happen with consumers using products designed for them everyday. Therefore, multi-modal experience should be a consideration during the development of a product to ensure consumer need states, desires and expectations are met or exceeded.

In this particular study, secondary sense stimulation was gathered based on the primary sense stimulations on only, 1) visual and 2) smell. There is opportunity for a larger, more expansive study that gathers data on the secondary, multi-modal responses based on all the five senses, plus potentially the metaphorical 6th sense.

Recommendations are continuing forward with a much larger qualitative study that includes products from various categories from food & beverage, fine fragrance, technology, audio and the automotive categories just to name a few.

The verbatim responses from the qualitative test were highly skewed metaphorical, and there were several response-type categories associated with the

definition of "the metaphorical 6th sense", including "escape", "transformation", "reminiscence" or a "feeling". A separate study could be conducted on responses categorized as metaphorical 6th sense. In addition, because these responses tend to be more abstract since they are personal to the respondent in many cases. A further study could be done to develop action standards, to determine if metaphorical feedback is applicable to the designs being tested. For example, X% of respondents must have a similar response before the feedback is used to optimize the designs.

Another opportunity for future research is to use this proposed method of qualitative interviews to ask consumers questions about a brand or products to determine if any brand equities exist today with regard to multi-modal sensory stimulation. This could be used to determine if a particular brand or products are engaging in the way a company intends or inform changes that need to be made. This type of multi-sensorial equity study could help ensure companies are communicating their intended brand essence and determine if that essence is understood by consumers. A study such as this could help determine if a holistically honest message is threading through multiple sensorial touchpoints.

There is also an opportunity to better understand the connection of synaesthetic expression to brand trust and how that ladders up to brand loyalty.

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APPENDIX A

HUMAN SUBJECTS INSTITUTIONAL REVIEW BOARD (IRB) APPROVAL

EXEMPTION GRANTED

John Takamura
The Design School
480/965-7171
John.Takamura@asu.edu

Dear John Takamura:

On 10/9/2015 the ASU IRB reviewed the following protocol:

Type of Review:	Initial Study
Title:	Synaesthetic Design Expression: The Blending of the Senses and its Implications on Brand Expression
Investigator:	John Takamura
IRB ID:	STUDY00003255
Funding:	None
Grant Title:	None
Grant ID:	None
Documents Reviewed:	• Quantitative Consent & Recruit Form, Category: Consent Form; • IRB Approval Form / Synaesthetic Design Expression, Category: IRB Protocol; • CITI Certification / 100% Pass, Category: Other (to reflect anything not captured above); • Qualitative Questionaire, Category: Measures (Survey questions/Interview questions /interview guides/focus group questions); • Qualitative & Quantitative Consent & Recruit Form, Category: Consent Form; • Quantitative Questionaire, Category: Measures (Survey questions/Interview questions /interview guides/focus group questions);

The IRB determined that the protocol is considered exempt pursuant to Federal Regulations 45CFR46 (2) Tests, surveys, interviews, or observation on 10/9/2015.

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

Sincerely,

IRB Administrator

cc: Amy Rhodes
       Amy Rhodes
       John Takamura

APPENDIX B

QUALITATIVE TEST QUESTIONNAIRE

Qualitative Research Part 1 / Visual

Packages will be presented to respondents in a sequential monadic fashion, one

product at a time.

Introduction to Respondents

First 3 Letters of your Mother's Name + Last 3 Digits of your Phone Number, (ex.

MAR123):

Male / Female

Age:

Are you a handsoap user? Y/N

What brands have you used in the last 6 months?

SoftSoap®, Dial®, Method®, Bath & Body Works®, Equate®, Up & Up®, Meyers

Clean Day®, Bodycology®, Avalon®, Trader Joes®

AR: "OK, well I am going to show you with 3 different products today and I want you to ask you some questions about each."

Q1) Are you familiar with this brand? Y/N

Q1a) If so, what does this brand stand for?

Q2) When you look at this product, what does it say to you?

Probe: Q2a) What about the bottle shape?

Probe: Q2b) What about the product color?

Probe: Q2c) What about the label design / imagery?

Probe: Q2d) What about the words?

Q3) What feelings come to mind when you look at this product?

Probe: Q3a) What about the bottle shape?

Probe: Q3b) What about the product color?

Probe: Q3c) What about the label design / imagery?

Probe: Q3d) What about the words?

Q4) Based on looking at this product, how would you expect it to smell?

