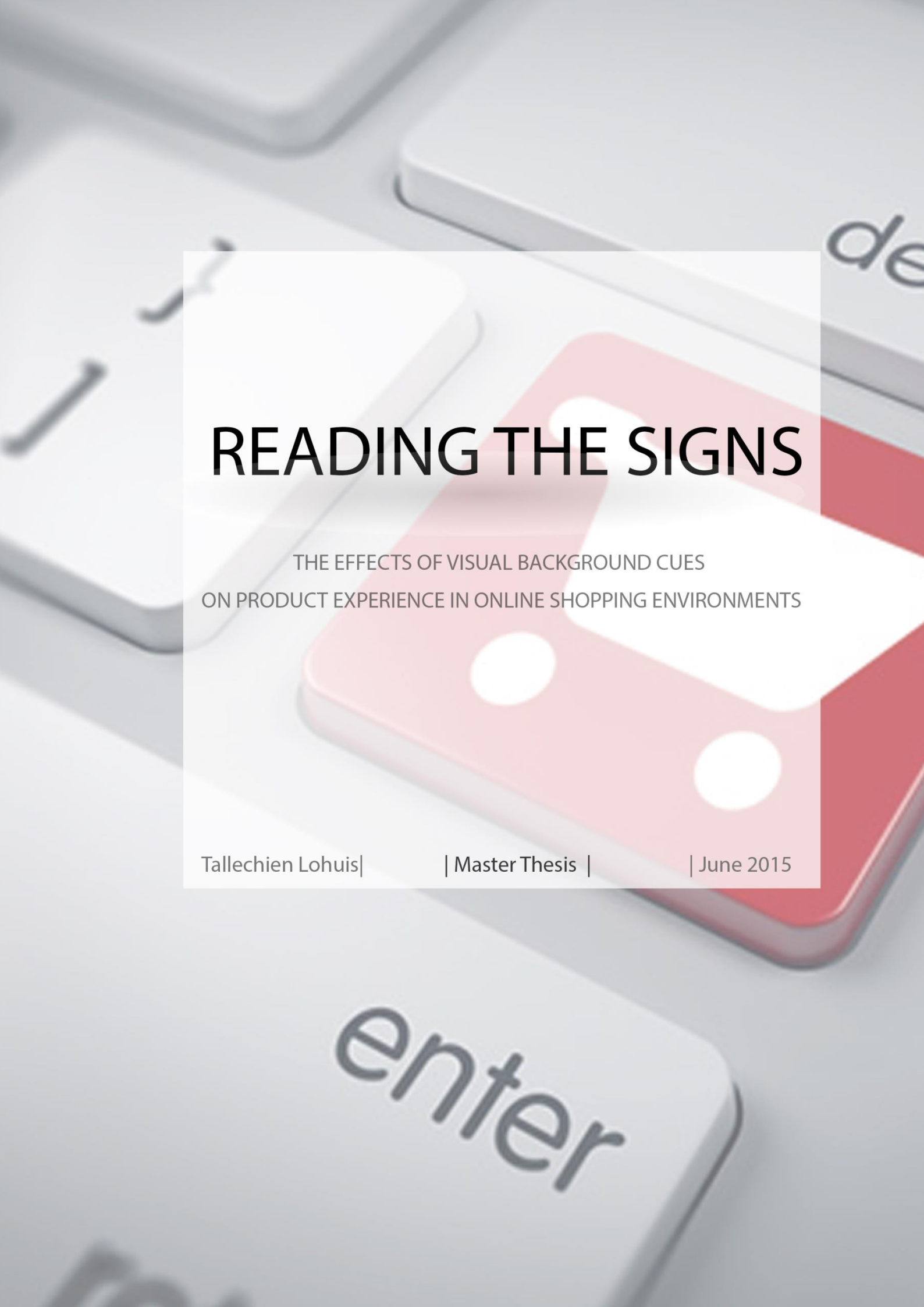

READING THE SIGNS

THE EFFECTS OF VISUAL BACKGROUND CUES
ON PRODUCT EXPERIENCE IN ONLINE SHOPPING ENVIRONMENTS

Tallechien Lohuis| | Master Thesis | | June 2015

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Master Thesis
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ABSTRACT

An important difference between the brick and click consumer market is the product presentation. Where conventional stores use packaging, store atmospherics and other tangible aspects to lure the consumer, web shops lack these means. The consequence is that online shopping environments convey limited product experience which causes less emotional responses, a high uncertainty towards the product and a lower purchase intention.

Therefore, the goals of this present research was to determine to what extent visual backgrounds can influence product experience and consumer attitudes towards the product. Prior research has shown that visual cues are a mean to affect consumer behavior. Especially visual metaphors and symbols carry the ability to inform and persuade. However, prior research lacks insights in how visual background cues improve online product experience. This research attempted to address this scientific gap with two pretests and one main study. Pretest 1 and 2 set the stimulus material for the 2x3 experimental research design. The main study explored if consumers change attitude when visuals with symbolic value are displayed behind the product (watches and perfumes).

Results show that symbolic visual backgrounds can influence product evaluation and price expectations in specific conditions. This effect is mediated by the product experience. The consumer experiences the perfume as more joyful when a joyful or luxury background on the perfume bottle is showed. Consequently, symbolic backgrounds increase the product evaluation and price expectation. Especially, consumers are receptive for the effects of visual cues in online perfumes presentation (in contrast to watches). In the discussion, we argue that this effect with perfumes occurs because the consumer relies more on external factors when intrinsic product attributes are not feasible (the perfume can't be smelled). Results help online marketers to enrich online shopping.

TABLE OF CONTENT

LIST OF FIGURES

LIST OF TABLES

INTRODUCTION

Do you know the feeling of joy when you conveniently shop for clothing on your Ipad from your warm bed? Or have you ever felt thrilled after receiving a love message on your phone? Maybe you even felt frustrated not that long ago when you struggled with the new business software. Chances are high that you have dealt with these kind of experiences mediated by modern technologies (mostly internet). These experiences are inseparable from emotions and therefore shape our lives as vivid as any other 'real-life' experience (McCarthy & Wright, 2004). However, today's computer mediated experiences require new marketing concepts since the internet possess unique characteristics (Hoffman & Novak, 1996).

This need for new marketing techniques comes apparently evident in retailing. Predicting consumer behavior in the online consumer market has raised the interest of academics and practitioners over the last decades since it is substantially different from the traditional brick and mortar consumer market (Koufaris, 2002). E-tailing has infinite advantages. The internet is faster, cheaper and brings more accurate product information, product reviews by peers and consumer feedback (Eroglu, Machleit, & Davis, 2003). Also easy access, functionality and low costs for both sellers and buyers are benefits of the medium. The internet has some drawbacks as well. The most patent disadvantage of e-tailing (e.g. web shops) is the lack of multisensory experiences of the product. The multisensory basis of examining a product personally in traditional stores is one of the stores benefits (Alba et al., 1997; Rosen & Howard, 2000) because consumers behave differently when they experience bodily stimuli at the point of purchase (Turley & Milliman, 2000). For example, consumers use touch to obtain haptic product information and hedonic experiences (e.g. fun) before purchase (Peck, 2010) and are, therefore,

less likely to purchase in places were touch is not available (Citrin, Stem, Spangenberg, & Clark, 2003).

This current study attempt to address this drawback by zooming in on one approach of online marketing; symbolic images as a background in online product presentation. In this present research, we have examined if, for instance, a watch is perceived more luxurious when it is shown in a luxurious context. These contextual visuals might influence the consumer behavior by enriching the online product experience.

In search for a substitute for personal examination, this present research found visual background cues as a potentially influencing design variable. Childers, Carr, Peck, and Carson (2002) claim that further research should be done on the 'design variables' that drive perceptions into online purchase behavior. There are 4 reasons why visual background cues might increase the consumers' product experience:

1. Vision is a powerful sense and pictures draw the attentions of the consumer. Visuals often are the fundamental component in retailing design and marketing (Wedel & Pieters, 2012) since a whole range of visual properties can evoke a variety of consumer processes which in turn, influence consumer judgments (Raghubir, 2010). Nielsen (2010) argues that images help users to understand products, evaluate product attributes and differentiate between similar items in e-commerce. Visuals are also often used to attract the consumers attentions in an attempt to persuade the consumer to encourage attitudes and behavior (Joffe, 2008).
2. Illustration can have metaphorical value or symbolism. Visual metaphors *'juxtapose two images often without accompanying verbal explanation instead of verbally stating two concepts that are linked analogically*' (S. Jeong, 2008, p. 60). The visual metaphor is often more implicit and complex than its verbal counterpart. Visual metaphors are, therefore, known to be used for visual argumentation and persuasion as well as information processing which influences the consumers attitude, product belief and purchase intention (S. Jeong, 2008).
3. The symbolism of an illustration can be attributed to the product. Almost a century ago, Lev Kuleshov noticed that the emotions film watchers have about an object is influenced by its surroundings. This Kuleshov-effect refers to the phenomena of an audience that amplifies the actors thoughts and feelings through the manipulation of the context (Mobbs et al., 2006). This effect demonstrates the power of context in evoking emotions and color experiences. This framing might causes consumers to think differently about a product.

4. Higher product experience reduce the consumers perceived risk. Online consumers experience a higher level of risk (i.e. receiving the a product that meets the expectations) in contrast to offline consumers (Bhatnagar, Misra, & Rao, 2000; Weathers, Sharma, & Wood, 2007). Provoking the vividness through pictures drops the perception of product uncertainty of web shop users (Weathers et al., 2007).

Despite the fact that visuals are increasingly important in the today's technological society, visual persuasion is under-studied in the field of communication (Gass & Seiter, 2011). E-commerce has made an enormous flight over the past decade. However, deeper insights in the consumers internal processing considering this topic are still uncovered. Our research helps academics and scientists in their need for deeper and extensive consumer decision making behavior in online retail environments. Also, the causes and effects of product experience in online environments are relatively unknown. For academics, we provide new understandings of consumer behavior in online shopping environments. Although, online retailing lacks olfaction and tactical cues, Eroglu et al. (2003) propose that visual and auditory cues can be manipulated in order to produce affective responses with the customer. Alternatives to physical touch, for example, are of great research potential because it could improve online product experience and buying intention (Krishna, 2010). However, this notion was not further examined. Furthermore, Van Rompay, De Vries, Bontekoe, and Dijkstra (2012) found that visual cues inspiring verticality perceptions increase luxury perceptions and, in turn, product evaluations. They request for future research on the potential of metaphors in this notion. This present study fills these scientific gaps. The outcome will help give practioners the handles to provide better user experience in online shopping environments. Therefore, our research provides new insights to fuel the need for consumers.

The aim of our study is to explore the effect of visual backgrounds associated with symbolic attributes on product experience and the consumer attitudes towards products in online shopping environments. This will be tested on two products (perfumes and watches) in order to explore the influence of the type of product on the consumer experience. Also, the influence of product involvement of the consumer was taken into account.

1. THEORY

This theoretical framework stresses the main idea behind the research topic and research model with help of the SOR framework.

This research investigates the idea that visual background cues on products in online shopping environments contribute to the consumers ability to judge the product. The Stimulus Organism Response (SOR) framework forms the basis of this present study. The SOR framework explains consumer behavior by the emotional state of the consumer that is evoked to external stimuli. The model is based on the principle that emotional responses are evoked by sensory cues mediated by the internal state of the consumer (Mehrabian & Russell, 1974). In case of vision for example, the stimulus of a pleasant (versus unpleasant) view (S) influences the affective and cognitive state of the consumer. The consumer perceives the stimulus in him or her own way. (O) In turn, the perception of the stimulus leads to an emotional response (R) that enables the approach (in contrast to avoidance) behavior.

Main hypotheses

The consumer associates the background image with the product in the web shop. Subsequently, the cognitive and affective responses to the image might alter the product experience, which in turn, increase attitude towards the product. For instance, a consumer sees a watch on a web shop which in itself has limited meaning. The picture on the background (e.g. an astronaut) of

the watch might arouse the consumer. He or she connects the symbolic value of the background with the watch. Therefore, the watch will be perceived more innovative and an exhaustive product experience arises. This, consequently, will affect the consumers attitudes towards the product. Therefore, the main hypothesis is as followed:

H1: Visual backgrounds influence product experience in online product presentation (in contrast to neutral backgrounds). **Product experience, in turn, affect consumer attitudes towards the product.**

> *The relationship between symbolic visual background cues and product evaluation (h1a), purchase intention (h1b), price expectation (h1c) is mediated by the product experience of the consumer.*

However, before this hypotheses can be tested, we will have a deeper look into the theory and the concepts of the research model. First the visuals (S) is discussed. Second, the underlying processes will come clear (O). Third, the consumer responses are further examined. We conclude this chapter with the research model.

1.1 VISUALS AND PRODUCT ATTRIBUTES (S)

Visual cues have a long history of scientific research in psychology, marketing, art and aesthetics which focuses on the question of how visual input is translated into information. Our research however, does not question the manner of processing since it explores the behavioral implications of visuals in online product presentation. In order to do this, a clear definition and practical working model of visuals is provided. Pictorial material including photographs, drawings and illustrations is defined by Lutz and Lutz (p. 611) as "*any two dimensional representation in which the stimulus array contains at least one element that is not alphabetic, numeric, or arithmetic*" (Lutz & Lutz (1978) as cited in Babin, Burns, & Biswas, 1992). However, visual cues are more complex. The amount of research on the effect of aesthetics, color use, image types, font use and other visual cues in virtual atmospherics is extensive (Manganari, Siomkos, & Vrechopoulos, 2009). Therefore, we continue with a deeper look in how visuals might contribute online product presentation.

THE EFFECTS OF VISUALS

Sensory stimuli expose consumers to informative messages or affective messages about a product. Visual cues might evoke perceptions of product attributes in online shopping environments due to two effects of visuals. Pictures informs and persuades the consumers. Metaphors are a mean to elicit both functions (S. Jeong, 2008). Therefore, visual aspects often are the key component in marketing such as advertising and retail design (Wedel & Pieters, 2012) because a whole range of visual properties can evoke a variety of consumer processes which in turn, influence consumer judgments (Raghubir, 2010) and visuals have an emotive impact on consumers (Joffe, 2008). Along with other proven approaches visual cues are frequently used to raise interest in a product. Currently, advertising in print media, television and internet campaigns use visual backgrounds because (1) visual cues have the power to provide information on the product and (2) visual cues interact with other senses to form a judgment. Mostly this is done by the provoking associations with memorable feelings of the past or with metaphors (Spence & Gallace, 2011).

"*Visual propaganda is far older than writing. Its persuasive power has long been recognized.*" (Gurri, Denny, & Harms, 2010, p. 102). This is not without reason since visuals shape beliefs, attitudes and behaviors (Gass & Seiter, 2011) by transmitting information (Suh, 1999). Information that is provided via images is helpful to gather information (e.g. about quality etc.). Pictures in online product presentation are more effective and efficient in providing information about the product in comparison to text (Chau, Au, & Tam, 2000) because they visualize and emphasize the infeasible products' attributes. Consumers are motivated to imagine associate, fantasize or form expectations by visuals. Therefore, consumers are able to evaluate a product by the representation in their mind even when the product is not present in the physical environment (Peck, Barger, & Webb, 2012). For example, research in taste perception showed that consumers taste what they expect to taste based on the visual cues (Raghubir, 2010). Furthermore, the picture superiority effect claims that pictures are more easily processed by the brain (the experimental system of the brain in the dual process model) which causes a better recall and recognition (Hockley, 2008; Stenberg, 2006).

Visual metaphors transfer intrinsic, symbolic meaning because it requires cognitive effort (DeRosia, 2008). Visual metaphors consist of two important properties; the metaphorical style and visual modality. The metaphor compares two different objects (A is B), while doing so, the characteristic of object A are conveyed to object B (Sopory & Dillard, 2002). Visual metaphors are known to be used for visual argumentation and persuasion as well as information processing

which influences the consumers attitude, product belief and purchase intention (S. Jeong, 2008). In the experiment, two Mitsubishi Motor advertisements were showed to the participants with an metaphorical image (one with a suitcase to associate with 'a good journey' and one with an iron to claim a 'smooth ride'). Also, the participants rated an ad campaign of tissues with a kitten higher on 'soft' then the other ads (with no metaphorical relation to softness).

Furthermore, many studies found evidence that emotions are elicited by metaphors (Krishna, 2010). For example, visual metaphors evoke pleasure because interest and motivation is stimulated by the initial ambiguity and subsequent resolving of the novel idea. Therefore, visuals have the power to inform, persuade, draw attention and appeal to consumers. In turn, this changes experiences, behavioral responses and attitudes because cognitive and affective mechanisms ensure that consumers associate the value of the image with the product.

PRODUCTS

Besides the context of the product, the product itself is an influencer of product experience (Desmet & Hekkert, 2007) in the research model. Especially in online product presentation, visual cues might influence product experience since the product attributes are not perceivable via a screen. The attributes of the product are then expressed in the visual background of the product. The visuals inform and persuade the consumer about the product since the consumer associates the visual background with the product itself.

PRODUCT ATTRIBUTES

The American Marketing Association defined product attributes as '*the characteristics by which products are identified and differentiated*'. These characteristics can be categorized in a number of ways (e.g. by its 'features, functions, uses or benefits). One example is intrinsic versus extrinsic product attributes. Intrinsic attributes are product cues that change the physical characteristics of the product itself if these attributes are altered. Extrinsic attributes include product cues that are not fundamental parts of the physical product (North, De Vos, & Kotze, 2003). Extrinsic product cues, such as packaging, labelling, price and branding, affect how consumers evaluate a product as much as an intrinsic product cues (like quality, materials, smell, flavor, the look etc.) do. To illustrate, the price of a bottle of wine 'tells' the consumer what the quality of the wine is.

Product attributes are important features of a product since they determine the consumer's product experience at the point of purchase (Mueller & Szolnoki, 2010). The product attributes

carry value. One way to transfer this value is by symbolic product attributes. These symbolic product attributes emphasize hedonic and aesthetic characteristics by connecting the product to a general concept or idea of hedonic value.

SYMBOLIC PRODUCT ATTRIBUTES

Symbolic product attributes are successfully used by brands and marketers in order to associate the product with a certain meaning. In today's cluttered consumer market, consumers value real and emotion loaden products above phony, shallow products. Ads use one attribute to differentiate their product in this saturated market. An intended meaning is inferred to the product (Gass & Seiter, 2011). Like Moët wine sells a 'taste of luxury'. Therefore, symbolic product attributes are of great potential in order to increase product experience.

These market examples showed that consumers perceive product attributes not only in the product itself, but also in other elements surrounding the product. The products' attributes can be perceived in visual cues. For instance, Mandel and Johnson (2002) found that web shops with clouds on the background increase purchase intention since the clouds may alter feelings of comfort. Also, vertical lines behind a product in advertisement alter perceptions of the product and increase price expectations and consumer evaluations (Van Rompay et al., 2012). Another example is a study towards perceptions on clothing fabrics. K. Jeong, Jang, Chae, Cho, and Salvendy (2008) found that product experience change when participants are exposed to a visualization of the tactile product attributes. Consumers experienced no difference in material perceptions between the actual touching of the clothing and the online product presentation with visual information on the nature of the clothing material.

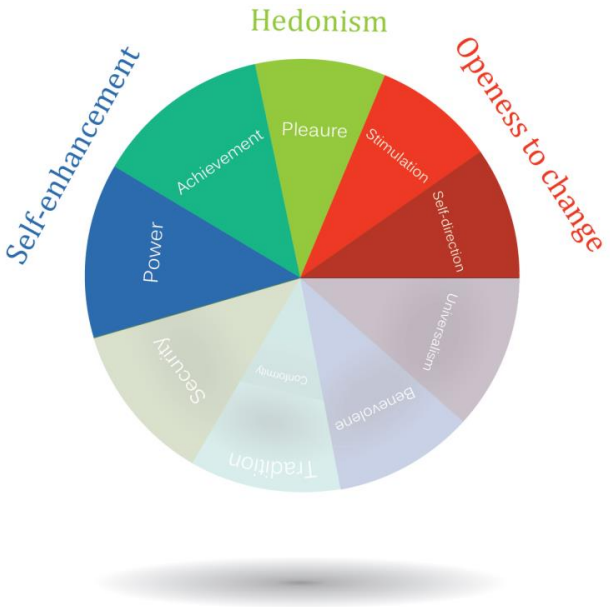


Figure 1| Circular model of the 10 values and value groups of Schwartz' value theory.

The value theory (Schwartz, 1992) was used as a guidance to find three symbolic product attributes in order to influence product experience. The value theory of Schwartz distinguishes all basic universal motivations in human existence (see figure 1). All together these values form a circular model. We used (1) stimulation/ self-direction, (2) pleasure, (3) achievement/ power. These are translated in

symbolic product attributes in order to express the abstract values in practical attributes that consumers can relate to the product. The definitions of the value type (Bardi & Schwartz, 2003, p. p. 1208) and the representing symbolic product attribute (Gass & Seiter, 2011) is given:

Power and Achievement: power is an universal goal of consumers since people cling to prestige, social status and control over others. Achievement is the personal success in social standards and can be gained through competence. Power and achievement are expressed in ***luxury*** since they imply that the products are symbols of taste, refinement and success. Products that position on 'prestigious' strategies are numerous, and this number increases (Wiedmann, Hennigs, & Siebels, 2009). The interest in luxury in science and practice is understandable; the global luxury market is growing. Especially in advertisement, brands and retailers use luxury to lure the consumers. The success of the ad dependents on the extent to which the ad infers that the product connotes of the intended meaning (e.g. luxury) (Van Rompay et al., 2012). However, the explanation of luxury to address the power and achievement motivation (provided earlier) is not sufficient. In a broader perspective, luxury has social, individual, functional and financial aspects (Wiedmann et al., 2009). Luxury is the center of a web where beauty and pleasure (hedonic motives), convenience beyond the crucial minimum (utilitarian motives), the desire to impress and be recognized by other (social motives) and the scarcity of the product come together (Kapferer, 1997; Webster, 2002). The reason why luxury is a powerful attribute comes evident in a more narrow definition. Luxury products empowers the consumer to gratify universal functional and, especially, psychological needs.

Hedonism: sensuous gratifications, enjoying life and pleasure is a universal desire. This is expressed by ***joyfulness*** since it appeals to what is hip and young, it represents the youth culture.

Stimulation and self-direction: stimulation is the motivations for consumers to seek for excitement and novelty in life. Self-direction emphasizes independence and curiosity. It is the embodiment of choosing your own goal as a consumer. This is expressed in ***innovativeness*** because it appeals to power, speed and strength to explore and enhance the consumers abilities.

Hypotheses

It is expected that consumers experience the product differently when they are exposed to visual backgrounds with symbolic attributes because the consumers perception of the product changes due to associative meaning. The luxury background is expected to have a greater influence on

the consumer since literature illustrates that consumer value luxury better than other symbolic attributes. The following hypothesis tests this assumption.

H2: Visual backgrounds influence product experience in online product presentation (in contrast to neutral backgrounds).

Symbolic visual background cues influence the product experience of the consumer (h2a). Luxury visual background cues influence the product experience more than other symbolic visual background cues (h2b). Luxury visual background cues increase the luxury product experience (h2c).

1.2 PRODUCT EXPERIENCE (O)

Product experience has been defined by Desmet and Hekkert (2007, p. 59) as '*a change in core affect that is attributed to human-product interaction*'. This experience is inextricably linked to the values, needs and desires of consumers that determine their behavior. Emotions color the experience and, therefore, set the emotional tone of which it will be associated with (McCarthy & Wright, 2004). Therefore, product experience is a meaningful factor to influence consumer behavior in online shopping environments.

The product experience comes manifest through the perceivable properties of a product (Keller, Apéria, & Georgson, 2008) and is influenced by the context of the interaction with the product (Desmet & Hekkert, 2007). Also, the characteristics of the user shape the product experience. This user experiences behavioral reactions, subjective feelings, expressive reactions and physiological reactions while interacting with the product caused by the autonomic nervous system (Desmet & Hekkert, 2007). To illustrate these reactions, you may think of a bunch of flowers. When you see them in the shop you feel delighted because of the nice colors (subjective feelings). During the observation of the flowers, yours eyes will dilate and you will have goosebumps (physiological reactions). Maybe you even start to smile and your body opens up towards the flowers (expressive reactions). Eventually you will reach for the bouquet to smell or touch it (behavioral reactions). The entire set affects consist of three levels of product experience. (1)The degree of gratification of all the senses (*aesthetic experience*) and (2) the attachment of meanings to the product (*experience of meaning*) shape (3) the emotions that are evoked (*emotional experience*) (Hekkert, 2006).

First, the aesthetic level is the ability of a product to please the consumers' senses in one or more ways. For example, a product might be beautiful to look at, feels nice to touch, makes a delighting sound, tastes delicious or smells good. All senses have their own way to grativicate a consumer during the purchase process (Desmet & Hekkert, 2007). Since the visual domain is considered to be the dominant modality (Krishna, 2010), visuals are the most important predictors of consumer behavior in the buying process (Fenko, Schifferstein, & Hekkert, 2010). However, other examples show the need for a surrogate for personal examination again. The kinesthetic modality is known to be an influencer of product evaluation as well since the tactile input of the product (packaging) elicit emotional responses (Spence & Gallace, 2011). Some scientists suggest, on the other hand, that scent is a very powerful sensory cue for emotional reaction since the limbic system (emotional cortex) is attached to the olfactory bulb in the brain (Wilkie, 1995 in Michon, Chebat, & Turley, 2005). Scent also stimulate or warns smell consumers to perform certain behavior (Axel, 1995 in Krishna, 2010). Online consumers, however, cannot rely on tactile or olfactory information. This limits the aesthetic level of product experience in online shopping environments.

Second, the experience of meaning is the level of meaning consumers give towards the product through cognitive processes. Interpretation, associations and memory retrieval enables consumers to recognize metaphors, ascribe expressive characteristics and provide symbolic load of products (Desmet & Hekkert, 2007). For example, brands can have personalities or intrinsic value like luxury due to this cognitive process. In online shopping environments this level of product experience comes more important since the consumers replace the lack of sensory stimuli in a need for recognition and meaningful information. Brands, for instance, are more important to consumers in online shopping environments (Degeratu, Rangaswamy, & Wu, 2000).

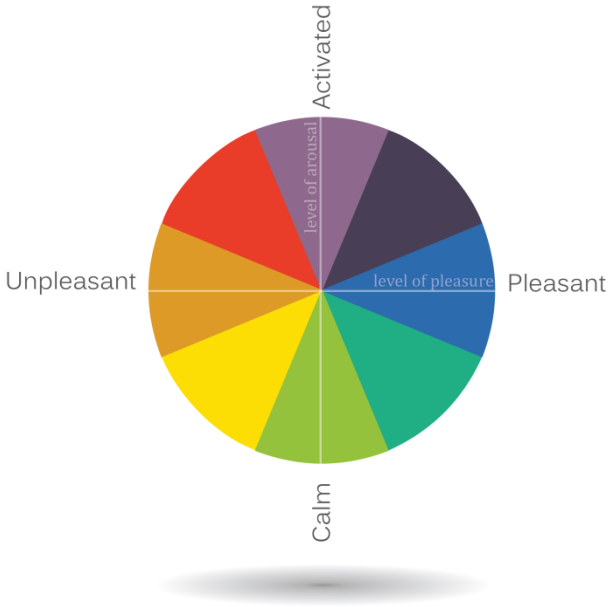
Lastly, at the emotional level, feelings and affection come into play. The affective process causes emotions to react towards the environment or the product making consumers pull toward or push away from certain objects. The intensity of the emotion differs depending on the impact it has on the consumers life. For example, threats in basis survival needs are experienced with more heavy emotions then the appraisal for a new car model that corresponds with the need for mobility. So, the consumers well-being or personal significance causes the emotion towards a stimulus instead of the product itself (Desmet & Hekkert, 2007).

PRODUCT EXPERIENCE IN ONLINE SHOPPING ENVIRONMENTS

Obviously, due to the limitations of online shopping, the consumer is in need for surrogates to human-product interactions in order to experience the product. Luckily, not only the actual consequences of observing and consuming a product can evoke affective responses, the anticipation, imagination or fantasy can have the same effects (Desmet & Hekkert, 2007). The circumplex model of 'core affect' explain how product experience and consumer behavior changes due to stimuli.

THE CIRCUMPLEX MODEL OF 'CORE AFFECT'

Figure 2| Circumplex model of the core affect (Desmet 2008 as cited in Desmet and Hekkert, 2007)



The affective processing results in greater persuasion then cognitive processing due to the fact that emotional states moderate the approach or avoidance behavioral intentions of a consumer (Mehrabian & Russell, 1974). The affective state refers to the subjective experiences that consist of a certain degree of valence in goodness/badness or pleasantness/ unpleasantness. Therefore, this dimension is traditionally used to measure the affective state. Russell (1980, 2003) added the physiological arousal dimension to determine the 'core affect' of a consumers' experience. The two dimensions are blended in a circumplex structure with valence on horizontal axis (from unpleasant to pleasant) and arousal (from calm to excitement) on the vertical axis) which creates various positions of affective responses in model. The core affect is constantly present, like a person experiences always a specific state of mind at a specific moment in time, and moving. The affect moves in various directions (see figure 2); between the wedges of the model (levels of valence and arousal); the center (neutral affections) and the outside end (extreme) of the model; in time (short lived versus long lasting) and in intensity (focus of attention versus on the background of a persons' mind). Internal and external factors cause these changes. One might compare it with felt body temperature. A person always caries it with him. Extremes of felt temperature can manifest very salient. It exists even before such words as hot or cold, before the concept of (scientific of folk) temperature and before any attribution about the cause. Also in the online context these processes come apparent since Cheng, Wu, and Yen (2009) found that the use of warm colors in online stores effects the

consumers' emotional responses. Consumers exposed to a web shop with warm colors reveal more aroused an pleasant feelings compared to cool colors.

Hypotheses

Therefore, the following hypothesis tests the internal processing as a mediator for product experience.

H3: Visual backgrounds increase the levels of pleasure and arousal which, in turn, influence product experience in online product presentation (in contrast to neutral backgrounds).

> *The relationship between symbolic visual background cues and product experience is mediated by the level of pleasure (h3a) and level of arousal (h3b).*

1.3 Consumer reactions (R)

Perceptions and sensations are key to the product experience since it are stages of processing of the senses (as we saw in the SOR model). The sensation of smelling a sultry perfume, however is different from the perception of that same perfume on a person you love. Sensations are a biochemical response of the body after the stimulus hits the receptor cells of a sensory organ. Perceptions is what the mind makes of it, the awareness of the sensory input (Krishna, 2010). This distinction is negligible except for one aspect during our study. Perceptions can be biased and these biases influence judgment making and therefore, consumer behavior (Raghubir, 2010). The sensation of the same sultry perfume on web shop cannot be biased (there is not even a smell) (S). The consumer will have limited cognitive and affective reactions towards the perfume (O). Consequently, the emotional response is low and avoidance behavior occurs. However, the perception might be biased, because the perfume is placed in a context (S) the consumers likes (O) due to visual sensations of the association of the background picture with the product. The consumer behavior will change (R).

Hypotheses:

We will measure the attitude changes with product evaluation, purchase intention and price expectation since these factors are important during the consumers decision making in online shopping environments. The following hypotheses measure this:

H4: Visual backgrounds influence consumer attitude in online product presentation (in contrast to a neutral background).

Consumers exposed to symbolic visual background cues have higher product evaluation (h4a), purchase intention (h4b), price expectation (h4c).

CONSUMER PRODUCT INVOLVEMENT

The behavioral changes are not only influenced by the context. The product itself and the characteristics of the consumer play a significant role in this effect as well (Desmet & Hekkert, 2007). Differences between consumers can influence the product experience as well. Consumers might have a different attachment to the product since consumers as a group differ in their tendency to arouse involvement (Bloch, 1981). Product involvement is 'the general level of interest in the object … to the person's ego-structure' (Day, 1970, p. p. 45) and is evoked by the product based on the values, ego, needs or the self-concept of the consumer. Therefore, the internal state of the consumer, as product involvement is, is a motivational construct which influences cognitive responses and consumer behavior (Dholakia, 2001). The product involvement is dependent on the product class and arises due to the product's capability to satisfy the consumers' needs. Therefore, product involvement is independent of specific purchase situations but can be aroused during purchase occasions. If a consumer is browsing the web, he or she comes across a product class (for example a web shop with watches) and his or her level of product involvement awakens telling him or her to approach or avoid the web shop. This mechanism is determined by five facets of the consumer: the perceived importance and risk of the product class; the subjective probability of making a mispurchase; the symbolic or sign value attributed; the hedonic value of the product class; and the interest in a relationship with the product class (Jain & Srinivasan, 1990).

Hypotheses:

So, the consumer product involvement (as an external factor) is an important predictor of the consumer attitudes towards the product since the characteristics of the consumer influence the product experience. Therefore, the interaction effects of involvement on watch or perfume and visual background cues in online shopping environments are tested. We expect that visual cues cause an higher consumer attitudes towards the watch or perfume, whereas no visual cues results in lower product evaluation, purchase intention and price expectations. This impact is increasing on consumers with a high product involvement whereas the impact decreases on

consumers with a low product involvement. The influence of the moderating variable CPI is measured with the following hypotheses:

H5: Visual backgrounds influence consumer attitudes interacted with the product involvement of the consumer in online product presentation (in contrast to neutral backgrounds).

> *The consumer product involvement and symbolic visual background cues interact to influence the product evaluation (h5a), purchase intention (h5b), price expectation (h5c).*

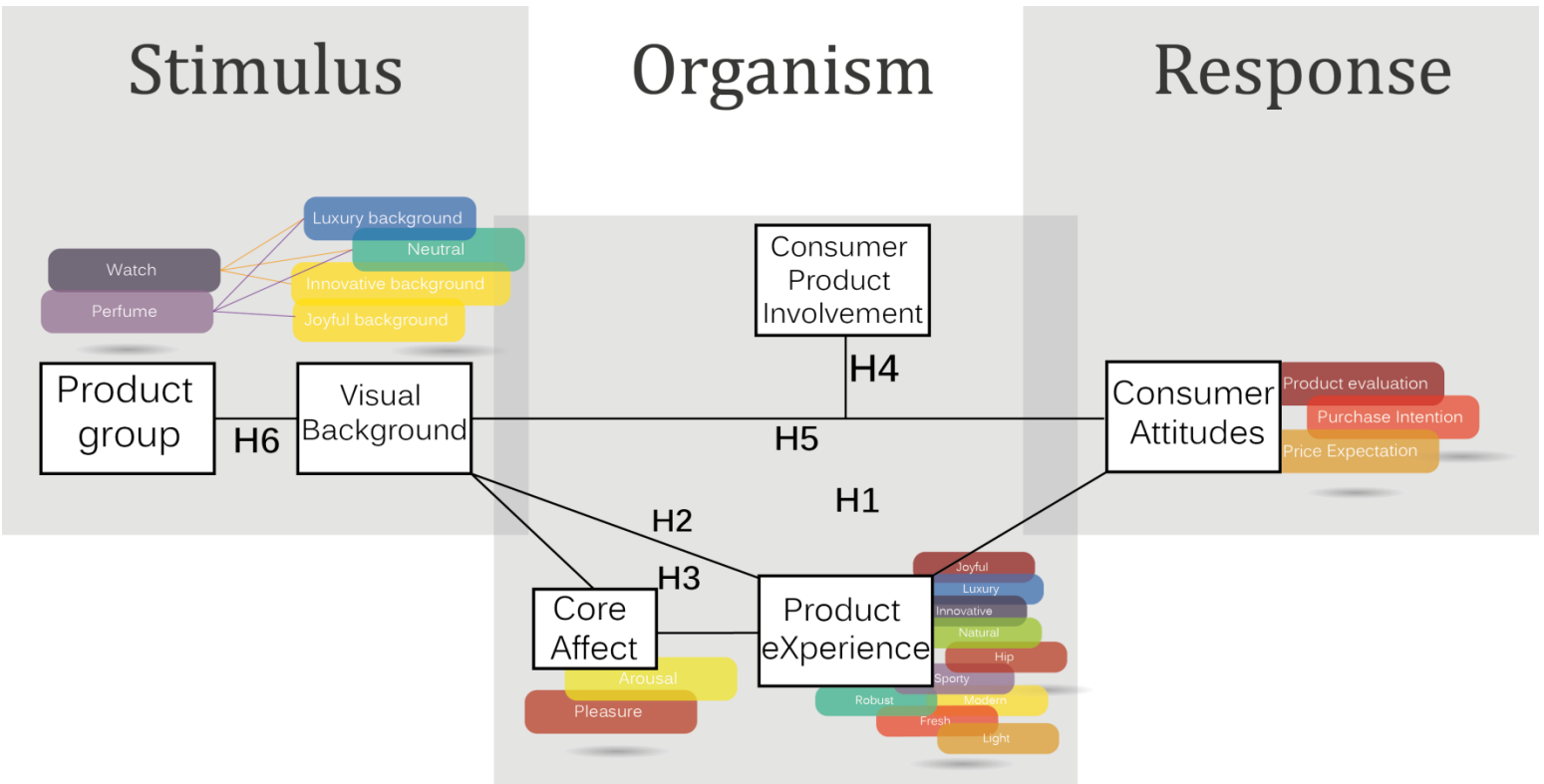
Also, it is expected that the effects of all previous hypotheses are different for different product types. Therefore, following hypothesis tests this assumption.

H6: Visual backgrounds have greater impact on the product experience and consumer attitudes of perfumes then of watches in online product presentation.

1.4 RESEARCH MODEL

In figure 3 an overview of the hypotheses, the dependent variables, independent variables and mediating and moderating roles of the factors is given.

Figure 3| Conceptual model



2. METHOD AND PRETEST

In order to test the conceptual research model, three studies have been conducted. A main study demonstrated the influences of the visual background with associative cues (the research conditions). Two pretests were held beforehand to establish the stimulus material. In this chapter, the design, validity and reliability of the methods will be discussed.

The aim of this present research was to explore the influence of visual background cues on the consumer attitudes and product experience in online shopping environments. The experiment consist of a fictional web shop with elements that were pretested. Pretest 1 starts with a study towards the background images that are used in the main study. So, the study resulted in 4 pictures that participants associated the most with luxury, innovativeness and joyfulness. Pretest 2 tested the images of the product itself. The study resulted in an image of what the participants considered to be a neutral watch and perfume bottle.

2.1 PRETEST 1

The first pretest tested the associative value of the images that functioned as the background cues for the web shop. The goal of this pretest was to determine which groups of the images (visual cues) and adjectives (product attributes) people distinguish. Secondary, this pretest provided information about the character of the images. It determines which images can be seen

as luxurious, playful, innovative, sporty and authentic (see paragraph 1.1). This pretest had a quantitative character.

Respondents

The sampling frame consisted of Dutch speaking, online shoppers located in the Netherlands. The 34 participants were randomly selected with the use of Facebook. Since the target group of product categories in this research are primarily female, the sample consisted of 79,4% female participants as well (31 females of the 34 participants in total). The average age of the participants is 28.2 years (SD 11.6), with the youngest participant being 19 and the oldest being 63 years old.

Stimuli

To determine the stimulus material that act as visual cues for the main study, eighteen (5 x3) images were selected on their associative and symbolic attributes. All images showed an photographic environment of some sort. Three control images were selected that would expected to have no (or limited) associative or symbolic value. These images would be expected only to score high on the attractiveness scale. Besides the control images, three images were selected for each attribute; innovation, luxury, joyful, sporty and authenticity. In each of the attribute groups, one images showed an overview of an environment, one images displayed on or two persons standing in an environment and one image showed a zoomed in detail or one object that can be associated with the specific attribute. To illustrate this, the images that would be expected to score high on luxury showed either Manhattan during sunset, two fancy dressed persons standing in front of a classical building and a couple raised hand that toasted with champagne (figure 4 shows these images). Appendix A provides all images that were selected.

Figure 4| Example images of luxury that were tested during the pretest

MEASUREMENT INSTRUMENTS

The participants assessed each image on attractiveness. In order to find the participants' attractiveness towards the image, an adjusted attitude scales was used. The scale was adopted from 'the attitude toward the Ad, originated from Lee and Mason (1999). The items were translated into Dutch and adapted to image attractiveness instead of attitude of ad, meaning that some words were replaced. The final scale consisted of 5 bi-polar phrases like "this image does not attract me – this image is attractive to me" and "this image is awful – this image is nice". For all images, the Cronbach's alpha was calculated separately. The lowest reliability was measured with an $\alpha = .83$. In summary, the attractiveness construct consisted of 5 items which were found internally consistent for all images. Also the participants assessed each image on 13 separated attributes; innovation, luxurious, natural, playful, sporty, creativity, bright, careful, state-of-the art, perdurable, fresh, spheric and sweet attributes. These attributes were adopted from Schwartz' value theory (1992), translated into extrinsic appeals and mixed with intrinsic characteristics. All quantitative measures consisted of a 7-point Likert scale where participants indicated to what extent statements applied to them (1 = completely disagree to 7 = completely agree). In the end of the questionnaire, the participants were asked to fill in a number of demographic questions. Appendix B provides an overview of all items.

PROCEDURE

The participants were recruited via a social networking site to this research using the snowball technique. The respondents were randomly assigned automatically by the online questionnaire software of thesistools.com to one of the two questionnaires. The content of the questionnaires were the same whereas the sequence of the images varied. This was to prevent order bias or bias due to loss of interest during the questionnaire.

ANALYSIS

The results, analyzed using SPSS Statistic software, showed which of the images best to use in the main study. First, a repeated measures ANOVA was used to compare the attractiveness of all the images as a control condition. Although almost all images were assessed significantly above average (with 4 as a neutral), there were some mutual differences.

Second, a repeated measures ANOVA showed which images were perceived high or low on each attribute by the participants. Based on these outcomes, a clustering of the images was made per attribute. After this, the most divergent images were selected. So, the image that was used for

luxury had a significant high (not necessary the highest) score on the luxury item, and a low (not necessary the lowest) significant low score on the contradicting attribute (innovativeness or joyfulness).

RESULTS

A one way between subjects repeated measures ANOVA was conducted to compare the scores on the perceived innovation, luxury, joyfulness, sportiness and authenticity at all 18 images. The means and standard deviations of all results are presented in appendix C . The perceived innovativeness of the images yielded a significant effect, Wilks' Lambda=.13, $F(17,12)=4.91$, $p<.01$ $n^2=.87$ with the power of .98. There was also a significant effect for luxury, Wilks' Lambda=.77, $F(17, 11)=7.72$, $p<.001$ $n^2=.92$ yielded the power of .99. There was a 99% chance that the results could have come out significant. The Wilks' Lambda [.06, $F(17,8)=6.90$, $p<.01$ $n^2=.94$] with a power of .98 found a significant effect for joyfulness of the image. The other two attributes yielded significant results as well but are not further discussed since we did not use them further (see appendix C).

A sixth one way repeated measures ANOVA was conducted in order to control the images on attractiveness. Although the results indicate that the images overall were perceived significant differently on attractiveness [Wilks' Lambda=.07, F(17,9)=, $p<.01$ $n^2=.93$], we looked for similar scores on attractiveness. Therefore, a clustering was made. All images were either low, medium or high on attractiveness.

The repeated measures ANOVA results were compared to select the stimulus material during the main study. For the watch image I and image F were selected because they fitted three criteria. First, the images needed to score opposite results on two attributes; there was a significant higher score of image I [M= 5.50, SD= .17] then image F [M= 2.83, SD=1.44] on perceived luxury at the $p<.05$ level. These two images showed significant results on the perceived innovation at the $p<.05$ level as well. Image I scored low [M= 3.79, SD=.31] whereas image F scored high [M=5.48, SD=1.29]. Therefore, image I (luxury) and F (innovation) show opposite results in the luxury and innovation attributes. Second, the images needed to score the same on attractiveness. Image I (M=4.82, SD=1.26) was not significantly higher than image F (M=4.06, SD1.32) on attractiveness. Third, the images needed to belong in the same category; image I and F both showed a person. Therefore, these images will be used as visual cues in the watch web shop during the main study since the images and attribute fit this product. Table 1 shows a summary of the outcomes of these images opposed to each other.

Table 1| repeated measures ANOVA values of image I and F of pretest 1

WATCH			Luxury watcg		Innovation watch	
						
	Image code		Image I		Image F	
	Mean diff.	**Sig.**	**Mean**	**SD**	**Mean**	**SD**
Attractiveness	-.762	1.00	4.82	1.26	4.06	1.32
Luxury	-1.71*	<.01	5.50= High	.17	3.79=Low	.31
Innovation	2.66**	<.001	2.83=Low	1.44	5.48=High	1.29

*p <.05, ** p<.01, ***p<.001

Table 2| repeated measures ANOVA values of image A and L of pretest 1

PERFUME			Luxury perfume		Joyful perfume	
						
	Image code		Image A		Image L	
	Mean diff.	**Sig.**	**Mean**	**SD**	**Mean**	**SD**
Attractivenes	.40	1.00	6.00	.90	5.60	1.26
Luxury	1.89*	<.001	5.89=High	.19	4.00=Low	.32
Joyfulness	-1.56*	<.001	4.01=Low	1.58	5.56=High	1.16

*p <.05, ** p<.01, ***p<.001

For the perfume condition, images A and L fitted the best based on the above mentioned criteria. However, these images have a high attractiveness (see table 2). There was a significant difference of the luxury [M=5.89, SD=.19] and joyful [M=4.01, SD=1.58] images on associative value the respondents attach at the p<.05 level in the luxury condition. There was a significant difference of the luxury [M=4.00, SD=.32] and joyful [M=5.56, SD=1.16] images on associative value the respondents attach at the p<.05 level in the joyful condition. Further results can be found in appendix C.

2.2 PRETEST 2

Whereas the first pretest tested the background images in the stimulus material, the second pretest was held in order to select the product images in the stimulus material for the main study. This pretest tested several images of products for both product groups (watches and perfumes) on their product attributes with card sorting. The aim of this test was to find two neutral product images. This ought to control the effect of the product on the product experience. With a neutral product image, the product will not contribute or withhold the dependent variables during the main test. So, during the main test, the associative value of the product was only influenced by the background.

RESPONDENTS

The sampling frame will consist of Dutch speaking, online shoppers located in the Netherlands. Since the pretest is a qualitative measure, the sample will not reflect a representative sample of the population. Therefore, task complexity and stimulus complexity (which both are fairly simple) determine the number of participants needed . It is established that 5 participants is enough to discover 85% of the usage patterns (Nielsen, 2009).

Therefore, a set of 6 participants were used. All participants were female who are so-called digital natives or work with computers a lot. This is because the target group for the product sales in online shopping environments is mainly the same. The average age of the participants was 31,0 years (SD= 12,64), with the youngest participant being 20 and the oldest 56 years old.

STIMULI

In order to measure which product designs people distinguish, a closed photo sort technique was used. A set of cards with pictures of products (12 for each product group) with different product designs were given to the respondents in this method (Spencer, 2009). The closed photo sort (in contrast to the open photo sort technique) the groups were set. The respondents were asked to sort this cards into one of the fixed groups. The fixed groups correspond with the attribute groups of the other pretest. (Appendix D gives an overview of all the selected images.) This technique was used since the fixed groups limit the way the participants think about the product attribute (and as we saw in the theory, there are numerous manner to categorize a product). We needed them to categorize the products on extrinsic, non-sensory, hedonic

attributes in alignment with the background images. The photo sort enabled the researcher to detect underlying cognitive and emotional processing of the brain since the participants speak freely during the test. So we were able to find out what participants think of watches and perfumes, how they make (purchase) decisions and on what features they decide. Also we could discover if the categorizations made sense and how easy it was to distinguish them from another.

The product images that were used in this photo sort were selected from foreign web shops so the participants did not recognize the product to avoid brand or product bias. All images displayed one product (either a watch or a perfume) which all had different intrinsic characteristics (for example, different colors, materials, shapes and elements). Also, brand names and symbols were removed using Adobe Photoshop. All products had a white background and were printed in the same size and resolution and in the original colors.

PROCEDURE AND MEASUREMENT INSTRUMENTS

After a brief introduction of the research the participants got all product images of one product group. The respondents were asked to perform the test twice and think out loud about their choices. First for the perfume bottles and second for the watches. The procedure for both sorting tests were the same. Each product had five lapses. (1) The respondents placed each image under one of the six categories (five product attributes and one neutral condition). The respondents were free place as few or many images in one category as they felt like and in any order they liked. (2) The respondents were asked to select the most representative product image for each of the categories. The most fitting images was placed at the summit, the closest to the category name and the least fitting image in the bottom. (3) The respondents choose an appropriate group name for each category out of three attributes. (4) The respondents explained their choices and descripted all the categories in order to discover the logics and rationalizations behind their choices. (5) The respondents were asked some specific questions about their feelings towards the products in order to discover emotions towards the products. Everything was captured with a recording device and on photo which were elaborated in coding schemes.

ANALYSIS

During the analysis, the coding schemes of the five respondents were compared with each other. Among the differences in explanations and sorting, several similarities and main outcomes could be concluded (please see appendix E for all results).

- The involvement of the respondent towards the product affected the ability of the respondents to place a product image in a group. Overall there was more involvement with the perfume.
- The explanations towards the neutral images were based on functionality and rationality.
- Neutral images were considered not attractive. Whereas all products under one of the associative categories were considered attractive in contrast to another categories. So, participants rated the attractiveness on the associative value in general, not on each product separately. For example, participant 1 thinks of all sporty perfume bottles that they are very attractiveness, but rejects all luxury bottles. This might have two explanations: (1) the participant likes sporty product attributes and places the attractive perfume bottles on the pile of 'sporty' even when the products are not very sporty. (2) the participant desires the associative value in general and therefore, is attracted to all perfume bottles that have these characteristics. Either explanation can conclude that the desirability of the category explains the attractiveness of the bottle instead of color, shape, texture or material.
- The design and appearance (visual features) of the product provided the respondents with a clear idea about the functioning, quality and sensory properties. For example, watch 'BH' was rated as heavy by all participants since the colors and materials looked heavy. This was a reason for a high quality according to the participants. *'It will not break easily'* as one of the participants said. Perfume 'AL' was considered fresh and with subtle smell and, therefore, was not long-lasting.
- Respondents could describe perfume bottles and its' properties better and more easily then watches. Perfume bottles were described with sensory attributes whereas watches were described by the person who wears them.

Both tables below show the most important attributes the respondents used to explain their thinking and feelings. The number of respondents was the total amount of participants that selected the image in the group. However, the rankings were different.

Table 3| Results of neutral watches during pretest 2

Photo	Image code	N=	Descriptions of participants	Alternative group (N)
	BA	6	▪ *Old-fashioned because it has no meaning* ▪ *It is only functional, not aesthetic* ▪ *This is a boring watch* ▪ *This watch does not have anything extra, it is very basic* ▪ *It does not caught the attention from your eye.* ▪ *I see this watch on the arm of neutral people*	None

	BF	3	▪ *I do not like this watch because it does not say anything* ▪ *It is just a watch* ▪ *This watch does not have a personality*	Luxury (3)
	BI	2	▪ *The watchstrap is simplistic* ▪ *This watch has no value to me*	Luxury (2) Sporty (1) Joyful (1)
	BJ	2	▪ *This product is not functional* ▪ *This watch has no extra's*	Luxury (2) Sporty (1) Innovative (1)
	BD	1	▪ *Except for the color (which is an ugly color) is this watch exactly what you expect from a watch*	Joyful (3) Sporty (2)
	BC	1	▪ *This watch is worn by people who can't make their own choice*	Luxury (3 Joyful (1) Sporty (1)

Table 4| Results of neutral perfume bottles during pretest 2

Photo	Image code	N=	Descriptions of participants	Alternative group (N)
	AA	6	▪ *Just a blanc bottle* ▪ *I do not have any imagination with this bottle* ▪ *This perfume does not have a character* ▪ *It is standard* ▪ *The shape, material and colors are simple* ▪ *It could be a bottle for anything*	None
	AI	2	▪ *It is ordinary and for every day use* ▪ *The material and colors are cold and detached*	Sporty (3) Innovative (1)
	AF	2	▪ *You see this images from childhood on in commercials, it became the standard* ▪ *It does not say anything*	Sporty (2) Innovative (2) Luxury (1)
	AK	1	▪ *This own is so hideous that I cannot place it anywhere else*	Innovative (2) Sporty (1) Luxury (1) Joyful (1)
	AJ	1	▪ *This perfume is very natural and down to earth*	Joyful (5)

RESULTS

This pretest found that the perfume bottles and watches were ambiguous and the respondents varied a lot in the associative value of the attribute words of the products. The neutral product that was selected was the only image that all five participants agreed upon. The neutral product was often defined as the most functional instead of hedonic product and does not have any (or limited) associative value towards the respondents. The perfume images were considered easier to assign to one of the categories. This was an unexpected outcome, since the participants could not smell the real product, they only saw the package. Therefore, we can conclude that consumers are capable of assigning an associative value towards a product even though the intrinsic product attributes are not feasible.