Q5) On a scale of 1-5, based on the visuals - do you expect the product to deliver the smell you expect?

1	2	3	4	5
Not Deliver	Somewhat Not Deliver	Neutral	Somewhat Deliver	Delivers

Q6) On a scale of 1-5, how strong do you expect the smell to be?

1	2	3	4	5

Weak	Somewhat Weak	Neutral	Somewhat Strong	Strong

Q7) On a scale of 1-5, do you trust the brand to deliver on the scent you expect?

1	2	3	4	5
Distrust	Somewhat Distrust	Neutral	Somewhat Trust	Trust

Once all 3 brands have been presented:

Q8) Looking at all 3 products, which one do you expect to smell the best? 1 Dial® / 2 Method® / 3 BBW

Why?

Q9) Do you trust one more than the other? Y/N

If Yes, which product: 1 Dial® / 2 Method® / 3 BBW

Why?

Q10) Which package design do you prefer?

1 Dial® / 2 Method® / 3 BBW

Why?

Q11) Which product would you purchase?

1 Dial® / 2 Method® / 3 BBW

Why?

QUALITATIVE RESEARCH PART 2 / Visual + Smell

Packages will be presented to respondents in a sequential monadic fashion, one

product at a time.

Q12) When you smell this product, what does it smell like?

Q13) What feelings or thoughts come to mind when you smell this product?

Q14) Did the scent meet your expectations? Y/N

Why?/Why Not?

Probe for Verbatims

Once all 3 brands have been smelled by respondent:

Q15) Now that you have looked closely at all three designs and smelled the products, which overall product is doing a better job at delivering on your expectations? In other words, who is doing the best job?

1 Dial® / 2 Method® / 3 BBW

Why?

Q16) Do you trust one more than the other? Y/N

If Yes, which product: 1 Dial® / 2 Method® / 3 BBW

Why?

Q17) Of all three products, which one would you purchase?

1 Dial® / 2 Method® / 3 BBW

Why?

Q18a) Please come up with 5 words to describe this product. These words can be both positive and negative. Any words that come to mind. If you need help, there are some descriptive words below for you to reference.

Modern, Contemporary, Old Fashioned, Uplifting, Clean, Cluttered, Happy, Boring, Friendly, Approachable, Refreshing, Renewing, Cold, Trusted, Soft, Cleansing, Drying, Warm, Fresh, Gooey, Simple, Creamy, Juicy, Loud, Quiet, Gentle, Medicinal, Antibacterial, Herbaceous, Harsh, Fragrant, Flowery, Stinky, Earthy, Watery, Fruity

Q18b) Please come up with 5 words to describe this product. These words can be both positive and negative. Any words that come to mind. If you need help, there are some descriptive words below for you to reference.

Modern, Contemporary, Old Fashioned, Uplifting, Clean, Cluttered, Happy, Boring, Friendly, Approachable, Refreshing, Renewing, Cold, Trusted, Soft, Cleansing, Drying, Warm, Fresh, Gooey, Simple, Creamy, Juicy, Loud, Quiet, Gentle, Medicinal, Antibacterial, Herbaceous, Harsh, Fragrant, Flowery, Stinky, Earthy, Watery, Fruity

Q18c) Please come up with 5 words to describe this product. These words can be both positive and negative. Any words that come to mind. If you need help, there are some descriptive words below for you to reference.

Modern, Contemporary, Old Fashioned, Uplifting, Clean, Cluttered, Happy, Boring, Friendly, Approachable, Refreshing, Renewing, Cold, Trusted, Soft, Cleansing, Drying, Warm, Fresh, Gooey, Simple, Creamy, Juicy, Loud, Quiet, Gentle, Medicinal, Antibacterial, Herbaceous, Harsh, Fragrant, Flowery, Stinky, Earthy, Watery, Fruity

APPENDIX C

QUANTITATIVE TEST QUESTIONNAIRE

Packages will be presented to respondents in a sequential monadic fashion, one product at a time.

Introduction: Thank you for participating in this test of liquid hand soap products. You will be shown 3 different brands of products and asked a series of questions. Please answer questions to the best of your ability and as thoroughly as you can. Don't hold back on any of your responses, all feedback is important. Have fun! All responses will be kept strictly confidential. In order to ensure confidentiality, please enter the following non-descript information so we can track your answers: First 3 Letters of your Mother's Name + Last 3 Digits of your Phone Number, (ex. MAR123):

Male / Female:

Age:

Are you a handsoap user? Y/NWhat brands have you used in the last 6 months?