Conclusively, all respondents agreed about watch image 'BA' being neutral by assigning it to the neutral pile during the photo sort. The perfume bottle was a bit more ambiguous. Four out of the five respondents found product image AA neutral. The other respondent assigned the image under fresh because of the round shapes of the bottle. However, this bottle was considered to be the most neutral in comparison to the other bottles. This pretest yielded the following images for the main study:

Figure 5| Neutral perfume bottle for the stimulus material in the main study

Figure 6| Neutral watch for the stimulus material in the main study

2.3 MAIN STUDY

The goal of the main study was to determine to what extent various visual background cues on a product in online shopping can provide associative product experience to consumers and change consumer attitudes.

RESEARCH DESIGN

A 2x3 between subject quantitative experimental design was used to empirically prove the hypotheses through a questionnaire using Qualtrics Survey Software. Questionnaires collect large sets of data from a large population, provide easy access and have a wide spread reach (Wright, 2005). In order to achieve the research objective, it was essential that certain experiences were evoked. Therefore, an experiment was set up to expose participants to different stimulus material in six conditions. Two products (perfumes and watches) and 3 backgrounds for each product (neutral/ white background, background image associated with luxury and background image associated with a different product attribute).

RESPONDENTS

The sampling frame will consist of Dutch speaking, online shoppers located in the Netherlands. Reliability and validity require a representative sample of the respondents in the population of at least 20 participants for each cell in the 3 by 2 factorial design which will give a total of 120 respondents. The questionnaire was spread via email, Facebook and Twitter. In order to stimulate people to participate, an incentive to win a gift card was included in the invitation. The snowball technique, stimulated with a share-and-win promotion, spread the questionnaire on Facebook. This caused that reach of the number of people who had an invitation is unknown. In total, 269 respondents started the questionnaire. 158 of these respondents completed the questionnaire. The high dropout rate is probably due to incapable mobile abilities. A lot of respondents opened the questionnaire with their mobile, but found out that it was hard to fill in the questionnaire on such a small screen and eventually dropped out. The drop outs were omitted from the analysis. Also 9 datasets were omitted since these participants failed the requirements check, leaving the total number of valid respondents on 149. Of these 149 respondents, 104 (69.8%) were female opposed to 36 male respondents in the age between 17 and 66 years old (M=33.4, SD=14.3). The majority followed the ‘middle vocational education’ (MBO) (n=51) with an percentage of 36.4. In an overview of the most important demographics (appendix H) it comes apparent that the number and age of the respondents were equally distributed among the six experimental conditions. The gender was overall skewed towards female participants aligning the pretests and therefore, the stimulus material. Please see appendix H for further information.

Table 5 | Sample distribution of participants of the main study

Study group	Manipulation	Sample size	Age		Gender	
		N	*M*	*SD*	*N Female (%)*	*N Male(%)*
1	Neutral x Watch	48	31.3	13.4	36	12
2	Luxury x Watch	47	36.6	14.8	37	10
3	Innovative x Watch	45	32.2	14.2	31	14
4	Neutral x Perfume	44	35.9	14.9	35	9
5	Luxury x Perfume	45	31.9	13.4	30	15
6	Joyful x Perfume	51	32.5	14.4	39	12
Total		149	33.4	14.3	104 (74%)	36 (26%)

Furthermore, some demographics about the online experience provide a deeper insight in the ability of the respondents to work with online shopping environments. Most of the participants (55.7%) are online several times a day, meaning that they can find their way around the web easily. The majority says to shop online on a regular basis (42.1%). Only 3.6% of the participants never bought something in a web shop. However, a small part of the participants prefers online shopping (18.6%) above shopping a brick and mortar store. This might cause the high number of respondents that says to look around in web shops often but seldom purchase anything (28.6%). These numbers highlight the need for better product experience in online shopping again and other ways to control online consumer behavior.

MEASUREMENT INSTRUMENTS

The ideal situation would measure actual purchase and consumer behavior by observing customers in the manipulated environment. Our study, notwithstanding, used a questionnaire in an experimental situation to observe the consumers intentions due to control issues. In order to generate answers of the participants that are reliable, constructs that were empirically tested in other studies were used. For an overview of all items, please see Appendix C. Although the stimulus material in the questionnaire was a static image instead of a dynamic web shop, the web-based character of the questionnaire assimilated the actual environment of the consumer. The static images, however, control the stimulus material and the respondents in order to get uniform results. The questionnaire consisted of six conditions. The participants were randomly placed in one these conditions. All the questions were the same and measured the following constructs:

Table 6| Overview of the constructs, number of items and corresponding reliability scores from the main study

Construct	Number of items	Measurement	Cronbachs' Alpha	
			Watch	*Perfume*
Core Affect Pleasure (CAP)	6	7 point Bipolar	α=0.90	α=0.90
Core Affect Arousal (CAA)	6	7 point Bipolar	α=0.70	α=0.70
Product experience (PX)	10	7 point Likert	No correlation	
Product Attitude (PA)	8	7 point Likert	α=0.83	α=0.87
Product Evaluation (PE)	7	7 point Bipolar	α=0.91	α=0.93
Imagery of the product	6	7 point Likert	α=0.81	α=0.78
Purchase Intention (PI)	4	7 point Likert	α=0.94	α=0.92
Price expectation	1	scale € 0 - € 200	No correlation	
Manipulation check	10	7 point Likert	No correlation	
Consumer Product Involvement (CPI)	16	7 point Bipolar	α=0.77	α=0.62

During the analysis the construct product experience and imagery of the product were omitted and, therefore, not further discussed.

CONSUMER PRODUCT INVOLVEMENT

The only independent variable that was measured in the questionnaire was the product involvement of the consumer. The product involvement scale in the questionnaire measured the general affection towards the product group (watches and perfumes) of the participant. This scale was measured because it is a moderator in the research model, meaning that the level of involvement towards the product group of the consumer might influence the dependent variables with an interaction effect. This variable was measured with the consumer involvement profiles. The CIP measures five facets of the product involvement of the consumer; the perceived importance and risk of the product class; the subjective probability of making a mispurchase; the symbolic or sign value attributed; the hedonic value of the product class; and the interest in a relationship with the product class. The original scale was adjusted into 16 bipolar statements by Jain and Srinivasan (1990) like '*Choosing it isn't complicated – Choosing it is complicated*'. This questionnaire literal copied these items and translated them into Dutch. The overall internal reliability scored well with an Cronbach's alpha of .77. Based on the score on this scale, the participants were divided into one of two groups parted by the mean (low on product involvement/ high on product involvement). In the watch condition, participants in the low CPI scored below 4.55. Whereas participants with a high CPI scored above 4.55. An independent sample t-test was conducted to compare the mean scores of the low and high watch involvement groups. There was a significant difference in the scores for the high CPI group [M=5.06, SD=.39]

and the low CPI group [M=4.03, SD=.37] of watches; t(136)=15.87, p<.001. The same was done for participants in the perfume conditions. Participants had an overall higher CPI with a mean score of 4.60. The high and low CPI groups that were extracted from this number were compared with an independent sample t-test. There was a significant difference in the scores for the high CPI group [M=5.10, SD=.44] and the low CPI group [M=3.87, SD=.60] of perfumes; t(95.42)=13.26, p<.001.

CORE AFFECT - PLEASURE – AROUSAL

The PAD scale of Mehrabian and Russell (1974) was used to measure levels of emotions during the shopping experience. This well-known scale was used since it is known to be internally reliable, applicable in theory building and easy to measure in questionnaires. In total 18 bipolar adjectives were presented (six items for pleasure, six items for arousal) in the questionnaire translated from the original scale into Dutch. These items combined formed the measurement of the consumers' emotional state during their visit of the web shop and can be separated into three dimensions ; pleasure (α=.90), arousal (α=.70) and dominance (α=.70) with a high internal reliability.

PRODUCT EXPERIENCE

The core of the conceptual model is the dependent variable product experience. Since the conceptual model of our research and consumer decision making theory claim that the product experience during the (web) shop visit is a mediator for the responses of the consumer, the survey tested the product experience. However, product experience can not be measured with a singular construct. The product experience is complex to measure in a survey because it built up form emotions, aesthetics and meaning (value of the participant) towards a variety of elements surrounding the product (Desmet & Hekkert, 2007). Therefore, product experience is how consumers look at a product and can not be measured with a scale. The product experience was measured by how participants perceived the product. The perceived product experience was divided in 10 incoherent attributes derived from the value theory (Schwartz, 1992). With a 7-point Likert scale, all product attributes were rated on a scale of completely disagree to completely agree. These attributes were analyzed separately.

PRODUCT EVALUATION

In order to find the participants' evaluation of the product, the construct product evaluation was measured with the attitude towards the product scale of (Pan & Schmitt, 1996). This scale was

found to be applicable for product placement on the web(Shamdasani, Stanaland, & Tan, 2001). In this construct bipolar adjectives were places in statements towards the presented product in the web shop measured with a 7-points Likert scale. The construct of 7 items, such as "I feel positive/ negative towards the product", was found to be internally reliably with a Cronbachs alpha of .92.

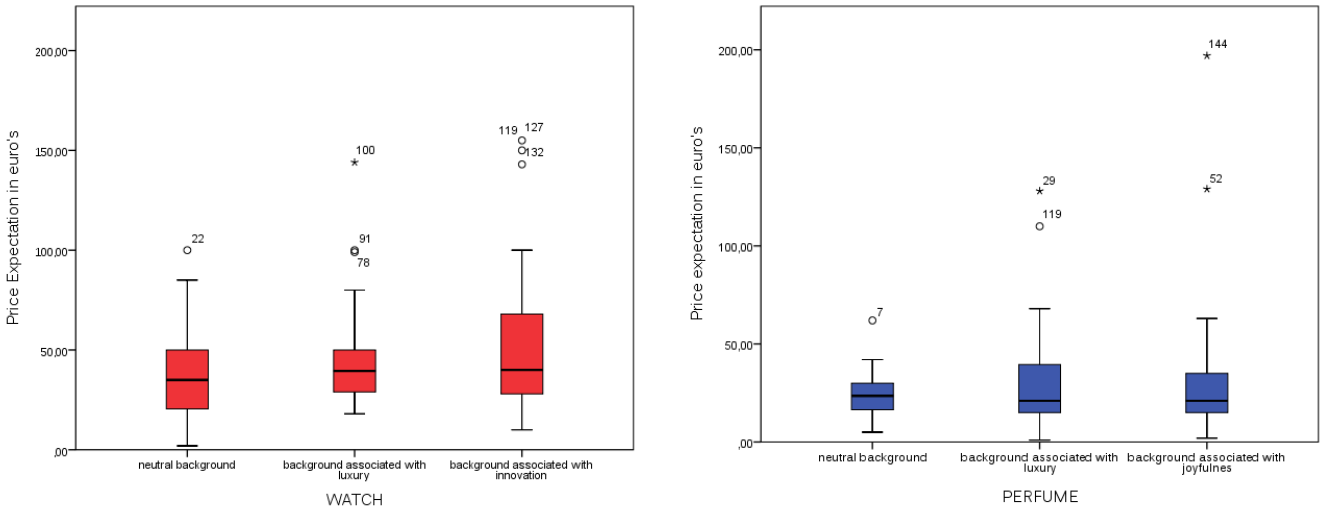
PURCHASE INTENTION

We used the construct purchase intention instead of actual purchase behavior because the Theory of Planned Behavior (Ajzen, 1988, 1991 as cited in Dainton & Zelley, 2010) suggests that behavioral intention is a proven forecaster of actual behavior. Therefore, the intention to purchase was found to be a satisfactory resemblance of actual consumer behavior. The purchase intentions of the participants during this present study was measured using the Purchase Intention scale of Dodds, Monroe, and Grewal (1991) . This scale was adjusted in Dutch and abbreviated to four items instead of seven. All items were statements like *'I am willing to purchase this watch'* , measured with a 7-points Likert scale. Also we did not mention any prices to prevent that participants would make judgments out of it. Therefore, the scale items were adjusted to that as well. The adjusted construct was found to be internally consistent with an alpha of .94. Also a blanc question was asked to the participants to measure what price consumers are willing to pay for the product.

PRICE EXPECTATION

Price expectation was measured with one item; an ordinal scale from €1,- to €200,-. Outliers were replaced by the upper boundary based on the 1.5 x IQR rule, especially since extreme points were found. In the watch condition 7 values were replaced. In the perfume condition 5 values were replaced. Below two boxplots of the distribution of the outcomes for watches and perfumes.

Figure 7| Boxplots of the price expectation in the watch and perfume condition



PROCEDURE AND STIMULI

After the respondents clicked on the link in the invitation, the respondents were randomly assigned to one of the three experimental conditions automatically by the online questionnaire software. Please see appendix G for the complete questionnaire. Prior to the questionnaire, the participants were asked to watch an static web shop. This web shop was an screenshot of the product detail page of a fictional web shop. Appendix F presents all stimulus material. After the participants carefully inspected the product on the product page of the web shop, the participants were asked to fill in the questions which measured the constructs described in the previous paragraph. Each participants did this routine twice (one with a watch and one with a perfume).

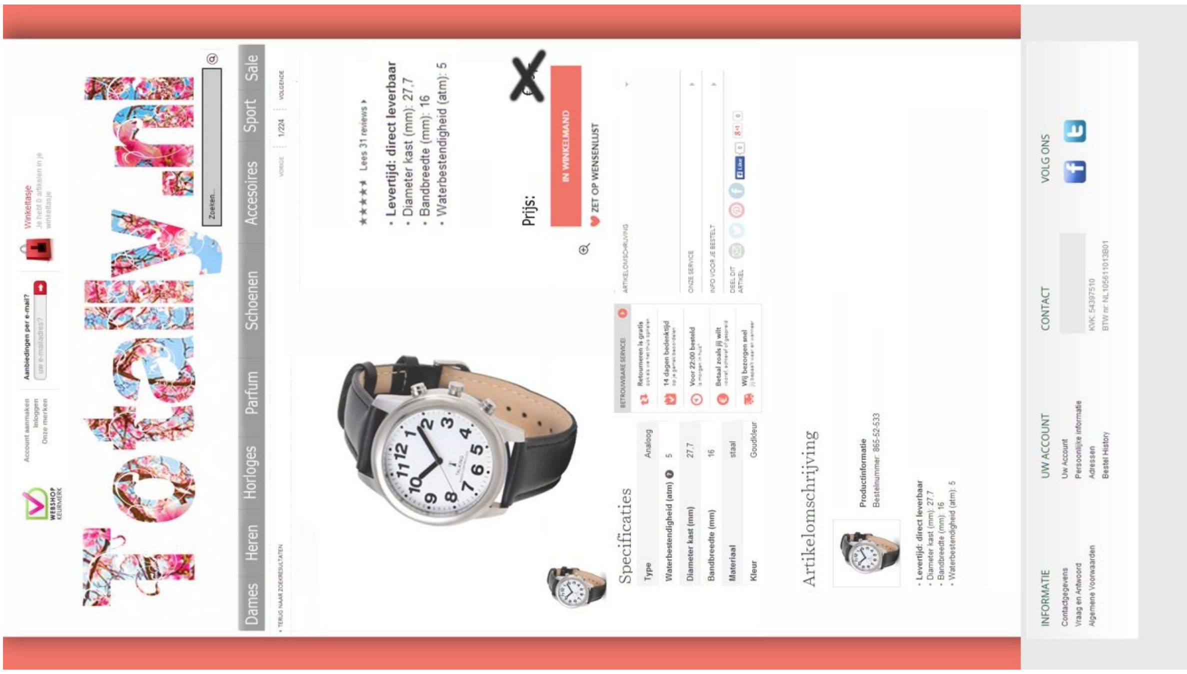
The sequence (either the watch or the perfume first) was randomly assigned as well in order to prevent test bias. All quantitative measures consisted of a 7-point Likert scale where participants indicated to what extent statements applied to them (1= completely disagree to 7= completely agree). In the end of the questionnaire, the participants filled in a number of demographic questions.

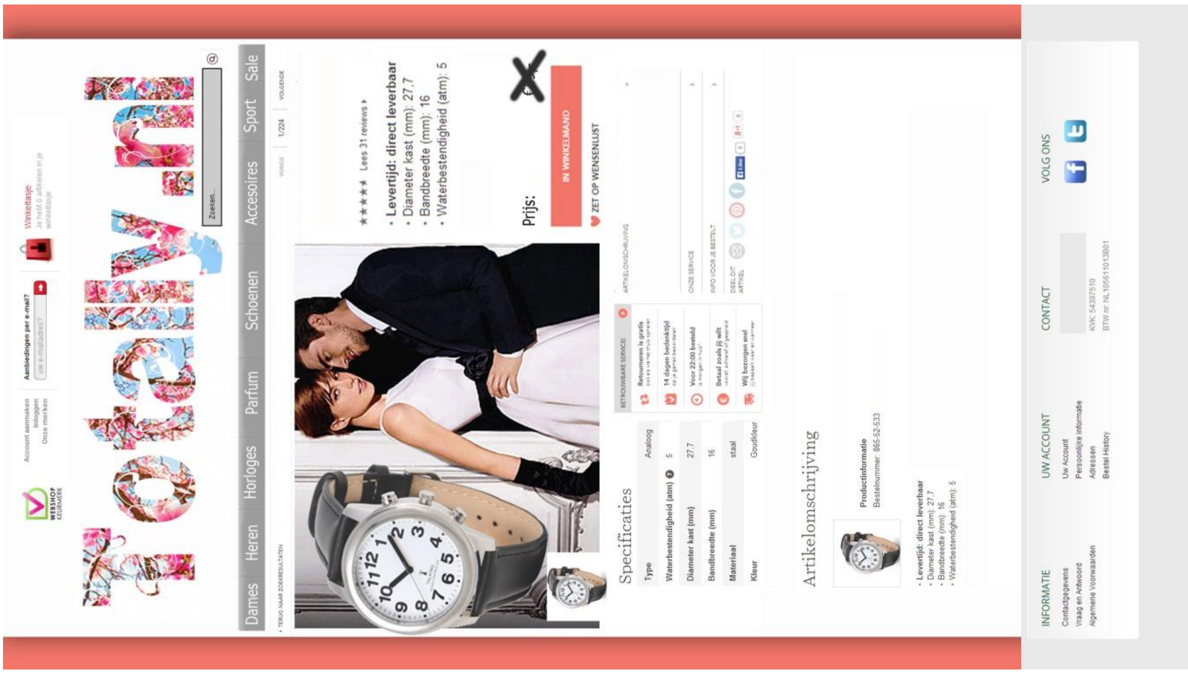
ANALYSIS

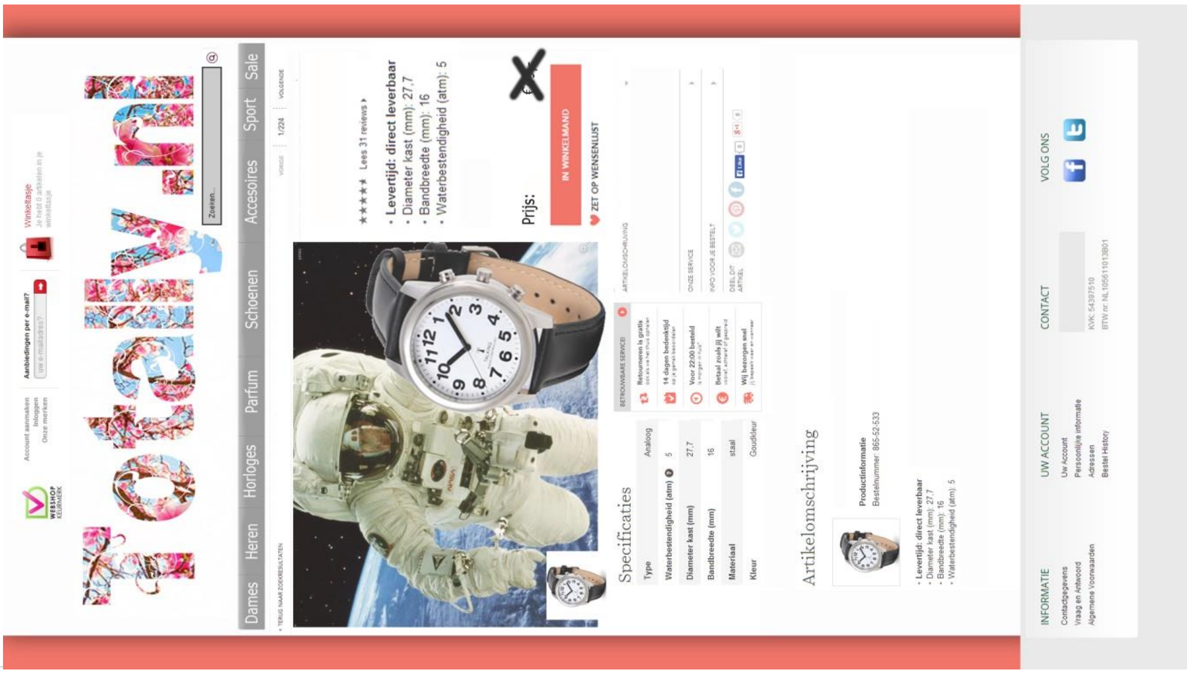
During the analysis, SPSS Statistic software was used to conduct calculations and test the hypotheses. H2 and H4 were tested with separate one way between groups ANOVA's. H5 was tested with a two way between groups analysis of variance. And a linear regression analysis was used to test H1 and H3 in the cases that the assumptions were met. H6 couldn't be tested with a

statistical analysis, but was tested with a qualitative comparison. Before testing the hypotheses, the dataset was adjusted; the incomplete questionnaires were omitted, negative questions were recalculated, Cronbachs' alpha scores were determined and all items were calculated into constructs. The outcomes of these analysis are discussed in the next chapter. Appendix I presents all SPSS results.

Figure 8| Next page gives a preview of the stimulus material for the watch condition (neutral, luxury and innovative background) and the perfume condition (neutral, luxury and joyful background)


Totally.nl
Dames
Heren
Horloges
Parfum
Schoenen
Accesoires
Sport
Sale
Prijs:
Specificaties
Artikelomschrijving


Totally.nl
Dames
Heren
Horloges
Parfum
Schoenen
Accesoires
Sport
Sale
Prijs:
Specificaties
Artikelomschrijving


Totally.nl
Dames
Heren
Horloges
Parfum
Schoenen
Accesoires
Sport
Sale
Prijs:
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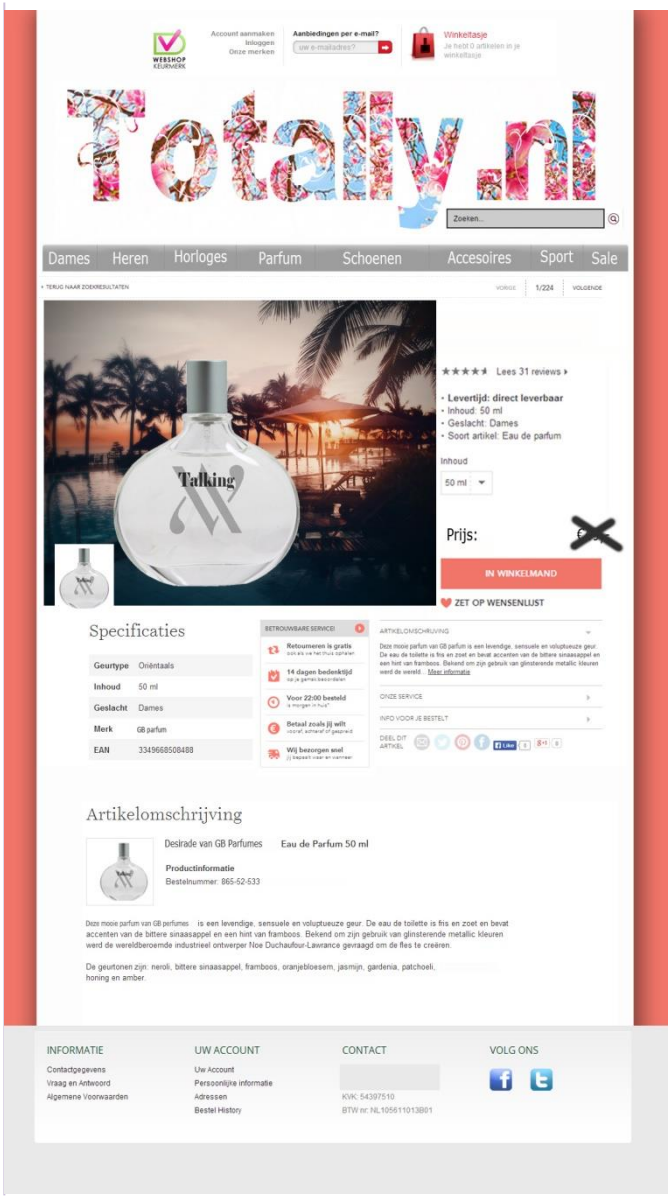
Artikelomschrijving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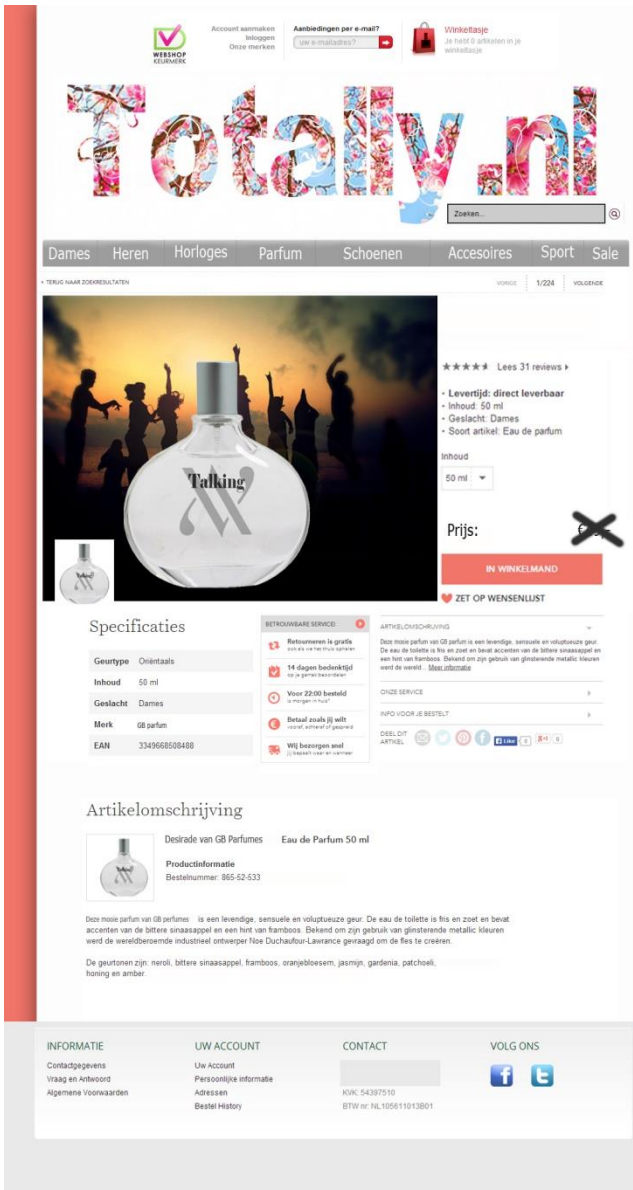
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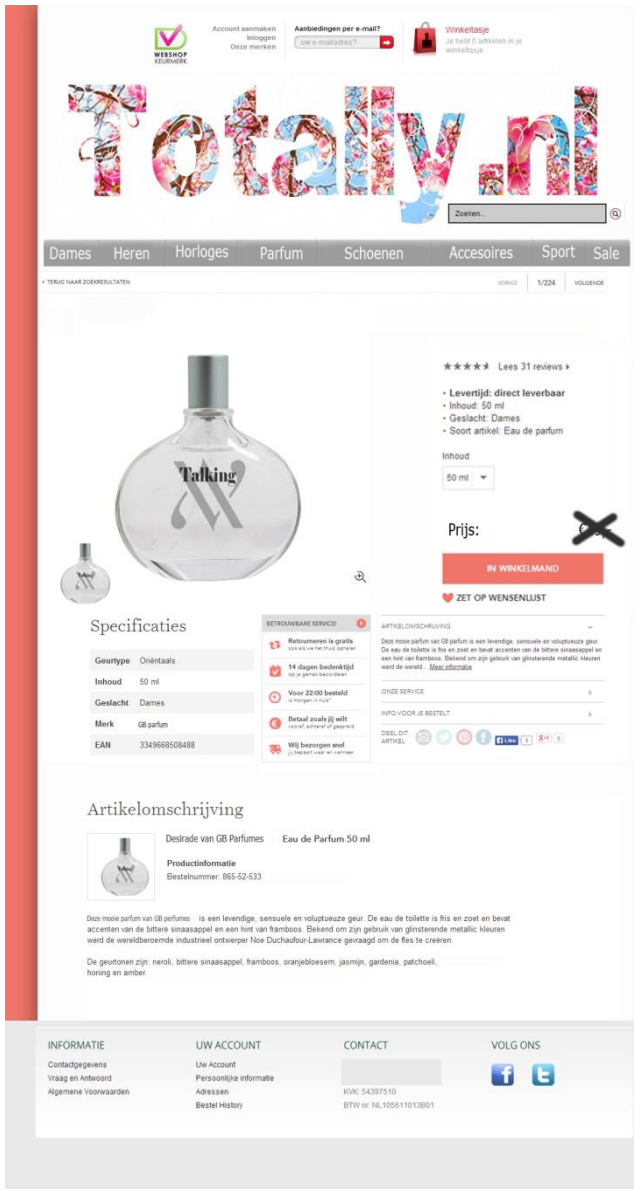
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3. RESULTS

In this chapter, the results of the main study are presented. First, the results for the watch product group are analyzed. Second, the perfume results are given. Finally, an overview of the results is presented.

3.1 MANIPULATION CHECK

In order to test if participants actively processes the visual cues, a manipulation check was included in the test. A construct measured what people saw on the background of the product. In the neutral condition, participants were supposed to fill in that they didn't see a background. Only 25% of the participants noticed that there was no background apparent and succeeded this test in the watch condition. In the neutral, perfume condition, 15.9% consciously processed the background of the perfume. Scores indicate that the attention level of the participants during the questionnaire was low.

Furthermore, a repeated measures ANOVA was conducted to compare the perceived product attributes within the three background conditions. When participants saw the watch in a neutral background, only robust product experience yielded a higher score then the other perceived product attributes. There was a significant difference between the robust (M=4.48, SD=1.6) and innovative (M=3.25, SD=1.5), luxurious (M=3.48, SD=1.6), sporty (M=3.60, SD=1.5), joyful (M=3.15, SD=1.4), natural (M=3.65, SD=1.6), fresh (M=3.60, SD=1.4), light (M=3.73, SD=1.4), modern (M=3.92, SD=1.6)and hip (M=3.5, SD=1.7) perception of these product experiences. All other perceived product attributes did not significantly differ from each other. The perceived product attributes in the luxury condition yielded a significant effect, Wilks' Lambda=.22, $F(10,34)=11.8$, $p<.0001$ $n^2=.77$ and [Wilks' Lambda=.42, $F(10,37)=5.0$, $p<.0001$ $n^2=.58$] in the

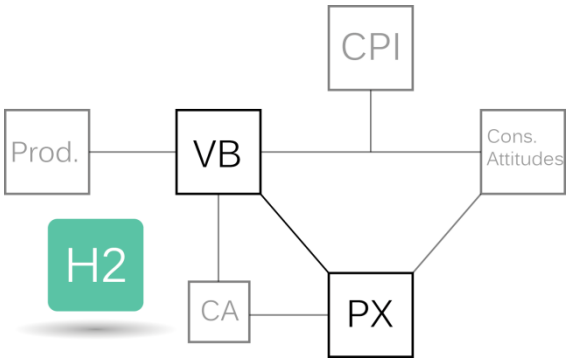
innovative condition. Results indicate that participants rate all product attributes the same expect for robust. Therefore, this condition measured a neutral condition which robust characteristics. However, the robust character of the product does not have effect on the research output since robust is not related to one of the background conditions.

In the perfume web shop, the neutral condition is more ambiguous. Repeated measures ANOVA showed that participants rated the product in the neutral condition differently on several product attributes. However, none are conflicting with the associative background. More in depth insights in the test results can be found in appendix I.

3.2 Watch

In the watch condition, the effects of luxury visual background cues and innovative visual background cues were measured on product experience (h2) and consumer attitudes (h4). Also the influence of core affect (h3) and consumer product involvement (h5) were included in the analysis. The mediating role of product experience in consumer attitudes could not be tested since direct effect were not found.

PRODUCT EXPERIENCE OF WATCH



The influence of symbolic visual background cues on product experience of a watch (h2) was measured with 10 product attributes. A between-groups one way analysis of variance (ANOVA) was performed. Participants were divided in three groups that were exposed to a different stimulus; a web shop with either a (1) neutral background; (2) background image associated with luxury; or (3) background image associated with innovation behind the product presentation of the watch. The analysis showed no significant effects at the $p<.05$ level in all ten product attributes. Results indicate that participants in the luxury or innovative condition had the same product experience as participants in the neutral condition. Table 3 in appendix I shows an overview of the means scores, standard deviations, F and p values of all product attributes. Therefore, h2a was rejected for the watch.

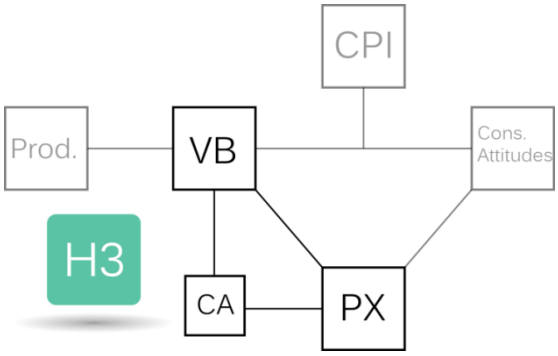
When we have a closer look into the congruency between symbolic visual background cue and the associated product attribute, the aforementioned results indicate that there is no significant effect on the congruency observed for luxury [$F(2,138)=1.69$, $p>0.05$]. It was expected that

participants would perceive a higher experience of luxury in the luxury condition whereas participants in the innovative condition would perceive a higher experience of innovation. However, participants in the luxury condition (M=3.98, SD=1.42) did not differ in their luxury product experience from participants in the innovative condition (M=3.45, SD=1.63) or neutral condition (M=3.48, SD=1.62). Also, the innovative product experience in the innovative condition (M= 3.30, SD= 1.82) was not significantly higher than the luxury (M= 3.56, SD= 1.27) or the neutral condition (M=3.25 , SD=1.47) [F(2,137)=.52, p>.05]. Therefore, symbolic visual backgrounds do not influence the associated product experience. H2c were, therefore, rejected for watches.

Although mean scores show that participants in the luxury condition rate all product attributes higher (even the innovative product attribute), mean differences were quit small and standard deviations were quit large. Therefore, the PX was not significantly different in the luxury condition and h3b was rejected. This indicates that the variance between the subjects was high which was caused by a second unknown variable. Therefore, we tested whether this unknown variable could be pleasure. A one-way ANCOVA was conducted to determine a statistically significant difference between the visual background condition on the perceived product experience controlling for pleasure. After checking the statistics for two assumptions (1) independence of the covariate and treatment effect and (2) homogeneity of regression slopes. There is a significant effect of visual background cues on the sporty PX of the product after controlling for pleasure, F (2,136)=3.38, p<.05. Also, the joyful PX, after controlling for pleasure [F=2,136=3.13, p<.05] yielded significant results. The other product attributes did not yield significant results after controlling for pleasure. So, the level of pleasure influenced the effect of visual backgrounds on the product experience for sporty and joyful but explains not all variance. The level of arousal was of no influence. Therefore, the level of pleasure influences the product experience. However not in the way we expected it to be (see, core affect h3)

CORE AFFECT AS A MEDIATOR OF PRODUCT EXPERIENCE

The impact of the core affect on product experience could not be measured since no direct effect of visual backgrounds on PX existed for watches. Therefore, there is no mediator of this effect. H3a and h3b were rejected for watches.



It was expected that symbolic background cues cause

higher pleasure and arousal which, in turn, influenced PX. The internal processing could not be analysed. However, a one-way between-groups analysis of variance was performed to explore the effect of visual background cues on the state of core affect measured by the level of pleasure and arousal. The independent factors of background of the watch consisted of three groups (neutral background/ background image associated with luxury/ background image associated with innovation) which were compared to each other on the level of pleasure of the participant [$F(2,138)=.761$, $p>0.05$] and the level of arousal of the participant [$F(2,138)=.50$, $p>0.05$]. There was no statistically significant difference at the .05 significance level between the neutral ($M=4.50$, $SD=.93$), luxury ($M=4.31$, $SD=.83$) and innovative ($M=4.30$, $SD=.91$) condition in pleasure. Also, no statically significance at $p< .05$ was found for arousal between the neutral ($M=4.0$, $SD=.69$), luxury ($M=4.11$, $SD=.67$) and innovative ($M=3.97$, $SD=.81$) condition.

CATEGORIES OF PRODUCT EXPERIENCE

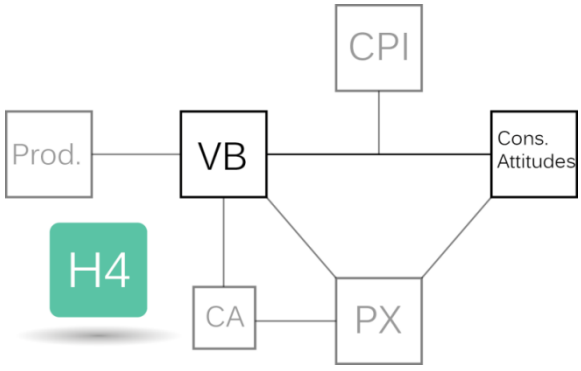
All ten product experiences together were subjected to a rotated Varimax factor analysis to test if there is a framework for the attributes possible. A Principal Axis Factor with a Varimax (orthogonal) rotation of 25 of the 10 Likert perceived product attributes found 2 factors in the watch condition. An examination of the Kaiser-Meyer Olkin measure suggested that the sample was factorable (KMO=.90). The results are shown in appendix I. The first factor consists of 'Luxury', 'Innovative', 'Joyful', 'Fresh', 'Modern', 'Sporty' and 'Hip'. Since these are all the extrinsic attributes with associative or metaphorical value, the combining factor was called symbolic. The second factor was called intrinsic because 'Light', 'Robust' and 'Natural' are characteristics that are easily and literal interpreted.

Table 6| Rotated component matrix of the factorial analysis

	Symbolic factor	Intrisic factor
Innovation	**,797**	,105
Luxury	**,784**	,223
Sporty	**,620**	,104
Joyful	**,654**	,293
Fresh	**,653**	,430
Modern	**,788**	,133
Hip	**,724**	,353
Natural	,063	**,770**
Light	,140	**,682**
Robuust	,243	**,514**

PRODUCT EVALUATION OF WATCH

A one-way between subjects ANOVA was conducted to test the effect of visual backgrounds of watches as a direct influencer of the consumer



attitudes (product evaluation, purchase intention and price expectation). Three conditions were compared for product evaluation; background image associated with luxury, background image associated with innovation and a neutral background (h4). There was not a significant effect of visual cues on product evaluation at the p<.05 level for the three conditions [F (2,138)=2.00, p>.05]. These results suggest that visual backgrounds do not have an effect on the evaluation of the watch since participants did not evaluate the watch higher after seeing it on a background associated with luxury or innovativeness in comparison to the neutral background. Therefore, h4a was rejected for watches.

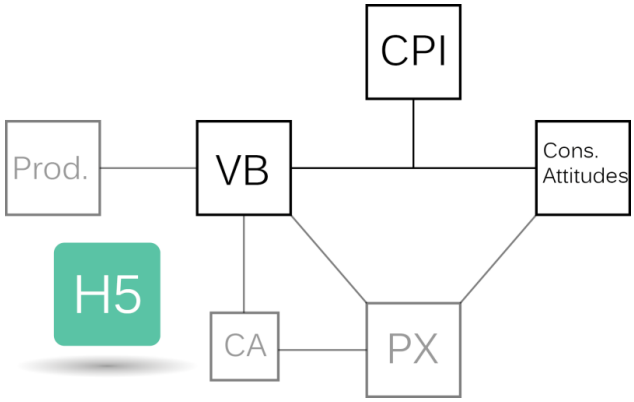
PURCHASE INTENTION OF WATCH

The same one-way between subjects ANOVA was conducted for purchase intention. Again, the test results showed no significant results at the p<.05 level for the three conditions [F (2,138)=1.30, p>.05], meaning that participants have the same intention to purchase the watch on a web shop with white background then a web shop with images of luxury or innovation on the background. This result rejects h4b for watches.

PRICE EXPECTATIONS OF WATCH

The price expectation of participants was also measured and compared using a one-way between subject ANOVA. The analysis showed a significant effect on a p<.10 level for the price participants are expecting to pay for a watch on visual background cues, F (2,4140) = 3.03, p=.052. The post hoc comparisons using the Bonferroni test indicated that the mean score for the innovative background (M= 50.72, SD=34,88) was significantly different from the neutral background (M=36.91, SD=21.27) on a p<.05 level. Therefore, h4c was confirmed for watches, suggesting that visual backgrounds can increase the price that participants are expecting to pay for a watch in an online shopping environment. However, the luxury condition (M=43,98, SD 24,14) did not significantly differ from the neutral or innovative backgrounds. Specifically, the results suggest that when consumers are exposed to pictures that are associated with innovativeness on the background of a watch, they expect a higher price off the watch. However, it should be noted that this effect was not seen in the luxurious condition. Visual backgrounds do not appear to significantly increase price expectation in general, only in specific conditions.

CONSUMER PRODUCT INVOLVEMENT AS A MODERATOR OF CONSUMER ATTITUDES



Product evaluation, purchase intention and price expectation were subjected to a two-way analysis of variance, having two levels of the consumers' product involvement (high/ low) and three independent factors of background of the watch (neutral background/ background image associated with luxury/ background image associated with innovation). None of the dependent factor effects were statistically significant at the .05 significance level (h5). Table 6 shows an overview of the results.

Table 7| ANOVA results of visual backgrounds and consumer product involvement in the watch condition

	High involvement		**Low involvement**		**Main effect**		**Interaction effect**	
	M	*SD*	*M*	*SD*	*F (df)*	*P*	*F*	*p*
Product evaluation	4.01	1.16	4.07	1.02	.08 (1,132)	>.05	.34 (2,131)	>.05
Purchase intention	2.71	1.52	2.91	1.41	51 (1,131)	>.05	.15 (2,131)	>.05
Price expectation (€)	42.9	3.34	46.13	3.38	.48 (1,132)	>.05	.07 (2,132)	>.05

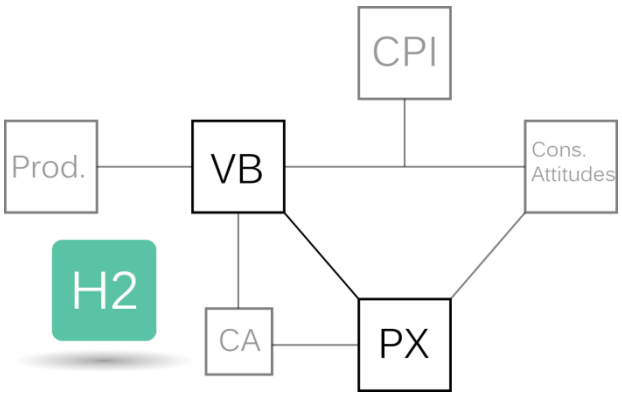
*p <.05, ** p<.01, ***p<.001

Therefore, h5a, h5b, h5c were rejected for watches. Results indicate that the involvement of the consumer on a watch do not affect the product evaluation, purchase intention or price expectation directly because there is no main effect. Also, the product involvement does not function as a moderator since CPI there is no interaction effect between the background condition and the level of product involvement. For example, the table 5 shows that participants with a low involvement towards a watch react the same on price expectation as participants with a high CPI towards the different background conditions of the watch.

3.3 PERFUME

In the perfume condition, the effects of luxury visual background cues and joyful visual background cues were measured on product experience (h2) and consumer attitudes (h4). Also the influence of core affect (h3) and consumer product involvement (h5) were included in the analysis. Furthermore, the mediating role of product experience in consumer attitudes was measured (h1).

PRODUCT EXPERIENCE OF PERFUME

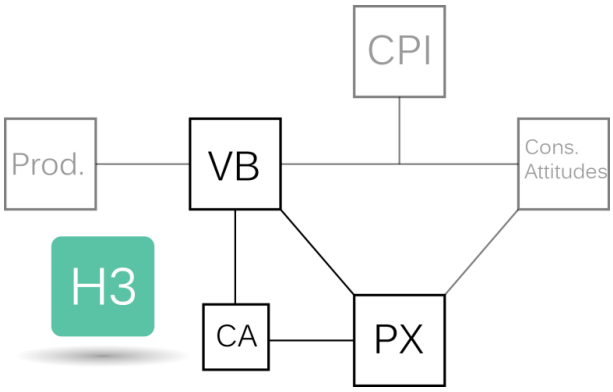


The influence of symbolic visual background cues on product experience of a watch (h2) was measured with 10 product attributes. A between-groups one way analysis of variance (ANOVA) was performed. The independent variable was visual background cues (neutral, luxury and joyful condition) and the dependent variables were 10 perceived product attributes which measured the product experience of the participants. Several perceived product attributes showed a statistically significant result at the p< .05 level between the three background conditions; joyfulness; sportiness and hipness. Participants perceived a significantly different joyfulness product experience[F (2, 138) = 7.49, p<.001] depending on the visual background. Post-hoc comparisons using the Bonferroni test indicated that the mean scores of joyfulness for the background with a luxurious picture(M=4.47, SD=1.27) and a joyful picture (M=4.55, SD1.34) was higher than the neutral background (M= 3,56, SD=.1.44). The luxurious background and joyful background scored the same on joyfulness. Also, visual background cues influence the perceived sporty product experience [F (2, 140) = 4.42, p<.01]. Again, Bonferroni test compares the several conditions. Mean scores of sportiness of the product in the joyful condition (M=4.22 , SD=1.27) are significantly higher than neutral (M=3.56, SD=1.44) or luxury (M=4.47, SD=1.27) condition. The luxurious background and neutral background scored the same on sportiness. Lastly, participants perceived a significantly different hip product experience [F (2, 140) = 5.72, p<.01] depending on the visual background. Post-hoc comparisons using the Bonferroni test indicated that the mean scores of hipness in the joyful condition (M= 4.65, SD=1.30) is significantly higher than the neutral condition (M=3.71, SD=1.33). All other attributes were not found significantly influencing at a p<.05 level. Therefore, h1a was confirmed, but only in specific conditions. Table 4 in appendix I shows all mean scores, F and p values of the 10 experienced product attributes.

H2c expects that participants exposed to a luxurious picture on the background have higher luxury product experience than the neutral conditions. Participants in the joyful condition have higher joyful product experiences than the neutral condition. The differences between the background conditions were not significant [F(2,138)=.82, p>4]. Means scores of the perception of luxury were higher in the luxurious condition (M=4.49, SD=1.66) then in the joyful condition (M=4.21, SD=1.39) or neutral condition (M=4.09, SD=1.46), but not significant. Therefore, h2c was rejected. For the perceived joyfulness of the product (results discussed earlier), participants

do have an higher joyful product experience in the joyful condition than in the neutral condition. But the same effect applies for the luxurious condition. Therefore, the increased joyful product experience is not explained by the joyful background cues.

CORE AFFECT AS A MEDIATOR OF PRODUCT EXPERIENCE



A one-way between-groups analysis of variance was conducted to explore the impact of the circumplex model (pleasure and arousal scales) on product experience. There was no statistically significant difference at the p <.05 level between the levels of pleasure [F(2,137)= 1.87, p>.05] or the levels of arousal [F(2,137)= 1.59, p>.05] in the neutral background, luxurious background or joyful background. Therefore, visual backgrounds do not influence the level of pleasure and arousal and are eliminated to cause of a higher perception of the product attributes. H3a was rejected.

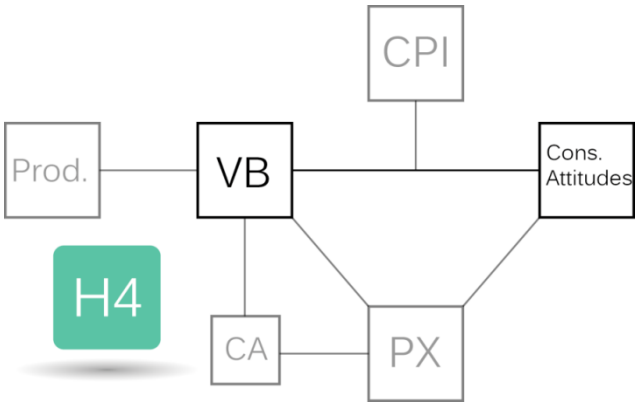
CATEGORIES OF PRODUCT EXPERIENCE

All ten product attributes together were subjected to a rotated Varimax factor analysis to test if there is a framework for the attributes possible. A Principal Axis Factor with a Varimax (orthogonal) rotation of 25 of the 10 Likert perceived attributes found 2 factors in the watch condition. An examination of the Kaiser-Meyer Olkin measure suggested that the sample was factorable (KMO=.81). The results are shown in appendix I. The factor analysis of the perfume condition yielded three factors. These factors are categorized by the value it possesses. The first factor 'Joyful, 'Luxury', 'Natural' and 'Hip' are Self-enhancement values. The second factor 'Sporty', 'Fresh' and 'Light' aim at Self-transendence values. The third factor is combined of openness to change values; 'Innovative', 'Robust' and 'Modern'.

Table 8| Rotated component matrix of the factorial analysis

	Factor 1	Factor 2	Factor 3
Luxury	**,567**	-,136	,494
Joyful	**,821**	,171	,075
Natural	**,588**	,458	-,058
Hip	**,590**	,309	,362
Sporty	,086	**,823**	,023
Fresh	,288	**,716**	,234
Light	,162	**,750**	,129
Innovative	,360	,245	**,685**
Robust	-,173	,041	**,817**
Modern	,369	,435	**,559**

PRODUCT EVALUATION OF PERFUME



A one-way between subjects ANOVA was used to investigate the effect of several visual backgrounds of perfumes on the product evaluation. Three visual backgrounds were compared; a neutral background, a background image associated with luxury and a background image associated with joy. There was a significant effect of visual backgrounds on product evaluation at the p<.05 level for the three conditions [F (2,142)=5.09, p<.01]. This result suggest that visual backgrounds can influence the evaluation of the product. Therefore, h4a was confirmed for perfume. Post-hoc analysis using Bonferroni showed that product evaluation in the luxury condition (M=4.80, SD=1.25) was significantly higher than the neutral condition (M=4.02, SD=1.04) and the joyful condition (M=4.47, SD=1.04)on a p<.05 level.

PURCHASE INTENTION OF PERFUME

Also a one-way between subjects ANOVA was done for purchase intention. However, the test results showed no significant results at the p<.05 level for the three conditions (neutral/ luxury and joyful) [F (2,142)=.29, p>.05]. Results indicate that the purchase intention of the perfume does not increase when participants were exposed to a web shop with background images associated with luxury or joy in contrast to neutral backgrounds. This rejects h4b for perfumes.

PRICE EXPECTATION OF PERFUME

The effect of visual background cues on price expectation yielded an F ratio of F(2,143) =1.09, p>.05 when a one-way between subjects ANOVA was performed, indicating that the mean score for price expectation was not significantly greater for participants that were exposed to visual background images then for the neutral background. Therefore, h4c was rejected for perfume.