SoftSoap®, Dial®, Method®, Bath & Body Works®, Equate®, Up & Up®, Meyers Clean Day®, Bodycology®, Avalon®, Trader Joes®, Method®, Other.

Product is presented.

Q1) Are you familiar with this brand?

1	2	3	4	5
Unfamiliar	Somewhat Unfamiliar	Neutral	Mostly Familiar	Very Familiar

By Looking at this product, please select the answer that best matches to the statements below based on what you think the product might be:

Q2) Product works with my Décor.

1	2	3	4	5
Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Agree

Q3) Product smells Clean.

1	2	3	4	5
Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Agree

Q4) Product has No Scent.

1	2	3	4	5

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| Disagree | Somewhat Disagree | Neutral | Somewhat Agree | Agree |

Q5) Product Smells too Strong

| 1 | 2 | 3 | 4 | 5 |
| Disagree | Somewhat Disagree | Neutral | Somewhat Agree | Agree |

Q6) Product Smells Weak.

| 1 | 2 | 3 | 4 | 5 |
| Disagree | Somewhat Disagree | Neutral | Somewhat Agree | Agree |

Q7) Product Smells Fruity.

| 1 | 2 | 3 | 4 | 5 |
| Disagree | Somewhat Disagree | Neutral | Somewhat Agree | Agree |

Q8) Product Smells Watery.

| 1 | 2 | 3 | 4 | 5 |
| Disagree | Somewhat Disagree | Neutral | Somewhat Agree | Agree |

Q9) Product Smells Herbal.

1	2	3	4	5
Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Agree

Q10) Product Smells Floral.

1	2	3	4	5
Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Agree

Q11) Product Takes me to a Place.

1	2	3	4	5
Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Agree

Q12) Product Reminds me of a Memory.

1	2	3	4	5
Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Agree

Q13) Product looks Fresh.

1	2	3	4	5
Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Agree

Q14) Product looks Feminine.

1	2	3	4	5
Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Agree

Q15) Product looks Masculine.

1	2	3	4	5
Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Agree

Q16) Product looks Harsh.

1	2	3	4	5
Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Agree

Q17) Product looks Moisturizing.

1	2	3	4	5
Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Agree

Q18) Product is Appealing.

1	2	3	4	5
Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Agree

Q19) Product looks Easy to Use.

1	2	3	4	5
Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Agree

Q20) Product looks Juicy.

1	2	3	4	5
Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Agree

Q21) Product Imagery matches the Smell.

1	2	3	4	5
Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Agree

Q22) When I look at the product, thoughts or feelings come to mind.

1	2	3	4	5
Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Agree

Q23) When I look at this product, I know what it smells like.

1	2	3	4	5
Disagree	Somewhat	Neutral	Somewhat	Agree

Disagree   Agree

Q24) Looking at the product - do you expect the product to Deliver on the Smell?

1	2	3	4	5
Not Deliver	Somewhat Not Deliver	Neutral	Somewhat Deliver	Delivers

Q25) Looking at the product, how Strong do you expect the Smell to be?

1	2	3	4	5
Weak	Somewhat Weak	Neutral	Somewhat Strong	Strong

Q26) Do you Trust the brand to deliver on the Scent you expect?

1	2	3	4	5
Distrust	Somewhat Distrust	Neutral	Somewhat Trust	Trust

Q27) Please come up with 5 words to describe this product. These words can be both positive and negative. Any words that come to mind. If you need help, there are some descriptive words below for you to reference.

_____

Modern, Contemporary, Old Fashioned, Uplifting, Clean, Cluttered, Happy, Boring, Friendly, Approachable, Refreshing, Renewing, Cold, Trusted, Soft, Cleansing,

Drying, Warm, Fresh, Gooey, Simple, Creamy, Juicy, Loud, Quiet, Gentle,

Medicinal, Antibacterial, Herbaceous, Harsh, Fragrant, Flowery, Stinky, Earthy,

Watery, Fruity.

Once all 3 brands have been presented.

Q30) Looking at all 3 products, which product do you expect to smell the best?

1) Dial®

2) Method®

3) BBW

Q31) Now that you have looked closely at all three designs which product do you

believe would do better at delivering on your overall expectations?

1) Dial®

2) Method®

3) BBW

Q32) Which product do you prefer?

1) Dial®

2) Method®

3) BBW

Q33) Of all three products, which one would you purchase?

1) Dial®

2) Method®

3) BBW