CONSUMER PRODUCT INVOLVEMENT AS MEDIATOR OF CONSUMER ATTITUDES

Product evaluation, purchase intention and price expectation were subjected to a two-way ANOVA having two levels of the consumers' product involvement (high/ low) and three independent factors of background (neutral condition/ luxurious condition/ joyful condition). The effect of CPI on product evaluation and price expectation yielded no significant results, indicating that the scores for these dependent variables were the same for participants with a

low CPI as for participants with a high CPI. The effect of CPI on purchase intention was significant, suggesting that participants with a high product involvement (M=3.55, SD=1.42) are more willing to purchase the product than participants with a low product involvement (M=3.04, SD=1.52). None of the consumer attitudes, however, resulted positive for an significant interaction effect below the .05 significance level. Therefore, visual backgrounds do not moderate with product involvement to increase consumer attitudes. The table 8 shows an overview.

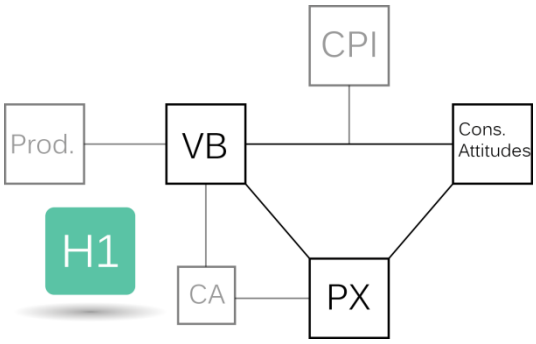
Table 9| ANOVA results of visual backgrounds and product involvement in the perfume condition

	High involvement		Low involvement		Main effect		Interaction effect	
	M	*SD*	*M*	*SD*	*F (df)*	*p*	*F*	*p*
Product evaluation	4.50	1.20	4.35	1.24	2.02 (1,134)	>.05	.037 (2,134)	>.05
Purchase intention	3.55	1.42	3.04	1.52	5.59 (1,134)	**<.05**	.46 (2,134)	>.05
Price expectation (€)	31.13	25.30	25.86	21.99	2.59 (1,134)	>.05	1.58 (2,134)	>.05

*p <.05, ** p<.01, ***p<.001

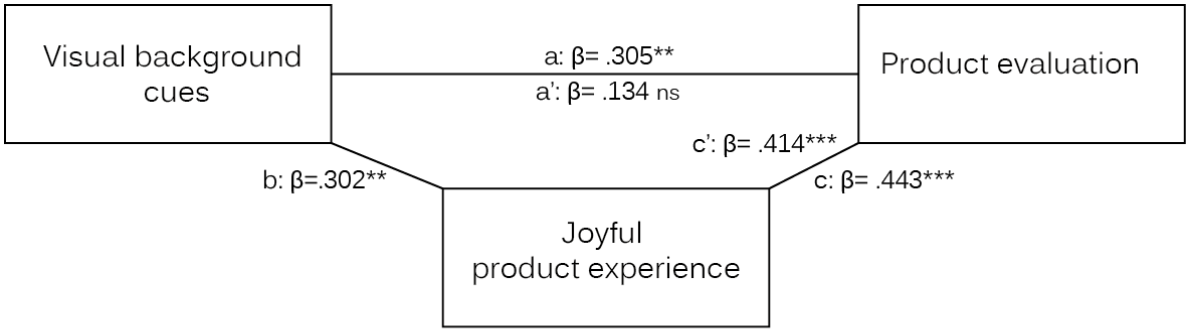
Thus, results indicate that consumer product involvement was not an influencer of the dependent factors product evaluation, purchase intention and price expectation interacted with the visual background. Therefore, h5a h5b and h5c are rejected for perfumes.

PRODUCT EXPERIENCE AS A MEDIATOR OF CONSUMER ATTITUDES



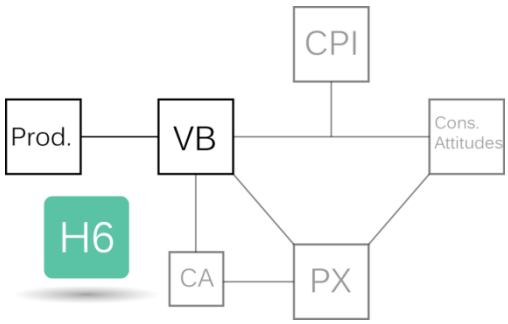
The mediation effect of perceived product experience was measured using the Baron and Kenny approach (1986). A simple linear regression was calculated to test if the symbolic product experience predict product evaluation based on visual background cues. In step 1 of the mediation model, visual background cues had product evaluation was significant b= .78, t(143)=3.18, p<.01, ignoring the mediator. Step 2 showed that the scores on the mediator, perceived joyful product experience was also significant, b=.90, t(143)=3.16, p<.01. Step 3 of the mediation process yielded perceived joyful product experience was significant on product evaluation, b=.38, t(143)=5.83, p<.001. Step 4 of the analyses revealed that, the perceived joyful product experience is a full mediator between visual backgrounds and product evaluation b=.36, t(143)=5.2, p<.001. Therefore, it was found that visual background cues predict product evaluation mediated by the joyful product experience and H2 was confirmed joyful product experience in the perfume condition. The model below shows an overview of the linear regression results.

Figure 9| Mediation model of product experience in the perfume condition



*p <.05, ** p<.01, ***p<.001

3.4 Products



The effects of visual backgrounds were tested on watches as well as perfumes. These two products could not be compared using scientific calculations on SPSS since the stimulus material was different for both groups. However, taken the results above together, it can be suggested that the impact of visual backgrounds is bigger with perfumes. In an overview of all hypotheses (table 10), it is shown that more effects were measured in the perfume condition in contrast to the watch condition. Therefore, H6 was confirmed.

Table 10| Comparison between watch and perfume results

Preditors	**Effects on product Evaluation**		**Effects on Purchase Intention**		**Effects on Price Expectation**	
	Watch	*Perfume*	*Watch*	*Perfume*	*Watch*	*Perfume*
	F=		*F=*		*F=*	
Visual background	2.00ns	5.09**	1.30ns	.29ns	3.03*	1.09ns
Product involvement (direct)	.08ns	2.02ns	.51ns	5.59*	.48ns	2.59ns
Visual background x Product involvement	.34ns	.037ns	.15ns	.46ns	.07ns	1.58ns
		t=				
Visual background x Product experience	-	5.2***	-	-	-	-
	Effects on Joyful product experience		**Effects on Hip product experience**		**Effects on Sporty product experience**	
	Watch	*Perfume*	*Watch*	*Perfume*	*Watch*	*Perfume*
	F=		*F=*		*F=*	
Visual backgrounds	2.10ns	7.49***	2.41ns	4.42*	1.70ns	5.72**

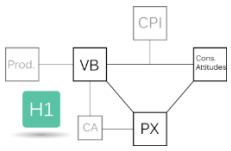
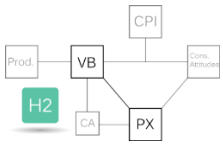
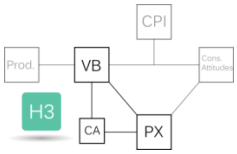
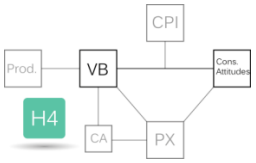
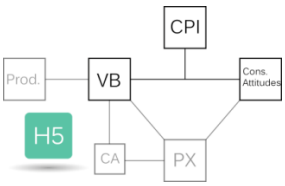
*p <.05, ** p<.01, ***p<.001 *+serendipity result*

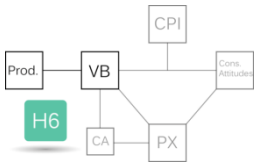
4. Discussion

During the results we explored the effects of visual backgrounds as a substitute for personal examination in online shopping environments. In this chapter, the results are discussed and compared with the literature.

This study aimed to explore the effects of visual backgrounds associated with symbolic attributes on product experience and consumer attitudes in online product presentation. Expected was that symbolic visuals provide information and persuade the consumer. Subsequently, the (symbolic) product experience, product evaluation, purchase intention and price expectation would be increased. Study results on this notion, however, tell a more complicated story. Table 11 gives a summary of the hypotheses.

Table 111| Summary of the results

H1		**Visual backgrounds influence product experience. Product experience, in turn, affect consumer attitudes towards the product.**	
		Watch	*Perfume*
H1a	Product Evaluation	-	✓
H1b	Purchase Intention	-	-
H1c	Price Expectation	-	-
			
		Visual backgrounds associated with luxury or joyfulness increase the joyful product experience, which increase product evaluation. But only for perfumes.**	
H2		**Visual backgrounds influence product experience.**	
		Watch	*Perfume*
H2a	Symbolic	✗	✓
H2b	Luxury	✗	✗
H2c	Congruency	✗	✗
			
		Visual backgrounds associated with joyfulness and luxury increase the hip**, joyful*** and sporty** product experience. However, only in the perfume condition and the effect is not dependent on the symbolic value of the background image but rather on the presence of a background.	
H3		**Visual backgrounds influence core affect which, in turn, influence product experience.**	
		Watch	*Perfume*
H3a	Pleasure	-	✗
H3b	Arousal	-	✗
			
		The effects of visual backgrounds on product experience are not caused by the level of pleasure and arousal.	
H4		**Visual backgrounds influence consumer attitude.**	
		Watch	*Perfume*
H4a	Product Evaluation	✗	✓
H4b	Purchase Intention	✗	✗
H4c	Price Expectation	✓	✗
			
		Visual backgrounds associated with innovativeness increase the price expectation, but only in the watch web shop.* Visual backgrounds associated with luxury increase product evaluation, but only in the perfume web shop**.	
H5		**Visual backgrounds influence consumer attitudes interacted with the product involvement of the consumer.**	
		Watch	*Perfume*
H5a	Product Evaluation	✗	✗
H5b	Purchase Intention	✗	✗
H5c	Price Expectation	✗	✗
			
		The product involvement of the consumer does not influence the effect of visual backgrounds on product evaluation, purchase intention and price expectation.	

H6	**Visual backgrounds have greater impact on the product experience and consumer attitudes of perfumes then of watches.**
H6	 
	The effects of visual backgrounds are dependent on the kind of product that is presented in the web shop.

*p <.05, ** p<.01, ***p<.001

- = not tested

 = confirmed

 = rejected

The most salient result is the difference between the watch and perfume condition. The kind of product is a dependent factor for the effect of visual background cues. Symbolic visual backgrounds of perfumes can influence product evaluation and product experience due to the intrinsic attributes of perfumes in contrast to watches. Both products are goods that will appeal to male and female users, that are not dependent on fit (as for clothing), are in the same price range, can be evaluated during the purchase and do not require a lot of knowledge on the product and product group. The difference, however, is that watches are more utilitarian and the only sense to judge it, is the vision. Perfumes on the other hand are merely hedonic and ought to be judged on smell since that is the most important attribute of the product.

Watches can be judged by the eye, perfumes can't. The findings stress the importance of sensory stimulation. When consumers lack sensory input to judge a product, they rely on other senses since all stimuli which the consumer receives give rise to affective or hedonic product responses. K. Jeong et al. (2008) illustrate that consumers are receptive to visual information as a surrogate for sensory input. Spence and Gallace (2011) investigated this issue further. They claim that aesthetic experience which a consumer perceives via one modality triggers the consumers perception of other sensory experiences on the same level. The quality and pleasantness of the product attributes transfers from one modality onto the others into an overall multisensory product experience. Therefore, visual cues can be transferred on other modalities to evoke a multisensory product experience. This affective ventriloquism (a person mislocalizes the source of one stimuli onto another stimuli) occurs in the emotional domain of the consumer (Spence & Gallace, 2011). So, for an utilitarian, non-sensory product (watch), the consumer is able to evaluate the product. But for a hedonic, sensory product (perfume), the consumer lack means to attribute value towards the product. Visual cues, in this case, compensate for this lack and consumer associate the other available sensory input with the product. However, the overall higher preferences towards perfumes over watches and the attractiveness of the background

images might also explain the ambiguous results between watches and perfumes. Also, the difference might be explained by the utilitarian/ hedonic difference of the product. Hedonic attributes emphasize aesthetical and symbolic benefits (perfume) whereas utilitarian attributes represent benefits of functionality and instrumentality (watch) (Chitturi, Chitturi, & Raghavarao, 2010). It is known that utilitarian attributes are appreciated over hedonic attributes. Consumer value functionality but only until their minimum needs are satisfied. After this threshold of functionality is reached, consumers value hedonic attributes more (Chitturi, Raghunathan, & Mahajan, 2007). So, the watch is judged on a utilitarian level and the visual background does not add value for the consumer. The perfume is judged on a hedonic level and a visual background does add hedonic value. Therefore, further research should investigate the impact of affective ventriloquism in online shopping environments further.

Another salient result is the kind of visual background. Generally, the results show that different backgrounds have different results. However not in the way we expected to be. The literature suggested that congruency and luxury would be important predictors. However, results showed no congruency between the symbolic value of the background and the associated product experience. Also, luxury visual background cues had no more effect than backgrounds associated with innovativeness or joyfulness. Even, the products with a visual backgrounds were not perceived more luxury over a neutral background. Therefore, the presence of a visual background is more important than the symbolic value of that background. It might be explained by the emotional states that contextual cues provide. Holbrook and Hirschman proposed the Cognition-Affect-Behavior (C-A-B) model. This model states that the thoughts and beliefs of a product yield the purchase decision. Later on, the C-A-B model was extending with subjective feelings. Mental events (like fantasies, imagery, memories and subconscious thoughts) were added in the Consciousness-Emotion-Value (C-E-V) model (Schifferstein & Hekkert, 2011). These emotions are provoked by the presence of visual backgrounds. According to Eroglu et al. (2003) emotional and cognitive states evoked by contextual cues are equally important in the shopping outcomes. In a comparison between online shopping market and traditional supermarkets, consumer choices are differently affected depending on information availability and sensory cues of the product. For example, it appeared that extrinsic attributes are more important attributes in online shopping because they surrogate for a lack of sensory input (Degeratu et al., 2000).

4.1 General discussion

Looking at the overall picture, the results indicate that visual backgrounds can influence consumer attitudes. Therefore, the findings testify for the importance of webmospherics in e-commerce and, most importantly, reveal underlying processing into the manner through which visual cues affect product evaluations. That is, symbolic visual background cues do so because consumer associates the joy of the background image with the product. The influence of the consumer product involvement on the process was found neglectable. However the process is influenced by the kind of product.

Furthermore, the state of core affect explains some underlying consumer processing. The core affect of the consumer was not a mediator for the product experience, since visual backgrounds do not influence the levels of pleasure and arousal directly. Three conclusions can be drawn. First, the participants were not consciously aware of their emotional state and, therefore, could not express it in the questionnaire. Second, the background images are not activating emotional responses enough to influence the product experience. This result might indicate that the participants lack pleasure and arousal in the visual stimulated conditions (luxury and innovation backgrounds) cause that h2a was rejected. The participants were not aroused or pleased more when they saw a visual background behind the product. Third, the level of pleasure is not an influencer but a covariate for the effect of visual backgrounds on some of the product experiences. Results indicate that the level of pleasure accounts for the effect of visual backgrounds on the perceived sporty and joyful product experience. However other perceived product experiences were not influenced by the participants' level of pleasure. Therefore, we conclude that there is a relation between visual cues and the state of core affect, but we lack measures to explain how core affect incorporates in the model. Also, there might be a second influencer. Further research should address this gap. Further research should investigate this notion in depth.

Product experience

However, the level of pleasure and arousal influenced the associative value of the product. This might explain why the visual background images had limited effect on the perceived product attributes. The visual did not evoke enough pleasure and arousal. Further research should concentrate on images that cause pleasure and arousal instead of perceptions of symbolic product attributes (like luxury). Another explanation might be that core affect was not used by

consumers to process the visual backgrounds. Other internal processes, like approach-avoidance behavior, might cause attitude changes. This might explain why some of the visuals did influence the product experience (especially in the perfume condition). In the perfume web shop, the consumers experienced some product attributes more when there was a background present. Also, the experience did not differ between the two background images. The product experience is therefore not dependent on the content of the background but the presents of the background. In the watch condition, the product experience was the same between the three conditions. Results from pretest 1 indicate that the perfume backgrounds were attractive. The watch backgrounds were unattractive. Therefore, the attractiveness of the images might be an influencing factor in the internal process of the consumer to experience a product.

CONSUMER ATTITUDES

Literature suggest that consumer behavior is influenced by the characteristics of the product, the consumer and the context (Desmet & Hekkert, 2007). The direct relationships between visual background cues and consumer attitudes show ambiguous results. The presence of a luxury background on perfume caused a higher product evaluation. The presence of an innovative background on a watch caused a higher price expectation. This indicates that visual cues do not influence consumer attitudes as expected. Visuals with specific cues influence the consumer attitudes. It is not a matter of the presence of a background, but the content of the background. If more emotions and hedonic experiences are evoked, visual influence consumer attitudes more, especially product evaluation and price expectation. The results differed between the watch and perfume. The involvement on the product might have caused these differences. However, results indicate that the involvement was no factor in the relation between visual background cues and consumer attitudes. Therefore, not the characteristics of the consumer influence the effects, but the characteristics of the product itself influence the effect. The purchase intention was measured as well, but there was no influence found on this outcome variable. It might be that participants were not looking for a watch or perfume while filling in the questionnaire and therefore had a low purchase intention. Maybe if the study was conducted on real shoppers, results would come out differently.

4.2 IMPLICATIONS

E-commerce is booming and sales figures still show growth (even though the economic crisis in the Netherlands). Web shops use new and creative tools to provide more hedonic consumer -

and shopping experiences. Despite the practical applications and the broad research scope on the effect of color use, aesthetics and other visual cues in webmospherics (Manganari et al., 2009), little empirical research is done regarding online product experience and substitutes for personal examination. Also scientific studies towards emotional experiences in human-technology interaction in addition to instrumental aspects is only just beginning to raise (Thüring & Mahlke, 2007). Also Cheng et al. (2009) notice the lack of empirical studies about interaction effects of multiple atmospheric stimuli. A line of research in 'affective ventriloquism' explores the idea that attributes perceived via one modality can bias a person's estimation of product attributes derived from other senses (Spence & Gallace, 2011). Within our expertise, these two scientific disciplines have not yet been combined. We explored the concept that visual cues bias the consumers' overall product evaluation and looked for insights in consumer processing. Within our research, new demonstrations and arguments about visual cues are collected. This exploration of new scientific insights is an early step in the domain of online shopping behavior. It might stimulate scientists to further research this topic and find empirical evidence on the concepts of the present study. Also scientists might investigate related topics. For example, auditory cues with symbolic value, visual background cues on different types of products or visual cues with metaphorical value of the tactile and odor product attributes. Furthermore, deeper insights can be gained in finding affective states and consumer processing that cause online product experiences. The results and implications of our findings are not only interesting for scientists but also inspire practioners.

The challenge for retailers is to find ways to arouse emotions with the limitation of senses. For e-tailers the findings imply that visual cues can be a mean to inform and persuade consumers towards product attributes. E-tailers might use visuals in their online product presentation is several ways. First, to attract consumers with an attractive image on the background. Second, metaphorical value of the visual might be used to associate attributes to the product. Third, visuals raise emotions. Forth, visuals improve hedonic experiences. All uses were found applicable in this present study.

For scientists findings show that visuals can increase product experience which increases product evaluation. Results confirm that the state of core affect is related to product experience which explains consumer internal processing. Also, scientists gain knowledge about visual cues. The visual context of an object affects the object unconsciously because of products are experienced in different when different visual cues are present. Furthermore, consumers associate the value of a visual with a product when consumers like the product and are attracted to the product.

4.3 LIMITATIONS AND FURTHER RESEARCH

Although the implications of the current study are interesting for academic purposes and practical applications, there are some limitations to the results. First, the validity and reliability of the method caused ambivalent results. There are a number of reasons why the results caused the lack of significant influencers of visual background cues. One of the reasons is that the method was an experiment that measured the outcome variables with questions. In real life the consumer attitudes might be different since participants are less aware of their behavior in real life. Also, the stimulus material was static and the participants were not in the 'flow' of online shopping. Therefore, participants were less motivated to be receptive to stimuli and did not process the online environment very well. Consumers of web shop are motivated to shop because they want to buy something. In this test, the motivation to browse the web shop came from extrinsic reasons (participants needed to do this in order to fill in the questionnaire). This might cause indifference towards the stimuli and the questions. The indifference towards the questions, the unarousing stimulus and the extrinsic motivation to perform the task (online shopping) lead to unawareness during the questionnaire which was seen in the results of the manipulation check. Further research might use eye tracking in order to measure real behavior or a real web site with several pages to navigate in, in order to stimulate the realness of the web shop.

Second, the main study aimed to explore the big picture, but only found some small pieces of the puzzle. Since the study did not have the resources to measure all effects, only several factors and specific conditions were measured. Also, we haven't gained insight in brain functioning. For example, we only looked for effects on product evaluation, purchase intention and price expectation but we missed the effects of visual cues on other dependent variables like trust, perceived risk, recall and recognition. These might be influenced by visuals as well. Also we only investigated the effect of one group of product attributes. Lastly, visual cues are broader then we have measured. Visual cues also include colors, patrons, pictures with persons or without persons, metaphorical value etc. For instance, Van Rompay et al. (2012) discovered the effect the vertical lines behind a product in advertising to influence perceptions of prestige. This effect might also be present in online shopping environments. Further research should address these short comings. Therefore, we purpose a more structural approach in further research according to the visual categorizations.

CONCLUSION

The final chapter of the research report, presents the conclusions of our study in a nutshell. The main question is answered. The implications of the study are becoming clear.

The findings presented show that visual background cues affect the product experience of the consumer depending on the kind of product. It is discussed that this effect occurs with hedonic or sensory products more than with utilitarian or non-sensory products because the consumer rely on external, visual cues when sensory input limits the way to judge the product. Visual background cues influence the product experience of the consumer. When consumer see a symbolic background image on a perfume, they experience a product that is more joyful, hip and sporty. The symbolic value of the background image is account for the effect on product experience since not all images yield the same results. For example, the joyfulness of the product increases when consumers are exposed to a luxury background image and joyful background image. However, the hipness of the product does only increase when consumers are exposed to a joyful background image. The associative symbolic value of the background image does not congruently influence the same symbolic product attribute. Therefore, further research should investigate these connections further. Now we know that visual backgrounds can influence the product experience, it is interesting why some of our expectations did not hatch. The luxury background image behind a watch cause a higher mean scores of the product experiences. We expected a major influence of luxury background image, but this was not the case. Therefore, further research should investigate what factors limit the influence of luxury backgrounds.

Results on the outcome variables show that visual background cues influence the consumer attitudes. Product evaluation and price expectation are not only influenced by the product and the product description in online product presentation but also on the visual background of the product. Consumers have higher product evaluation of a perfume bottle when a luxury background is present. The price expectation of a watch increases when an innovative background is present. The purchase intention is in none of the cases influenced by the visual background of the product. However it was found that the consumer product involvement influenced the purchase intention. In addition, the findings demonstrate that the effects of visual backgrounds on the product evaluation is fully mediated by the joyful product experience.

Therefore, it can be concluded that consumers are receptive to visual cues in online product presentation which causes different consumer attitudes and product experiences. Symbolic visual backgrounds associate the product with symbolic product attributes and, in turn, influence the product evaluation. However these effects are dependent on the kind of product and the symbolic value of the background. Also, it can be concluded that visual background do not have (or limited) effect on the purchase intention since purchase intention was dependent on the characteristics of the consumer and the characteristics of the product instead of the contextual characteristics. Also, results indicate that the emotional state of the consumer that is evoked by the background explain why visual backgrounds with a specific symbolic value have more effect than others.

REFERENCES

Alba, J., Lynch, J., Weitz, B., Janiszewski, C., Lutz, R., Sawyer, A., & Wood, S. (1997). Interactive home shopping: consumer, retailer, and manufacturer incentives to participate in electronic marketplaces. *The Journal of Marketing*, 38-53.

Babin, L. A., Burns, A. C., & Biswas, A. A. (1992). A Framework Providing Direction for Research on Communications Effects of Mental Imagery-Evoking Advertising Strategies. *Advances in Consumer Research, 19*(1), 621-628.

Bardi, A. A., & Schwartz, S. H. (2003). Values and behavior: Strength and structure of relations. *Personality and social psychology bulletin, 29*(10), 1207-1220.

Bhatnagar, A. A., Misra, S. S., & Rao, H. R. H. (2000). On risk, convenience, and Internet shopping behavior. *Communications of the ACM, 43*(11), 98-105.

Bloch, P. H. (1981). An exploration into the scaling of consumers' involvement with a product class. *Advances in consumer research, 8*(1), 61-65.

Chau, P. Y. K., Au, G., & Tam, K. Y. (2000). Impact of information presentation modes on online shopping: an empirical evaluation of a broadband interactive shopping service. *Journal of Organizational Computing and Electronic Commerce, 10*(1), 1-20.

Cheng, F., Wu, C., & Yen, D. C. (2009). The effect of online store atmosphere on consumer's emotional responses–an experimental study of music and colour. *Behaviour & Information Technology, 28*(4), 323-334.

Childers, T. L., Carr, C. L., Peck, J., & Carson, S. (2002). Hedonic and utilitarian motivations for online retail shopping behavior. *Journal of retailing, 77*(4), 511-535.

Chitturi, R., Chitturi, P., & Raghavarao, D. (2010). Design for synergy with brand or price information. *Psychology & Marketing, 27*(7), 679-697.

Chitturi, R., Raghunathan, R., & Mahajan, V. (2007). Form versus function: How the intensities of specific emotions evoked in functional versus hedonic trade-offs mediate product preferences. *Journal of Marketing Research, 44*(4), 702-714.

Citrin, A. V., Stem, D. E., Spangenberg, E. R., & Clark, M. J. (2003). Consumer need for tactile input: an internet retailing challenge. *Journal of Business Research, 56*(11), 915-922.

Dainton, M., & Zelley, E. D. (2010). *Applying communication theory for professional life: A practical introduction*. California, USA: Sage Publications.

Day, G. S. (1970). *Buyer attitudes and brand choice behavior*. New York, USA: Free Press.

Degeratu, A. M., Rangaswamy, A., & Wu, J. (2000). Consumer choice behavior in online and traditional supermarkets: The effects of brand name, price, and other search attributes. *International Journal of Research in Marketing, 17*(1), 55-78.

DeRosia, E. D. (2008). The effectiveness of nonverbal symbolic signs and metaphors in advertisements: An experimental inquiry. *Psychology & Marketing, 25*(3), 298-316.

Desmet, P. M. A., & Hekkert, P. (2007). Framework of product experience. *International Journal of Design, 1*(1), 57-66.

Dholakia, U. M. (2001). A motivational process model of product involvement and consumer risk perception. *European Journal of marketing, 35*(11/12), 1340-1362.

Dodds, W. B., Monroe, K. B., & Grewal, D. (1991). Effects of price, brand, and store information on buyers' product evaluations. *Journal of marketing research, 28*(3), 307-319.

Elder, R. S., Aydinoglu, N. Z., Barger, V., Caldara, C., Chun, H., Lee, C. J., & Stamatogiannakis, A. (2010). A sense of things to come: Future research directions in sensory marketing. *Routledge editions*.

Eroglu, S. A., Machleit, K. A., & Davis, L. M. (2003). Empirical testing of a model of online store atmospherics and shopper responses. *Psychology & Marketing, 20*(2), 139-150.

Fenko, A., Schifferstein, H. N. J., & Hekkert, P. (2010). Shifts in sensory dominance between various stages of user–product interactions. *Applied ergonomics, 41*(1), 34-40.

Gass, R. H., & Seiter, J. S. (2011). *Persuasion, social influence, and compliance gaining*. Essex, England: Pearson.

Gurri, M., Denny, C., & Harms, A. (2010). Our Visual Persuasion Gap. *Parameters, 40*(1), 101-109.

Hekkert, P. (2006). Design aesthetics: principles of pleasure in design. *Psychology science, 48*(2), 157.

Hockley, W. E. (2008). The picture superiority effect in associative recognition. *Memory & cognition, 36*(7), 1351-1359.

Hoffman, D. L., & Novak, T. P. (1996). Marketing in hypermedia computer-mediated environments: conceptual foundations. *The Journal of Marketing*, 50-68.

Jain, K., & Srinivasan, N. (1990). An Empirical Assessment of Multiple Operationalizations of Involvement. *Advances in consumer research, 17*(1).

Jeong, K., Jang, S., Chae, J., Cho, G., & Salvendy, G. (2008). Use of decision support for clothing products on the web results in no difference in perception of tactile sensation than actually touching the material. *Journal of Human–Computer Interaction, 24*(8), 794-808.

Jeong, S. (2008). Visual metaphor in advertising: is the persuasive effect attributable to visual argumentation or metaphorical rhetoric? *Journal of Marketing Communications, 14*(1), 59-73.

Joffe, H. (2008). The power of visual material: Persuasion, emotion and identification. *Diogenes, 55*(1), 84-93.

Kapferer, J. (1997). Managing luxury brands. *Journal of brand management, 4*(4), 251-259.

Keller, K. L., Apéria, T., & Georgson, M. (2008). *Strategic brand management: a European perspective*. Essex, England: Pearson Education.

Koufaris, M. (2002). Applying the technology acceptance model and flow theory to online consumer behavior. *Information systems research, 13*(2), 205-223.

Krishna, A. (2010). *Sensory marketing: research on the sensuality of products*. New York, USA: Taylor & Francis.

Lee, Y., & Mason, C. (1999). Responses to information incongruency in advertising: The role of expectancy, relevancy, and humor. *Journal of consumer research, 26*(2), 156-169.

Mandel, N., & Johnson, E. J. (2002). When web pages influence choice: Effects of visual primes on experts and novices. *Journal of Consumer Research, 29*(2), 235-245.

Manganari, E. E., Siomkos, G. J., & Vrechopoulos, A. P. (2009). Store atmosphere in web retailing. *European Journal of Marketing, 43*(9/10), 1140-1153.

McCarthy, J., & Wright, P. (2004). Technology as experience. *interactions, 11*(5), 42-43.

Mehrabian, A., & Russell, J. A. (1974). *An approach to environmental psychology*: the MIT Press.

Michon, R., Chebat, J., & Turley, L. (2005). Mall atmospherics: the interaction effects of the mall environment on shopping behavior. *Journal of Business Research, 58*(5), 576-583.

Mobbs, D., Weiskopf, N., Lau, H. C., Featherstone, E., Dolan, R. J., & Frith, C. D. (2006). The Kuleshov Effect: the influence of contextual framing on emotional attributions. *Social cognitive and affective neuroscience, 1*(2), 95-106.

Mueller, S., & Szolnoki, G. (2010). The relative influence of packaging, labelling, branding and sensory attributes on liking and purchase intent: Consumers differ in their responsiveness. *Food quality and preference, 21*(7), 774-783.

Nielsen, J. (2009). Why you only need to test with 5 users. . *Retrieved from: www. useit. com/alertbox/20000319. html*.

Nielsen, J. (2010). Photos as Web Content. *Retrieved from: http://www.nngroup.com/articles/photos-as-web-content/, 1*.

North, E. J., De Vos, R. B., & Kotze, T. (2003). The importance of apparel product attributes for female buyers. *Journal of Family Ecology and Consumer Sciences, 31*(1), 41-51.

Pan, Y., & Schmitt, B. (1996). Language and brand attitudes: Impact of script and sound matching in Chinese and English. *Journal of Consumer Psychology, 5*(3), 263-277.

Peck, J. (2010). Does touch matter? Insights from haptic research in marketing. *Sensory marketing: Research on the sensuality of products*, 17-31.

Peck, J., Barger, V. A., & Webb, A. (2012). In search of a surrogate for touch: The effect of haptic imagery on perceived ownership. *Journal of Consumer Psychology, Forthcoming*.

Raghubir. (2010). Visual perception: an overview. *Sensory Marketing: Research on the Sensuality of Products*, 201-218.

Raghubir, Priya. (2010). Visual Perception. *Krishna, Sensory Marketing, New York: Taylor and Francis Group*, 201-215.

Rosen, K. T., & Howard, A. L. (2000). E-Retail: Gold rush or fool's gold? *California Management Review, 42*(3), 72-100.

Schifferstein, H. N. J., & Hekkert, P. (2011). *Product experience*. New York, USA: Elsevier.

Schwartz, S. H. (1992). Universals in the content and structure of values: Theoretical advances and empirical tests in 20 countries. *Advances in experimental social psychology, 25*(1), 1-65.

Shamdasani, P. N., Stanaland, A. J. S., & Tan, J. (2001). Location, location, location: Insights for advertising placement on the web. *Journal of Advertising Research*.

Sopory, P., & Dillard, J. P. (2002). The persuasive effects of metaphor: a meta-analysis. *Human Communication Research, 28*(3), 382-419.

Spence, C., & Gallace, A. (2011). Multisensory design: Reaching out to touch the consumer. *Psychology & Marketing, 28*(3), 267-308.

Spencer, D. (2009). *Card sorting: Designing usable categories*. New York: Rosenfeld Media.

Stenberg, G. (2006). Conceptual and perceptual factors in the picture superiority effect. *European Journal of Cognitive Psychology, 18*(6), 813-847.

Suh, T. (1999). What are the Visual Aspects in Communication. *Communication Research Trends, 19*(3), 4-18.

Thüring, M., & Mahlke, S. (2007). Usability, aesthetics and emotions in human–technology interaction. *International Journal of Psychology, 42*(4), 253-264.

Turley, L. W., & Milliman, R. E. (2000). Atmospheric effects on shopping behavior: a review of the experimental evidence. *Journal of Business Research, 49*(2), 193-211.

Van Rompay, T. J. L., De Vries, P. W., Bontekoe, F., & Dijkstra, T. K. (2012). Embodied product perception: Effects of verticality cues in advertising and packaging design on consumer impressions and price expectations. *Psychology & marketing, 29*(12), 919-928.

Weathers, D., Sharma, S., & Wood, S. L. (2007). Effects of online communication practices on consumer perceptions of performance uncertainty for search and experience goods. *Journal of Retailing, 83*(4), 393-401.

Webster. (2002). *Webster's third new international dictionary of the English language, unabridged* (Vol. 1): Merriam-Webster.

Wedel, M., & Pieters, R. (2012). *Visual marketing: From attention to action*. New York, USA: Psychology Press.

Wiedmann, K., Hennigs, N., & Siebels, A. (2009). Value-based segmentation of luxury consumption behavior. *Psychology & Marketing, 26*(7), 625-651.

Wright, K. B. (2005). Researching Internet-based populations: Advantages and disadvantages of online survey research, online questionnaire authoring software packages, and web survey services. *Journal of Computer-Mediated Communication, 10*(3), 00-00.

APPENDICES

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APPENDIX A |

ALL IMAGES FOR PRETEST 1

Expected to be control images



Expected to be innovative



Expected to be luxurious



Expected to be joyful



Expected to be natural/ authentic



Expected to be sporty



APPENDIX B |

ITEMS OF THE QUESTIONNAIRE PRETEST 1

Attractiveness construct (5 point Likert) per image

Dit plaatje:	Grijpt mij niet aan - Grijpt mij aan
Dit plaatje:	Is afstotelijk - Is aantrekkelijk
Dit plaatje:	'Vind ik NIET leuk' - 'Vind ik leuk'
Dit plaatje:	is ONinteressant - is interessant
Dit plaatje:	is slecht - is mooi

All values for product attributes (7 point Likert) per image

Dit plaatje heeft voor mij de volgende betekenis:	Innovatief (zeer oneens - zeer eens)
Dit plaatje heeft voor mij de volgende betekenis:	Creatief (zeer oneens - zeer eens)
Dit plaatje heeft voor mij de volgende betekenis:	Luxe (zeer oneens - zeer eens)
Dit plaatje heeft voor mij de volgende betekenis:	Natuurlijk (zeer oneens - zeer eens)
Dit plaatje heeft voor mij de volgende betekenis:	Sportief (zeer oneens - zeer eens)
Dit plaatje heeft voor mij de volgende betekenis:	Licht van gewicht (zeer oneens - zeer eens)
Dit plaatje heeft voor mij de volgende betekenis:	Precies (zeer oneens - zeer eens)
Dit plaatje heeft voor mij de volgende betekenis:	Geavanceerd (zeer oneens - zeer eens)
Dit plaatje heeft voor mij de volgende betekenis:	Bestendig/ sterk/ langhoudend (zeer oneens - zeer eens)
Dit plaatje heeft voor mij de volgende betekenis:	Fris (zeer oneens - zeer eens)
Dit plaatje heeft voor mij de volgende betekenis:	Aromatisch (zeer oneens - zeer eens)
Dit plaatje heeft voor mij de volgende betekenis:	Zoet (zeer oneens - zeer eens)
Dit plaatje heeft voor mij de volgende betekenis:	Speels/ creatief (zeer oneens - zeer eens)

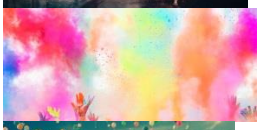
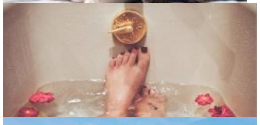
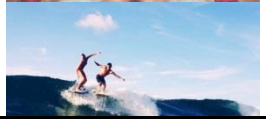
Demographics

Geslacht
Leeftijd

APPENDIX C |

SPSS OUTCOMES PRETEST 1

Table 1| Means and SD of **attractiveness** of all images and image thumbnail (from high to low)

	Image	T value	Level of significance	Mean	SD	Grouping
A		13,154	,000*	6,084	,8821	High ◆
L		11,701	,000*	5,907	,8925	High ◆
J		13,564	,000*	5,903	,7812	High ◆
O		10,559	,000*	5,773	,9199	High ◆
K		7,270	,000*	5,640	1,2356	High ◆
E		8,945	,000*	5,587	,9878	High ◆
G		6,051	,000*	5,480	1,3397	High ◆
R		9,684	,000*	5,447	,8182	High ◆
C		6,228	,000*	5,275	1,1581	Middle ■
M		5,019	,000*	5,007	1,0986	Middle ■
P		4,399	,000*	4,897	1,0976	Middle ■

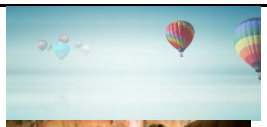
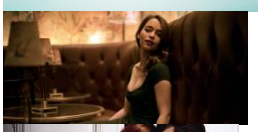
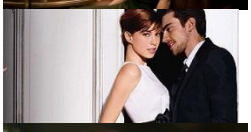
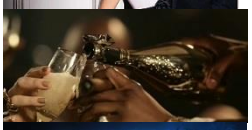
N		3,441	,002*	4,873	1,3901	Low ▲
B		3,449	,002*	4,850	1,3940	Low ▲
I		3,483	,002*	4,735	1,1757	Low ▲
H		2,487	,019	4,707	1,5561	Low ▲
D		2,877	,007	4,650	1,2781	Low ▲
Q		2,755	,010	4,553	1,1001	Low ▲
F		,982	,334	4,247	1,3763	Low ▲

Figure 2| Grouping of same level of attractiveness according to the repeated measures ANOVA.

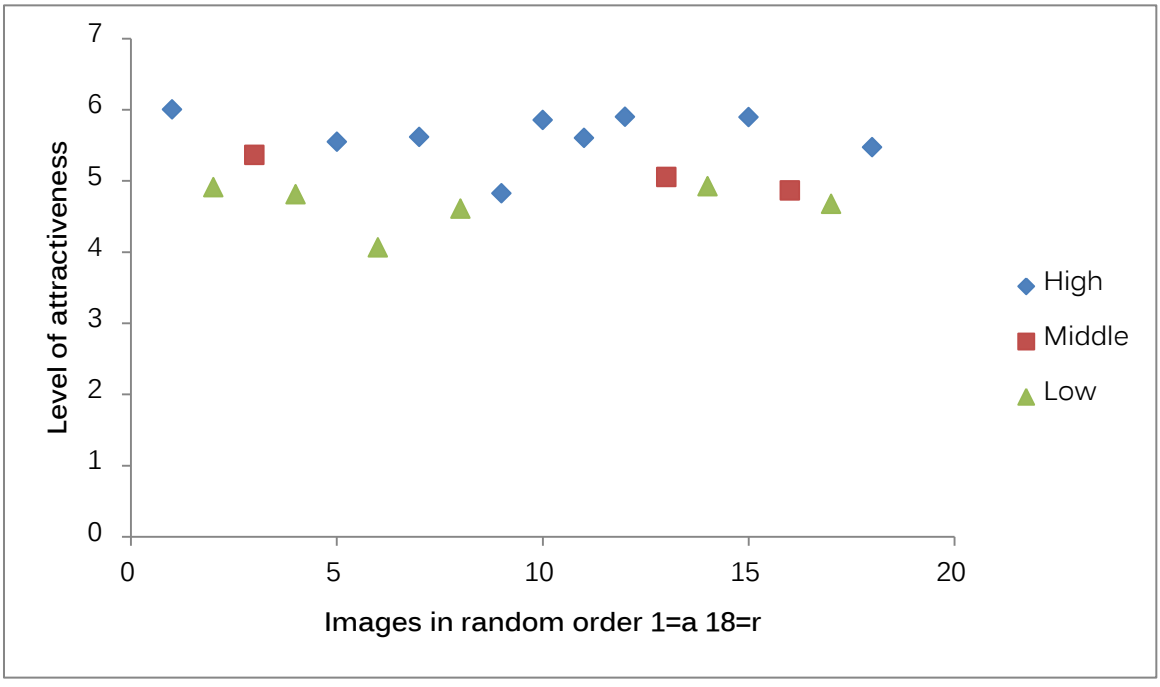
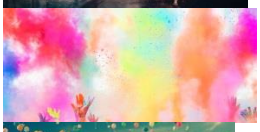
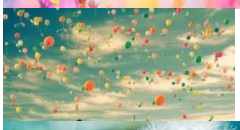
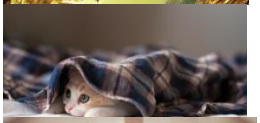
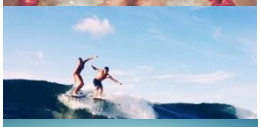
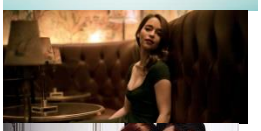
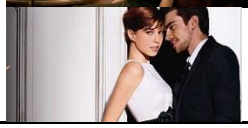


Table 3: Grouping of same level of attribute sort according to the repeated measures ANOVA in order of attractiveness.

	Image	**Luxury** (anova ranking)	**Innovative** (anova ranking)	**Joyful** (anova ranking)	**Sporty** (anova ranking)	**Natural** (anova ranking)
A		High	Low	Low	Low	High
L		Low	High	High	Middle	Low
J		Low	High	High	Middle	High
O		Low	Middle	Low	Low	High
K		Low	Middle	High	Middle	High
E		High	High	Low	Low	Low
G		Middle	Middle	Low	Low	Low
R		Middle	Low	Low	High	High
C		Low	Low	High	Low	High
M		High	Low	Low	Low	High
P		Low	Low	Low	High	High
N		Low	Middle	Low	Middle	High
B		High	Low	Low	Low	Low
I		High	Low	Low	Low	Low

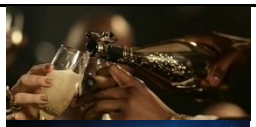
H		High	Low	Low	Low	Low
D		Low	High	Low	Low	High
Q		Low	High	Low	High	High
F		Low	High	Low	Middle	Low

Table 4: Results multivariate tests Repeated Measures ANOVA

	Value	**F**	**df**	**Error df**	**Sig.**	**Partial Eta Squared**	**Noncent. Parameter**	**Observed Power[b]**
Innovative Wilks' lambda	,126	4,911[a]	17	12	,004	,874	83,495	,980
Luxury Wilks' Lambda	,077	7,717[b]	17	11	,001	,923	131,191	,999
Sporty Wilks' Lambda	,060	11,000[b]	17	12	,000	,940	186,998	1,000
Natural Wilks' Lambda	,034	15,072[b]	17	9	,000	,966	256,220	1,000
Joyful Wilks' Lambda	,064	6,897[b]	17	8	,005	,936	117,241	,980

APPENDIX D |

ALL IMAGES FOR PRETEST 2

Perfumes

Watches


TOY WATCH


Gucci
by
GUCCI


ICE
9
3
6
30
40
20
50
10


HONEY


DKNY


couture


LACOSTE

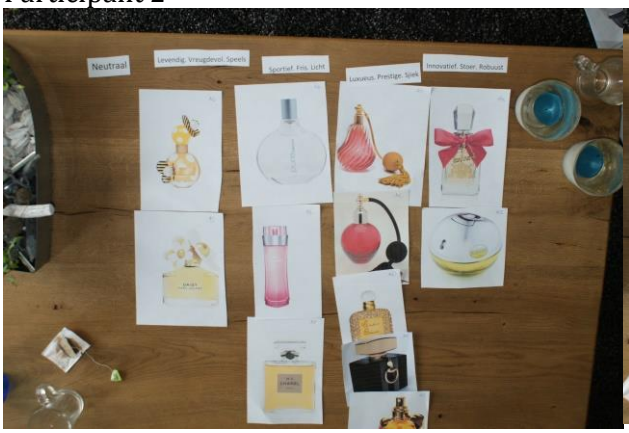

DKNY

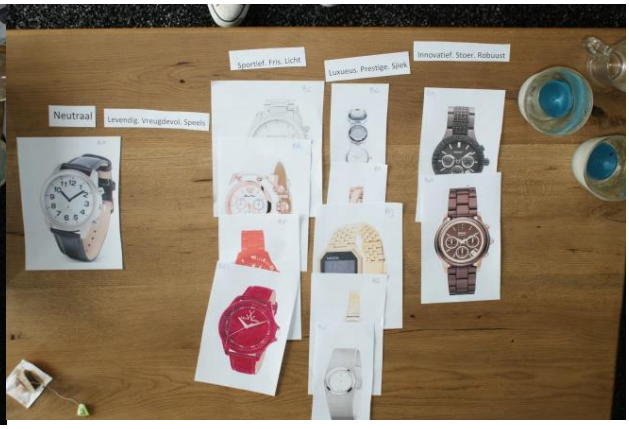
APPENDIX E |

RESULTS CARD SORT PRETEST 2

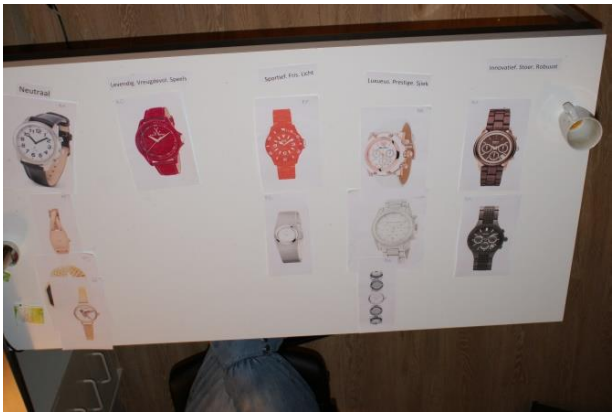
Participant 1

Participant 2





Participant 3



Participant 4

Participant 5

Participant 6

Watches

This tables shows the most important attributes and some of the quotes the respondents used to explain their thinking and feelings of the product attributes used in the main test. Every respondent sorted the selected watch in the given attribute category.

Group	Rational explanations	Emotional explanations
Neutral		
	-'These watches have no extra's' -'This is what you expect a watch would look like' -'It has the highest functionality and the lowest aesthetics' -'I do not have a strong opinion on these watches'	-'these watches are ugly' -'I feel not attracted towards the watches' -'these watches are old fashioned' -'these watches fit to people with no personality'. -'they have no value or meaning to me'.
Luxurious Chic Prestige		
	-'These watches have a lot of curlicues' -'They is a lot of bling bling and bullion involved' -'These watches more look like jewelry instead of watches'	- 'I would buy this for its appeal' - 'These watches make me feel fancy and elegance' - 'These watches are distinctive ' -'It feels like people who wear this watches have it all together, they are neatly' -'It is not big and overdone, but it still catches the eye'
Innovative Sturdy Robust		
	*-'Old-fashioned designs were made hip again because of the bullion'* *-'These watches do not break very easily'* *-'These watches all have dark overtone'*	*-'The watches have a coarse and strong character'* *-'These watches are not very feminine, maybe even very masculine but still likable'* *-'This is a hard category because it does not appeal to me'* *-'I feel like I am in the future when I would wear these watches'*

Perfumes

This table shows the most important attributes and some of the quotes the respondents used to explain their thinking and feelings. Every respondent sorted the selected perfume in the given attribute category.

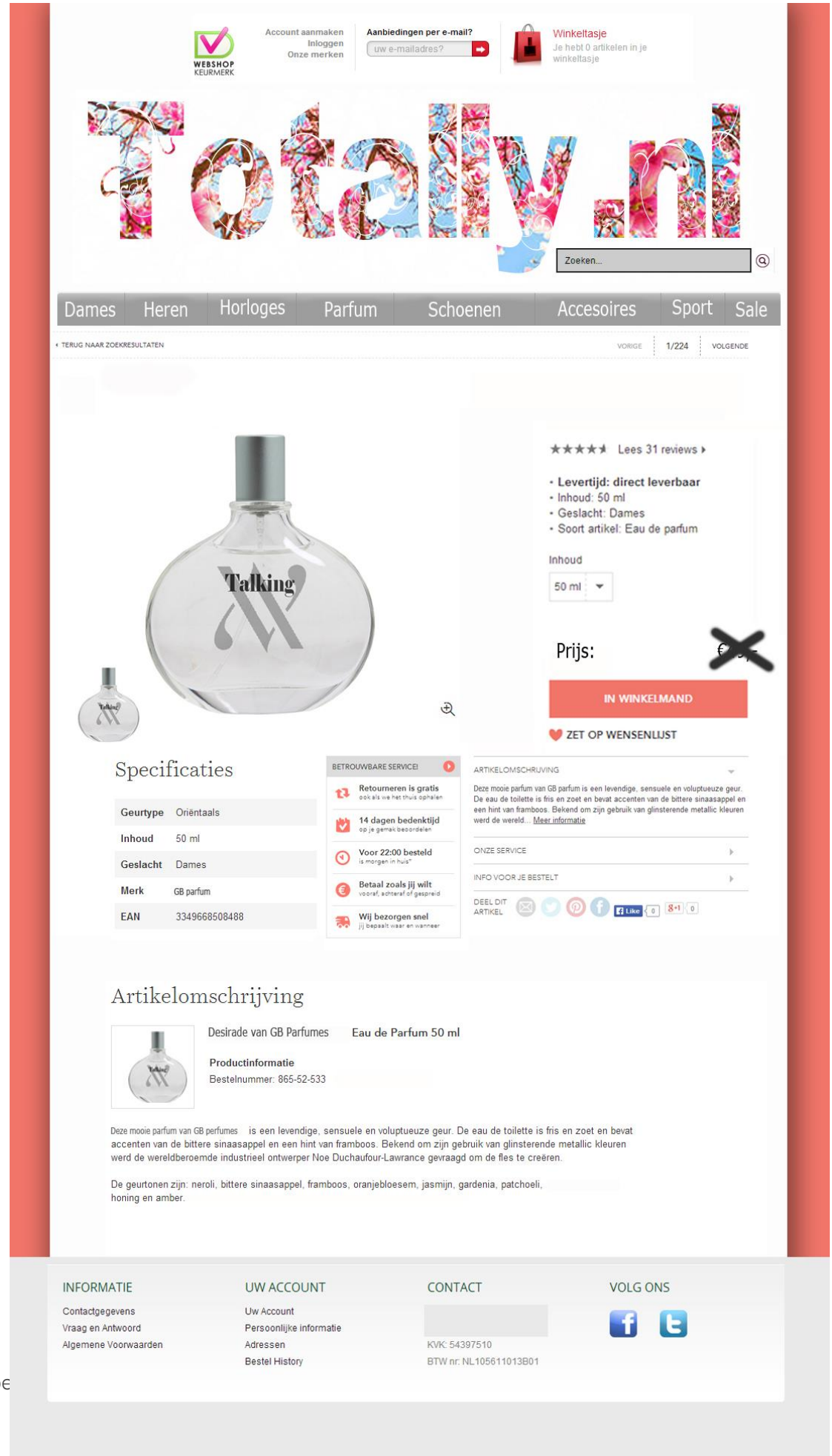
Group	Rational explanations	Emotional explanations
	Neutral	
	*-'These bottles are so imprinted since I was a little kid, that it has become the standard kind of bottle'* *-the shapes don't make me think of anything, it is just blanc'* *-The bottles have simple shapes'*	*-These perfumes are not present* *-I think they will smell boring because they have no character'*
	Luxurious Chic Prestige	
	*-'I see money'* *-'the glitter and accesoires make the bottles fancy'* *-The bottles are dark and heavy which gives them a luxurious appearance'* *-'red colors are defiant and extravagant'*	*-'I feel that these odors are heavy'* *-'the bottle says: 'this is me'*
	Vivid Joyful Playful	
	*-'yellow represents joy and freedom'* *-'these bottles are simple, therefore, they can be used always'* *-'people who buy this do not like standard brands'* *-'I expect these perfumes to smell sweet'* *-'the accessories of the bottles make them playful'* *-'the shapes of the bottles are different than ordinairy bottles.*	*-'I like the bright colours'* *-'I think of light, easy going perfumes'* *-'It makes me happy'* *-'I feel like I am in a meadow when I would use this perfume'* *-These bottles are hedonic since they celebrate life due to the flowers and the bees'*

APPENDIX F |

STIMULUS MATERIAL MAIN STUDY

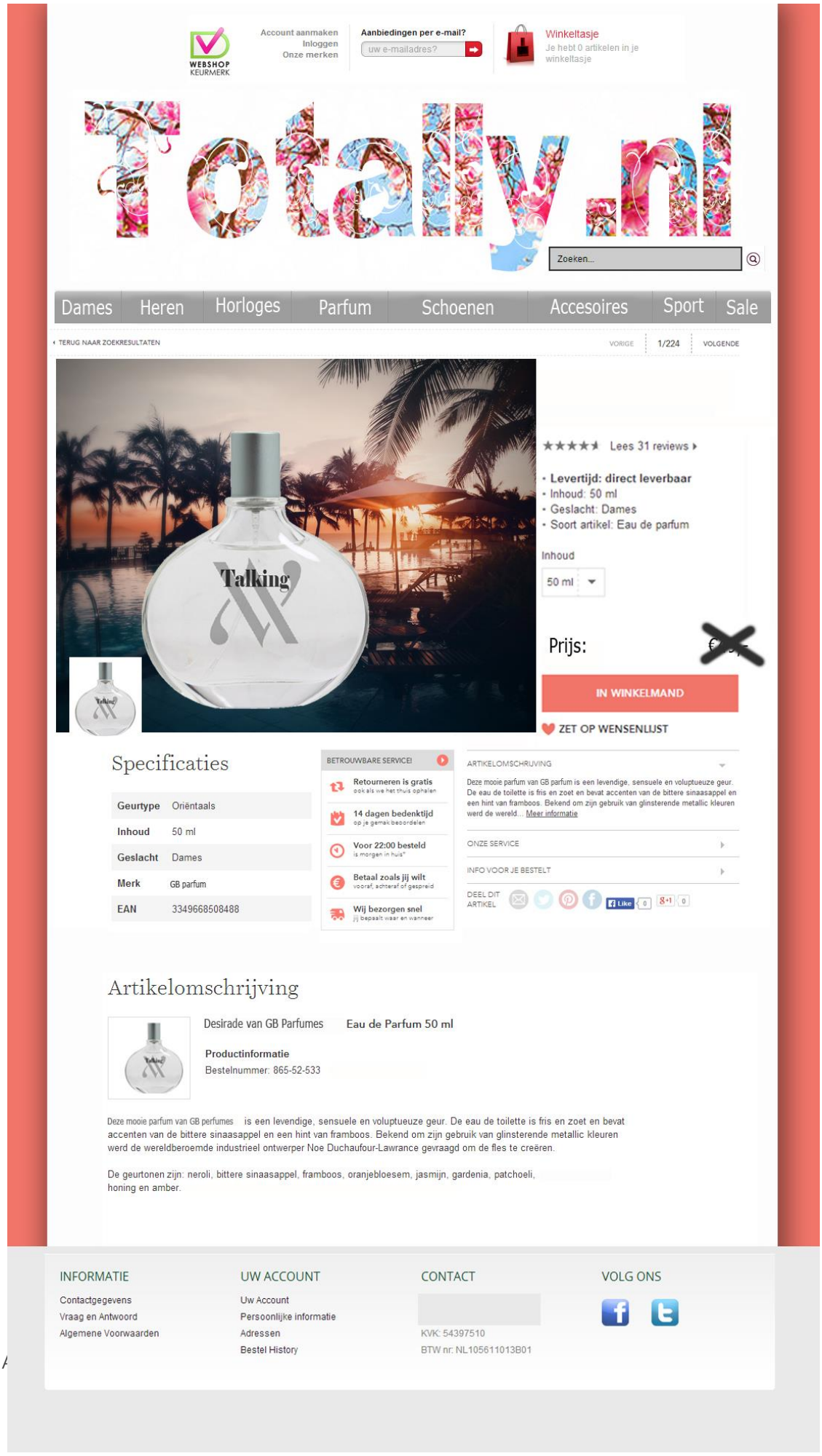
Qualtrics Survey Software was used to distribute and collect the data for the main study. This online software enabled us to randlomly assign participants to two of the 6 condition. One perfume and one watch condition. The order of the product condition was randomly assigned as well. Furthermore, item sequence was randomly presented.

Perfume x Neutral condition

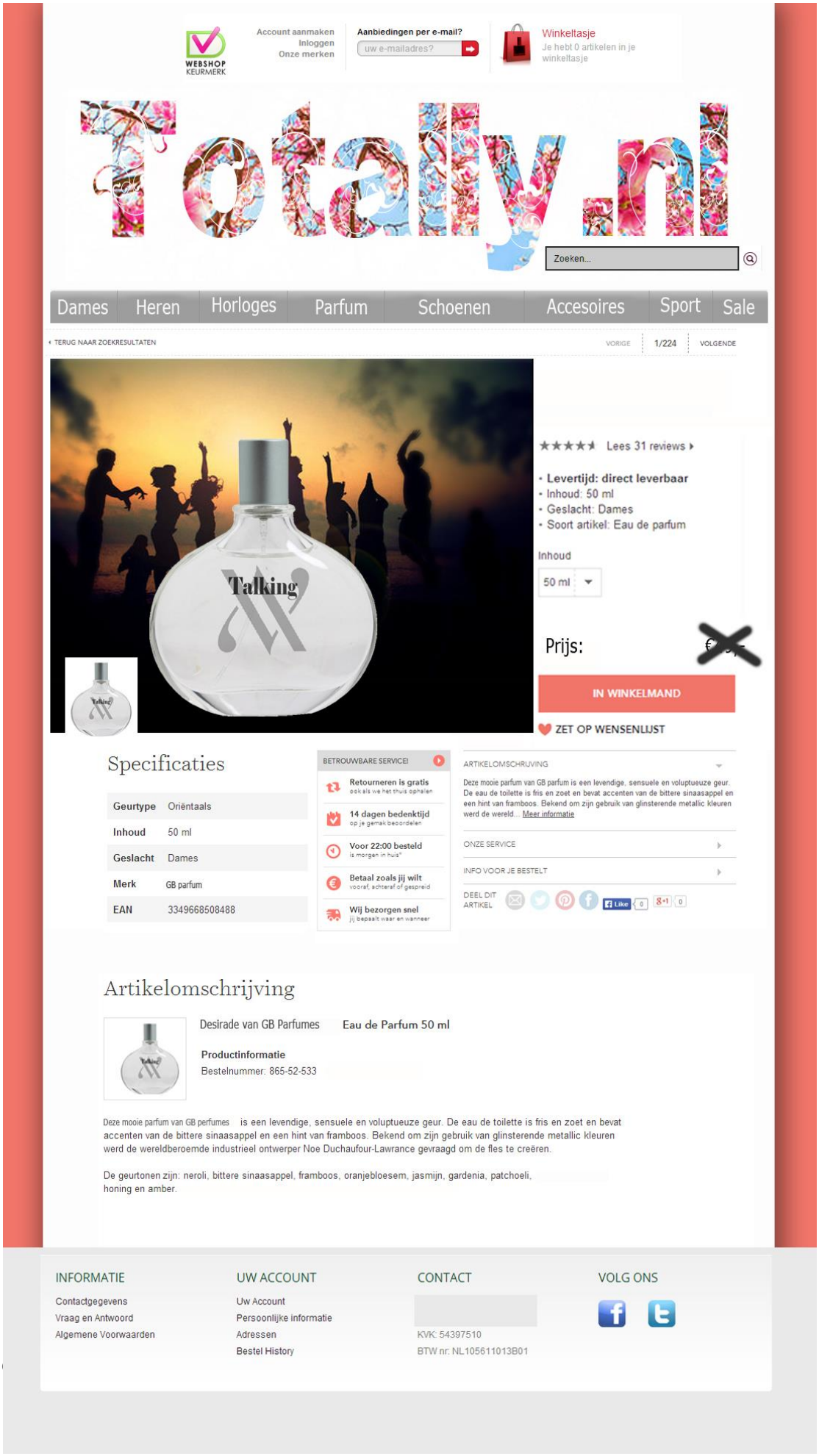


Appe r

Perfume x Luxury condition

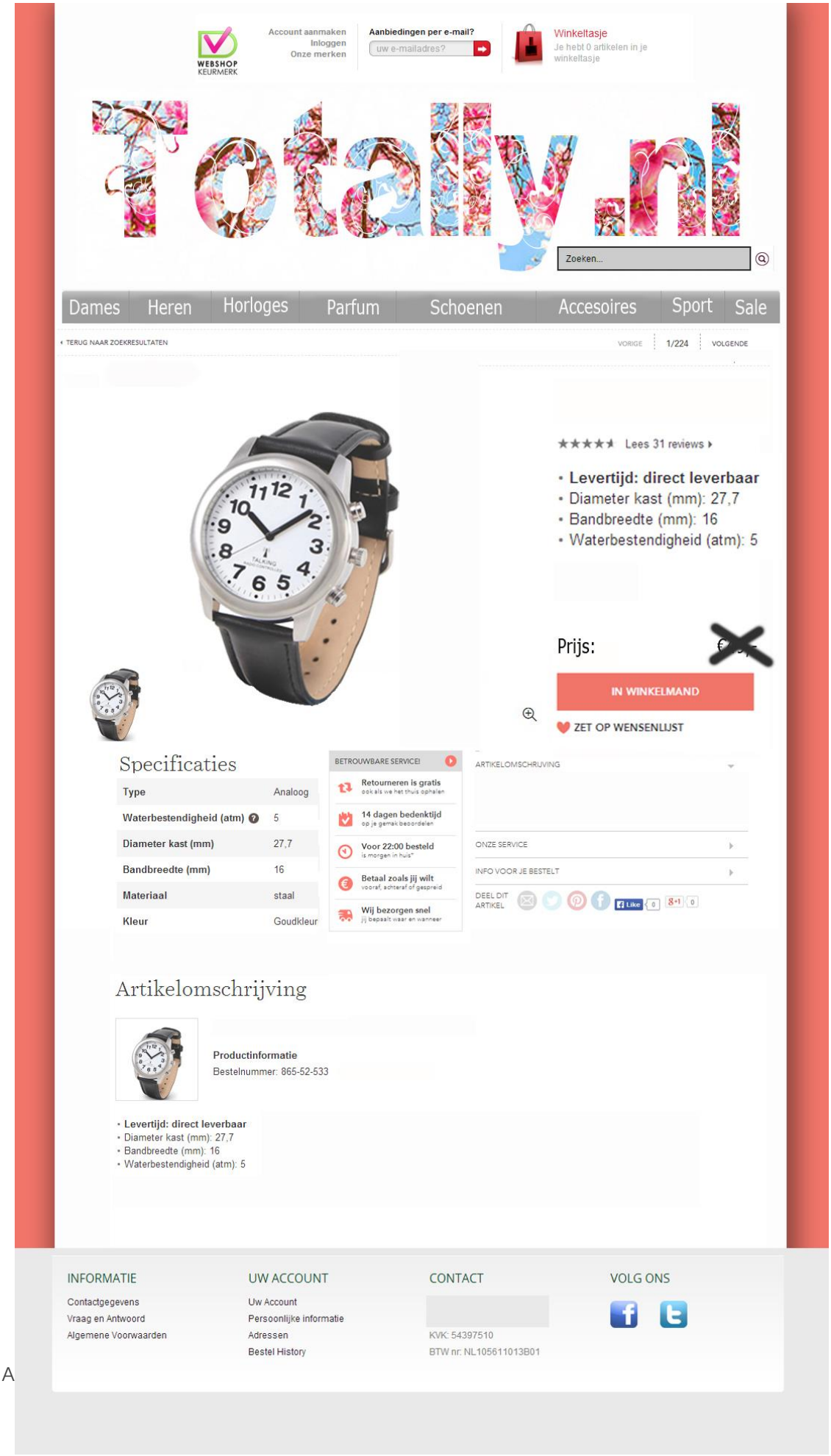


Perfume x Joyful condition



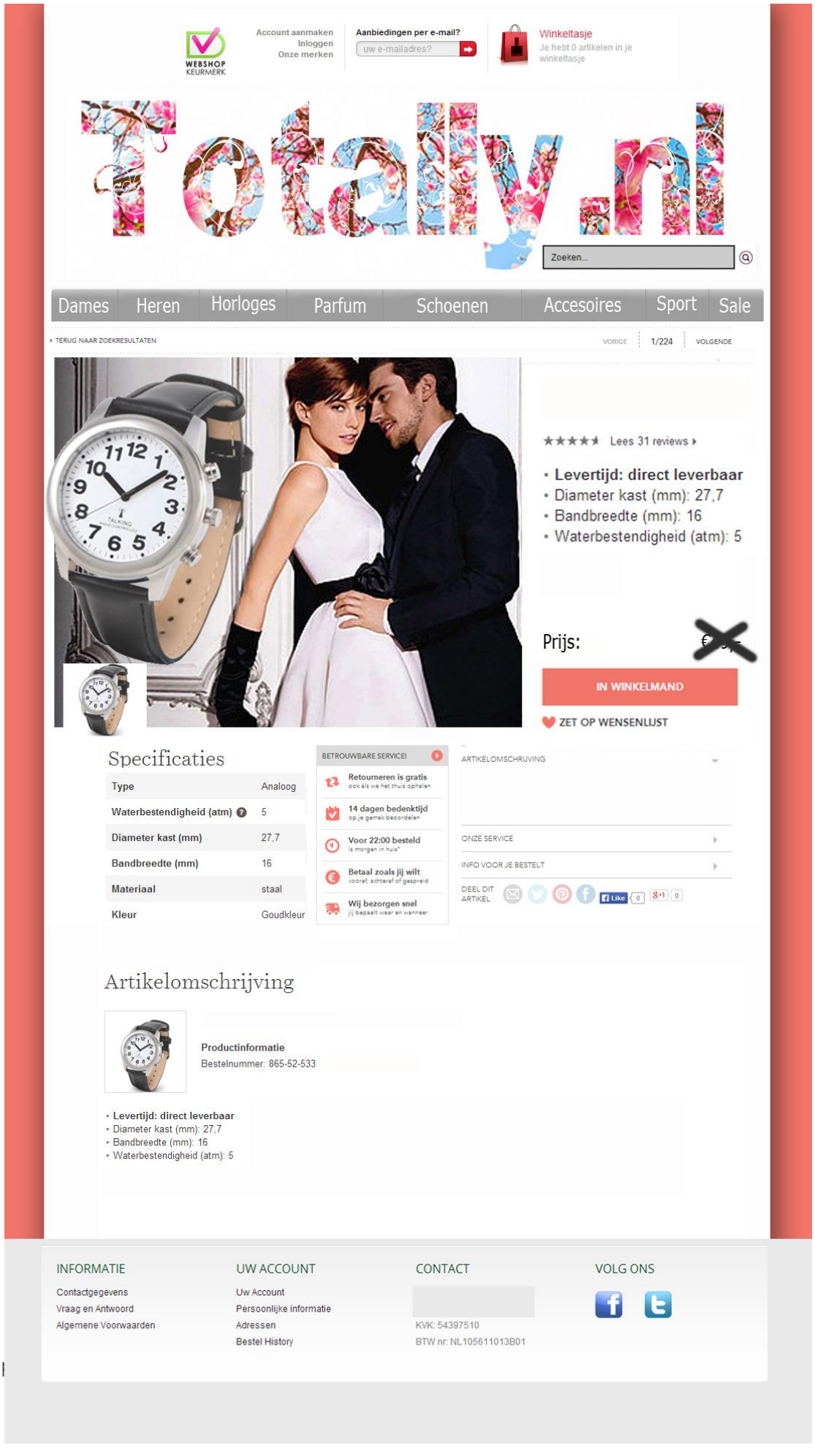
Appendi

Watch x Neutral condition



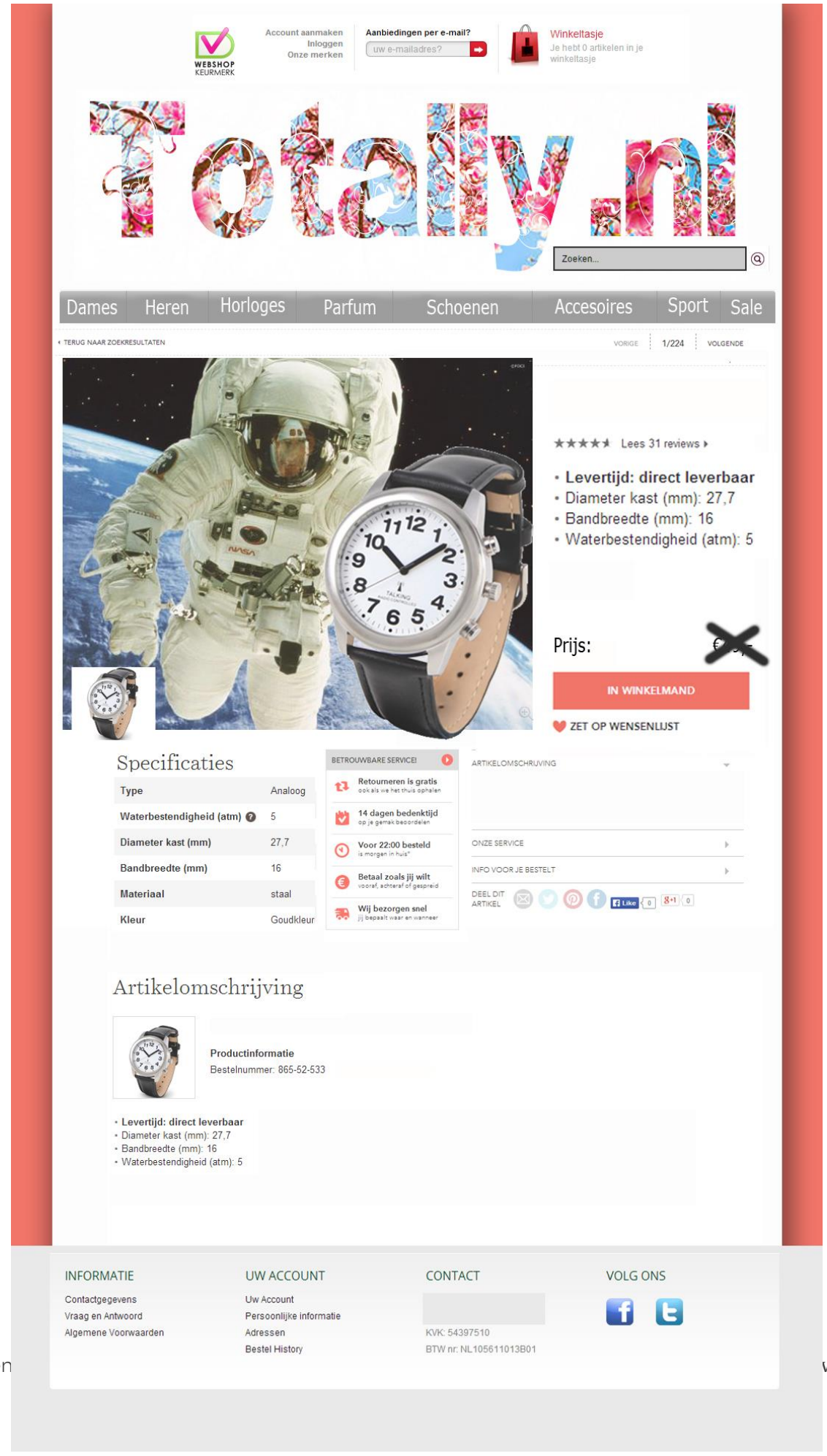
A u

Watch x Luxury condition



Ap v

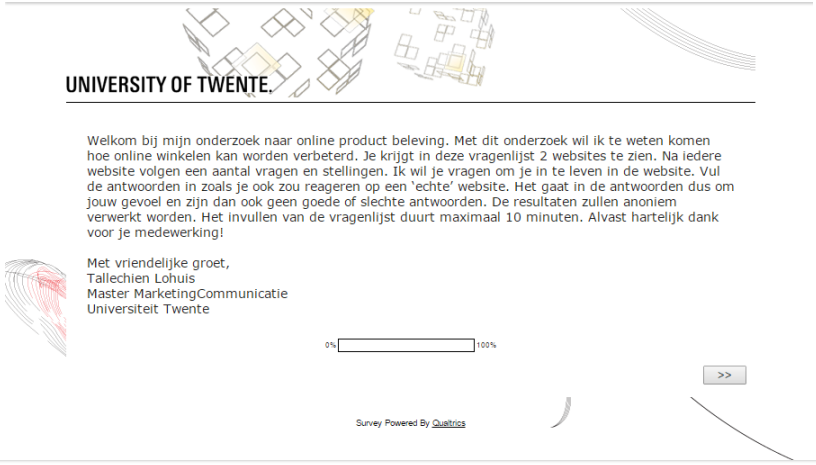
Watch x Innovative condition



Appen w

APPENDIX G |

QUESTIONNAIRE MAIN STUDY



UNIVERSITY OF TWENTE.

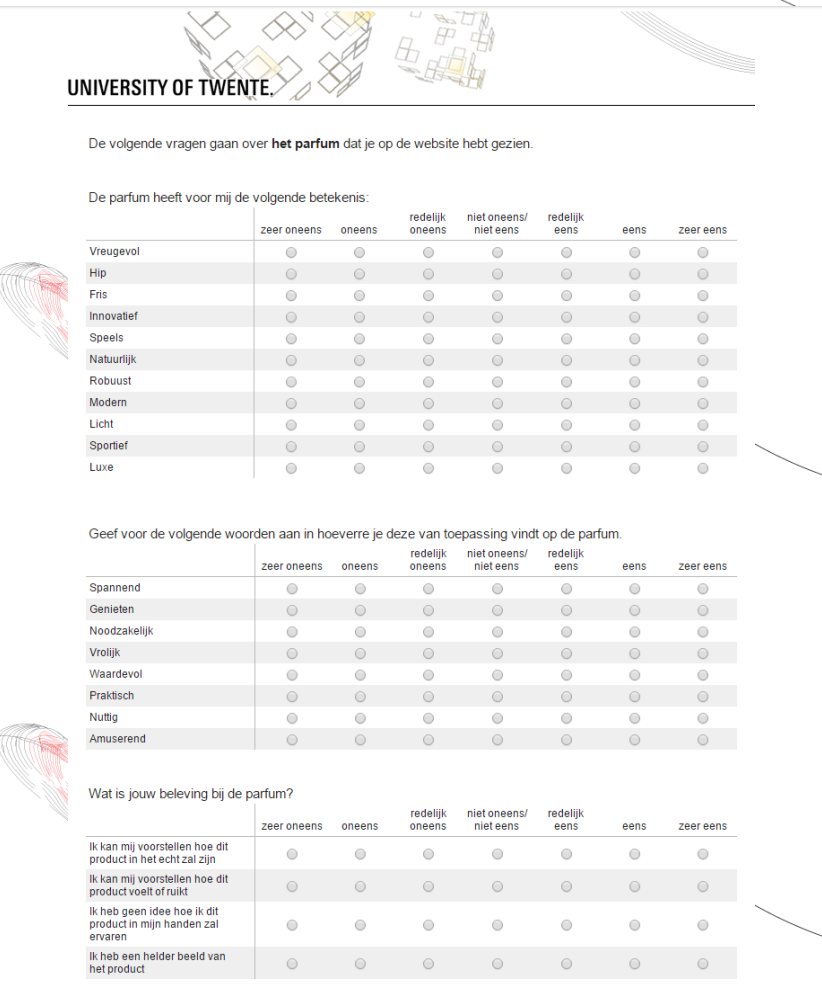
Welkom bij mijn onderzoek naar online product beleving. Met dit onderzoek wil ik te weten komen hoe online winkelen kan worden verbeterd. Je krijgt in deze vragenlijst 2 websites te zien. Na iedere website volgen een aantal vragen en stellingen. Ik wil je vragen om je in te leven in de website. Vul de antwoorden in zoals je ook zou reageren op een 'echte' website. Het gaat in de antwoorden dus om jouw gevoel en zijn dan ook geen goede of slechte antwoorden. De resultaten zullen anoniem verwerkt worden. Het invullen van de vragenlijst duurt maximaal 10 minuten. Alvast hartelijk dank voor je medewerking!

Met vriendelijke groet,
Tallechien Lohuis
Master MarketingCommunicatie
Universiteit Twente

0% 100%

>>

Survey Powered By Qualtrics



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De volgende vragen gaan over **het parfum** dat je op de website hebt gezien.

De parfum heeft voor mij de volgende betekenis:

	zeer oneens	oneens	redelijk oneens	niet oneens/ niet eens	redelijk eens	eens	zeer eens
Vreugevol							
Hip							
Fris							
Innovatief							
Speels							
Natuurlijk							
Robuust							
Modern							
Licht							
Sportief							
Luxe							

Geef voor de volgende woorden aan in hoeverre je deze van toepassing vindt op de parfum.

	zeer oneens	oneens	redelijk oneens	niet oneens/ niet eens	redelijk eens	eens	zeer eens
Spannend							
Genieten							
Noodzakelijk							
Vrolijk							
Waardevol							
Praktisch							
Nuttig							
Amuserend							

Wat is jouw beleving bij de parfum?

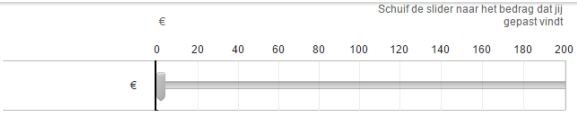
	zeer oneens	oneens	redelijk oneens	niet oneens/ niet eens	redelijk eens	eens	zeer eens
Ik kan mij voorstellen hoe dit product in het echt zal zijn							
Ik kan mij voorstellen hoe dit product voelt of ruikt							
Ik heb geen idee hoe ik dit product in mijn handen zal ervaren							
Ik heb een helder beeld van het product							

Het product zou in het echt heel anders kunnen zijn	○	○	○	○	○	○	○

Zou jij dit parfum kopen?

	zeer oneens	oneens	redelijk oneens	niet oneens/ niet eens	redelijk eens	eens	zeer eens
Ik zou dit parfum graag willen kopen	○	○	○	○	○	○	○
Het is duidelijk dat ik dit parfum wil hebben	○	○	○	○	○	○	○
Ik zou dit parfum graag willen proberen	○	○	○	○	○	○	○
Ik ben bereid dit parfum aan te schaffen	○	○	○	○	○	○	○

Een goede prijs voor dit parfum vind ik:



Op de webshop die je net hebt bekeken was een parfum te zien. Wat was er te zien op de **achtergrond van het parfum** en welke indruk maakte dit?

	zeer oneens	oneens	redelijk oneens	niet oneens/ niet eens	redelijk eens	eens	zeer eens	er was niets te zien
Innovatief/ modern	○	○	○	○	○	○	○	○
Luxe	○	○	○	○	○	○	○	○
Sportief	○	○	○	○	○	○	○	○
Speels	○	○	○	○	○	○	○	○
Vreugdevol	○	○	○	○	○	○	○	○
Natuurlijk	○	○	○	○	○	○	○	○
Fris	○	○	○	○	○	○	○	○
Licht	○	○	○	○	○	○	○	○
Robuust/ Sterk	○	○	○	○	○	○	○	○

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De volgende vragen gaan over de aankoop van een parfum in het algemeen. Je hoeft hier dus niet te denken aan de parfum die je hebt gezien op de vorige pagina, maar aan een horloge dat je zelf graag zou willen kopen. Of dat nu online of in een echte winkel is.

Bij aankoop van een nieuw parfum...

Word ik niet blij	○	○	○	○	○	○	○	Word ik **blij**
Voel ik mij verloren in mijn keuze	○	○	○	○	○	○	○	Voel ik mij **niet verloren** in mijn keuze
Is het vervelend om een ongeschikte aankoop te doen	○	○	○	○	○	○	○	Is het **niet vervelend** om een ongeschikte aankoop te doen
Maakt een slechte keuze mij niet van streek	○	○	○	○	○	○	○	Maakt een **slechte keuze** mij wel **van streek**
Weet ik nooit zeker of ik een goede aankoop doe	○	○	○	○	○	○	○	Weet ik **zeker** dat ik een goede aankoop doe
Ben ik zeker over mijn keuze	○	○	○	○	○	○	○	Ben ik **onzeker** over mijn keuze
Voelt het alsof ik mijzelf een cadeau geef	○	○	○	○	○	○	○	Voelt het **niet** alsof ik mijzelf **een cadeau** geef
Ben ik onverschillig	○	○	○	○	○	○	○	Ben ik **belangstellend**
Is het niet erg als ik een fout maak in mijn keuze	○	○	○	○	○	○	○	Is het **wel erg** als ik een fout maak in mijn keuze
Vind ik kiezen niet ingewikkeld	○	○	○	○	○	○	○	vind ik kiezen heel **ingewikkeld**

Een parfum

Dat ik zou kopen, weerspiegelt niet het soort persoon dat ik ben	○	○	○	○	○	○	○	Weerspiegelt wel het **soort persoon** dat ik ben
Is van groot belang voor mij	○	○	○	○	○	○	○	Is **onbelangrijk** voor mij
Dat ik zou kopen, zegt iets over mij	○	○	○	○	○	○	○	Dat ik zou kopen, **zegt niets** over mij
Vind ik niet plezierig	○	○	○	○	○	○	○	Vind ik **plezierig**
Interesseert mij totaal niet	○	○	○	○	○	○	○	**Interessert** mij erg
Zegt iets over de persoon die hem draagt	○	○	○	○	○	○	○	**Zegt niets** over de persoon die hem draagt

0% 100%

>>

Bij het zien van deze webshop voel ik me....

Ontevreden	○ ○ ○ ○ ○ ○ ○	Tevreden
Volgzaam	○ ○ ○ ○ ○ ○ ○	Leidend
Wanhopig	○ ○ ○ ○ ○ ○ ○	Hoopvol
Saai	○ ○ ○ ○ ○ ○ ○	Geprikkeld
Verveeld	○ ○ ○ ○ ○ ○ ○	Ontspannen
Beïnvloedbaar	○ ○ ○ ○ ○ ○ ○	Invloedrijk
Kalm	○ ○ ○ ○ ○ ○ ○	Opgewonden
Lusteloos	○ ○ ○ ○ ○ ○ ○	Opgefokt
Onder de indruk	○ ○ ○ ○ ○ ○ ○	Gewichtig
Afhankelijk	○ ○ ○ ○ ○ ○ ○	Zelfstandig
Sloom	○ ○ ○ ○ ○ ○ ○	Alert
Onderdanig	○ ○ ○ ○ ○ ○ ○	Dominant
Slaperig	○ ○ ○ ○ ○ ○ ○	Wakker
Depri	○ ○ ○ ○ ○ ○ ○	Voldaan
Ontspannen	○ ○ ○ ○ ○ ○ ○	Gestimuleerd
Geïrriteerd	○ ○ ○ ○ ○ ○ ○	Blij
Volgend	○ ○ ○ ○ ○ ○ ○	Sturend
Ongelukkig	○ ○ ○ ○ ○ ○ ○	Gelukkig

De volgende vragen gaan over h**et horloge** dat je op de website hebt gezien.

Het horloge heeft voor mij de volgende betekenis:

	zeer oneens	oneens	redelijk oneens	niet oneens/ niet eens	redelijk eens	eens	zeer eens
Innovatief	○	○	○	○	○	○	○
Licht	○	○	○	○	○	○	○
Speels	○	○	○	○	○	○	○
Sportief	○	○	○	○	○	○	○
Fris	○	○	○	○	○	○	○
Robuust	○	○	○	○	○	○	○
Hip	○	○	○	○	○	○	○
Vreugevol	○	○	○	○	○	○	○
Modern	○	○	○	○	○	○	○
Natuurlijk	○	○	○	○	○	○	○
Luxe	○	○	○	○	○	○	○

Geef voor de volgende woorden aan in hoeverre je deze van toepassing vindt op het horloge.

	zeer oneens	oneens	redelijk oneens	niet oneens/ niet eens	redelijk eens	eens	zeer eens
Amuserend	○	○	○	○	○	○	○
Spannend	○	○	○	○	○	○	○
Waardevol	○	○	○	○	○	○	○
Praktisch	○	○	○	○	○	○	○
Vrolijk	○	○	○	○	○	○	○
Noodzakelijk	○	○	○	○	○	○	○
Nuttig	○	○	○	○	○	○	○
Genieten	○	○	○	○	○	○	○

Wat vind je van het horloge dat je gezien hebt op de webshop?

Dit is een slecht product	○ ○ ○ ○ ○ ○ ○	Dit is een **goed** product
Ik vind dit product niet leuk	○ ○ ○ ○ ○ ○ ○	Ik vind dit product **leuk**
Ik voel negativiteit ten opzichte van het product	○ ○ ○ ○ ○ ○ ○	Ik voel **positiviteit** tenopzichte van het product
Dit product is lelijk	○ ○ ○ ○ ○ ○ ○	Dit product is **mooi**
Dit product is plezierig	○ ○ ○ ○ ○ ○ ○	Dit product is **onplezierig**
Dit product is onaantrekkelijk	○ ○ ○ ○ ○ ○ ○	Dit product is **aantrekkelijk**
Ik keur dit product af	○ ○ ○ ○ ○ ○ ○	Dit product **keur ik goed**

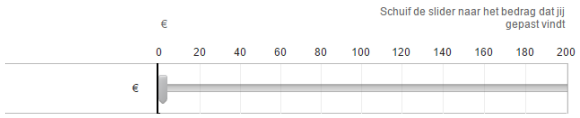
Wat is jouw beleving bij het horloge?

	zeer oneens	oneens	redelijk oneens	niet oneens/ niet eens	redelijk eens	eens	zeer eens
Ik kan mij voorstellen hoe dit product in het echt zal zijn	○	○	○	○	○	○	○
Ik kan mij voorstellen hoe dit product voelt of ruikt	○	○	○	○	○	○	○
Ik heb geen idee hoe ik dit product in mijn handen zal ervaren	○	○	○	○	○	○	○
Ik heb een helder beeld van het product	○	○	○	○	○	○	○
Ik vind het een gemis dat ik dit product niet in het echt kan beoordelen	○	○	○	○	○	○	○
Het product zou in het echt heel anders kunnen zijn	○	○	○	○	○	○	○

Zou jij dit horloge kopen?

	zeer oneens	oneens	redelijk oneens	niet oneens/ niet eens	redelijk eens	eens	zeer eens
Ik zou dit horloge graag willen kopen	○	○	○	○	○	○	○
Het is duidelijk dat ik dit horloge wil hebben	○	○	○	○	○	○	○
Ik zou dit horloge graag willen proberen	○	○	○	○	○	○	○
Ik ben bereid dit horloge aan te schaffen	○	○	○	○	○	○	○

Een goede prijs voor dit horloge vind ik:



Op de webshop die je net hebt bekeken was een horloge te zien. Wat was er te zien op **de achtergrond van het horloge** en welke indruk maakte dit?

	zeer oneens	oneens	redelijk oneens	niet oneens/ niet eens	redelijk eens	eens	zeer eens	er was niets te zien
Natuurlijk	○	○	○	○	○	○	○	○
Sportief	○	○	○	○	○	○	○	○
Licht	○	○	○	○	○	○	○	○
Speels	○	○	○	○	○	○	○	○
Luxe	○	○	○	○	○	○	○	○
Vreugdevol	○	○	○	○	○	○	○	○
Innovatief/ modern	○	○	○	○	○	○	○	○
Robuust/ Sterk	○	○	○	○	○	○	○	○
Fris	○	○	○	○	○	○	○	○

>>

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De volgende vragen gaan over de aankoop van een horloge in het algemeen. Je hoeft hier dus niet te denken aan de horloge die je hebt gezien op de vorige pagina, maar aan een horloge dat je zelf graag zou willen kopen. Of dat nu online of in een echte winkel is.

Bij aankoop van een nieuw horloge...

Word ik niet blij	○	○	○	○	○	○	○	Word ik **blij**
Voel ik mij verloren in mijn keuze	○	○	○	○	○	○	○	Voel ik mij **niet verloren** in mijn keuze
Is het vervelend om een ongeschikte aankoop te doen	○	○	○	○	○	○	○	Is het **niet vervelend** om een ongeschikte aankoop te doen
Maakt een slechte keuze mij niet van streek	○	○	○	○	○	○	○	Maakt een **slechte keuze** mij wel **van streek**
Weet ik nooit zeker of ik een goede aankoop doe	○	○	○	○	○	○	○	Weet ik **zeker** dat ik een goede aankoop doe
Ben ik zeker over mijn keuze	○	○	○	○	○	○	○	Ben ik **onzeker** over mijn keuze
Voelt het alsof ik mijzelf een cadeau geef	○	○	○	○	○	○	○	Voelt het **niet** alsof ik mijzelf **een cadeau** geef
Ben ik onverschillig	○	○	○	○	○	○	○	Ben ik **belangstellend**
Is het niet erg als ik een fout maak in mijn keuze	○	○	○	○	○	○	○	Is het **wel erg** als ik een fout maak in mijn keuze
vind ik kiezen niet ingewikkeld	○	○	○	○	○	○	○	vind ik kiezen heel **ingewikkeld**

Een horloge

Dat ik zou kopen, weerspiegelt niet het soort persoon dat ik ben	○ ○ ○ ○ ○ ○ ○	Weerspiegelt wel het **soort persoon** dat ik ben
Is van groot belang voor mij	○ ○ ○ ○ ○ ○ ○	Is **onbelangrijk** voor mij
Dat ik zou kopen, zegt iets over mij	○ ○ ○ ○ ○ ○ ○	Dat ik zou kopen, **zegt niets** over mij
Vind ik niet plezierig	○ ○ ○ ○ ○ ○ ○	Vind ik **plezierig**
Interesseert mij totaal niet	○ ○ ○ ○ ○ ○ ○	**Interessert** mij erg
Zegt iets over de persoon die hem draagt	○ ○ ○ ○ ○ ○ ○	**Zegt niets** over de persoon die hem draagt

0% 100%

>>

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Tenslotte een paar korte vragen over jezelf

0 10 20 30 40 50 60 70 80 90 100

Leeftijd

Geslacht

Hoogst genoten opleiding

Hoe vaak zit je op het internet?

Hoe vaak winkel je online?

Wat heeft jouw voorkeur?

0% 100%

>>

APPENDIX H|

TEST RESULTS MAIN STUDY

Manipulation check

Table 1| Demographic Shopping behavior participants

		Saw background N=	%	Saw no background		Total	
Watch	Neutral condition	36	75.0%	12	25%	48	100%
	Luxury condition	46	100%	0	0%	46	100%
	Innovative condition	43	91.5%	4	8.5%	47	100%
Perfume	Neutral condition	37	84.1	7	15.9%	44	100%
	Luxury condition	45	95.7%	2	4.3%	47	100%
	Joyful condition	50	92.6%	4	7.4%	54	100%

Table 2| Repeated measures ANOVA

Effect	Value	F	Hypothesis df	Error df	Sig.	Partial Eta Squar	Noncent. Parameter	Observed Power[c]
Wilks' Lambda *Watch x neutral condition*	.541	3.227[b]	10.000	38.000	.004	.459	32.270	.961
Wilks' Lambda *Watch x luxury conditon*	.223	11.855[b]	10.000	34.000	.000	.777	118.549	1.000
Wilks' Lambda *Watch x innovative condition*	.424	5.032[b]	10.000	37.000	.000	.576	50.322	.998
Wilks' Lambda *Perfume x neutral condition*	.435	3.759[b]	10.000	29.000	.003	.565	37.594	.975
Wilks' Lambda *Perfume x luxury condition*	.239	9.863[b]	10.000	31.000	.000	.761	98.628	1.000
Wilks' Lambda *Perfume x joyful condition*	.384	6.726[b]	10.000	42.000	.000	.616	67.263	1.000

Product experience

Table 3| Mean scores of the experienced product attributes per background condition of watch

	M (SD) *Neutral*	M (SD) *Luxurious condition*	M (SD) *Innovative condition*	F	p
Luxury	3.48 (1.624)	3.98 (1.422)	3.45 (1.626)	1.69	.188
Innovative	3.25 (1.466)	3.56(1.271)	3.30 (1.817)	.52	.593
Joyful	3.15 (1.368)	3.69 (1.345)	3.26 (1.310)	2.10	.126
Sporty	3.60 (1.455)	4.27 (1.452)	3.79 (1.573)	2.41	.093
Natural	3.65 (1.509)	4.11 (1.153)	4.15 (1.444)	1.95	.146
Fresh	3.60 (1.380)	3.93 (1.195)	3.64 (1.566)	.77	.462
Light	3.73 (1.395)	3.75 (1.400)	3.49 (1.502)	.47	.623
Robust	4.48 (1.624)	4.51 (1.471)	4.38 (1.609)	.08	.920
Modern	3.92 (1.635)	4.46 (1.260)	4.17 (1.565)	1.53	.221
Hip	3.48 (1.701)	4.04 (1.167)	3.64 (1.607)	1.70	.186

Table 4| Mean scores of the experienced product attributes per background condition of perfume

	M (SD) *Neutral background*	M (SD) *Luxurious condition*	M (SD) *Joyful condition*	F	p
Luxury	4.09(1.46)	4.49 (1.66)	4.21 (1.39)	.820	1.000
Innovative	3.67 (1.30)	3.67 (1.30)	3.68 (1.41)	.000	.443
Joyful	3.56 (1.44)	4.47 (1.27)	4.22 (1.34)	7.492	.001*
Sporty	3.58 (1.38)	3.67 (1.28)	4.30 (1.27)	4.421	.014*
Natural	4.14 (1.35)	4.23 (1.31)	4.47 (1.39)	.778	.461
Fresh	4.55 (1.34)	4.93 (1.29)	5.06 (1.11)	2.173	.118
Light	4.39 (1.39)	4.31 (1.41)	4.79 (1.20)	1.896	.154
Robust	3.29 (1.18)	3.30 (1.40)	3.38 (1.35)	.066	.936
Modern	4.30 (1.46)	4.56 (1.24)	4.60 (1.38)	.647	.525
Hip	3.71 (1.33)	4.18 (1.40)	4.65 (1.30)	5.721	.004*

Table 6| ANCOVA scores for watch

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
		Sporty			
Corrected Model	42.833[a]	3	14.278	7.084	.000
Intercept	13.882	1	13.882	6.888	.010
PLEASURE_total	32.049	1	32.049	15.901	.000
HORLOGE	13.624	2	6.812	3.380	.037
Error	274.103	136	2.015		
Total	2423.000	140			
Corrected Total	316.936	139			
		Joyful			
Corrected Model	40.127a	3	13.376	8.500	.000
Intercept	5.936	1	5.936	3.772	.054
PLEASURE_total	32.544	1	32.544	20.680	.000
HORLOGE	9.857	2	4.928	3.132	.047
Error	214.016	136	1.574		
Total	1832.000	140			
Corrected Total	254.143	139			

Core affect

Table 7| test results of the influence of visual backgrounds on core affect watch

	M (SD) *Neutral background*	M (SD) *Luxurious condition*	M (SD) *Innovative condition*	F	p
Pleasure	4.50 (.930)	4.31 (.827)	4.30 (.957)	.761	.469
Arousal	4.00 (.697)	4.12 (.696)	3.97 (.809)	.503	.606
Dominance	4.21 (.572)	4.25 (.541)	4.31 (.772)	.297	.744

Table 8| test results of the influence of visual backgrounds on core affect perfume

	M (SD) *Neutral background*	M (SD) *Luxurious condition*	M (SD) *Joyful condition*	F	p
Pleasure	4.19 (.781)	4.38 (.921)	4.55 (.967).	1.870	.158
Arousal	3.99 (.744)	4.19 (.732)	3.92 (.708)	1.586	.209
Dominance	4.28 (.620)	4.31 (.547)	4.17 (.706)	.674	.512

Consumer attitudes

Table 9| ANOVA results Watch

	M (SD) *Neutral background*	M (SD) *Luxurious condition*	M (SD) *Innovative condition*	F	p
Product attitude	3.932 (1.003)	4.106 (.887)	4.093 (.919)	.505	.605
Product evaluation	3.783 (1.300)	4.245 (.945)	4.085 (1.141)	2.00	.139
Realness of the product	4.557 (1.089)	4.438 (.897)	4.681 (1.088)	.644	.527
Purchase Intention	2.495 (1.374)	2.902 (1.444)	2.926 (1.564)	1.303	.275
Price expectation (€)	36.9167 (21.27)	43.9792 (24.14)	50.7234 (34.88)	3.029	.052
Utilitarian experience	4.70 (1.147)	4.77 (1.039)	4.85 (1.028)	.227	.797
Hedonic experience	3.16 (1.298)	3.45 (1.022)	3.34 (1.098)	.735	.481

Table 10| Bonferroni post- hoc results of Price expectation Watch

(I) Background condition	(J) Background condition	Mean Difference (I-J)	Std. Error	Sig.
Neutral	Luxury	-7,06250	5,58095	,623
	Innovative	-13,80674*	5,61056	,045
Luxury	Neutral	7,06250	5,58095	,623
	Innovative	-6,74424	5,61056	,694
Innovative	Neutral	13,80674*	5,61056	,045
	Luxury	6,74424	5,61056	,694

Table 11| ANOVA results Perfume

	M (SD) *Neutral background*	M (SD) *Luxurious condition*	M (SD) *Joyful condition*	F	p
Product attitude	3.997 (1.088)	4.028 (1.085)	4.225 (.978)	.698	.500
Product evaluation	4.016 (1.218)	4.796 (1.255)	4.468 (1.041)	5.094	.007**

Realness of the product	3.5581 (.992)	3.6370 (1.217)	3.6730 (1.219)	.120	.887
Purchase Intention	3.15 (1.407)	3.37 (1.658)	3.35 (1.400)	.285	.753
Price expectation (€)	24.00 (11.18)	30.87 (24.38)	29.67 (29.87)	1.085	.341
Utilitarian experience	4.10 (1.265)	4.30 (1.226)	4.47 (.959)	1.294	.277
Hedonic experience	3.8920 (1.150)	3.7444 (1.145)	3.9722 (1.235)	.462	.631

** significant <.005

Table 12| Bonferroni post- hoc results of product evaluation perfume

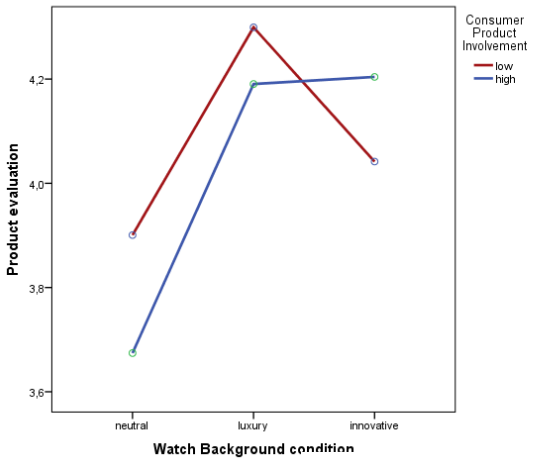
(I) Background condition	(J) Background condition	Mean Difference (I-J)	Std. Error	Sig.
Neutral	**Luxury**	-.7801*	.2451	.005
	Joyful	-.4520	.2373	.177
Luxury	**Neutral**	.7801*	.2451	.005
	Joyful	.3281	.2331	.484
Joyful	**Neutral**	.4520	.2373	.177
	Luxury	-.3281	.2331	.484

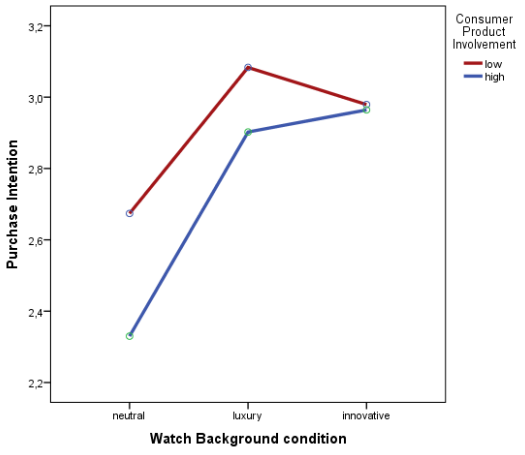
Consumer Product Involvement

Table 13| ANOVA results of product involvement of watch

	High involvement		Low involvement		Main effect		Interaction effect	
	M	***SD***	***M***	***SD***	***F (df)***	***P***	***F***	***p***
Product evaluation	4.010	1.16	4.074	1.02	.085 (1,132)	>.05	.339 (2,131)	>.05
Purchase intention	2.714	1.52	2.908	1.41	513 (1,131)	>.05	.145 (2,131)	>.05
Price expectation (€)*	42.85	3.34	46.13	3.38	.478 (1,132)	>.05	.067 (2,132)	>.05
Luxury PX	3.560	1.548	3.751	1.57	.631 (1.131)	>.05	.483 (2,131)	>.05
Innovative PX	3.34	1.493	3.48	1.551	.296 (1,131)	>.05	.390 (2,131)	>.05
Sporty PX	3.67	1.53	4.07	1.407	2.816 (1,131)	.096	.482 (2,131)	>.05

*= significant <.05 for the main effect of watch





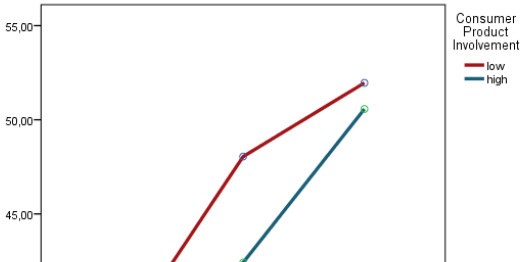
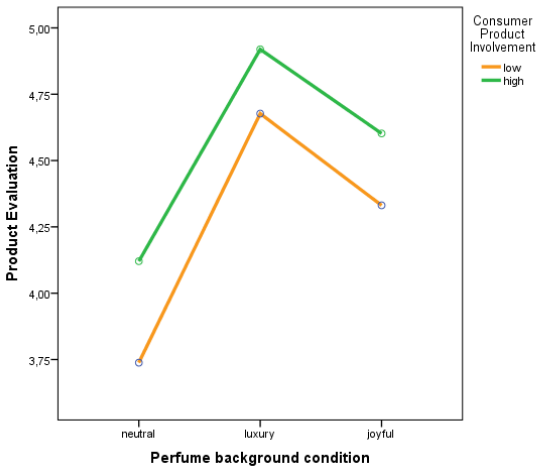
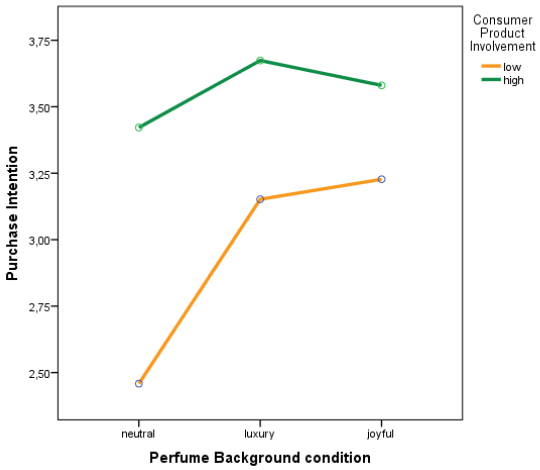


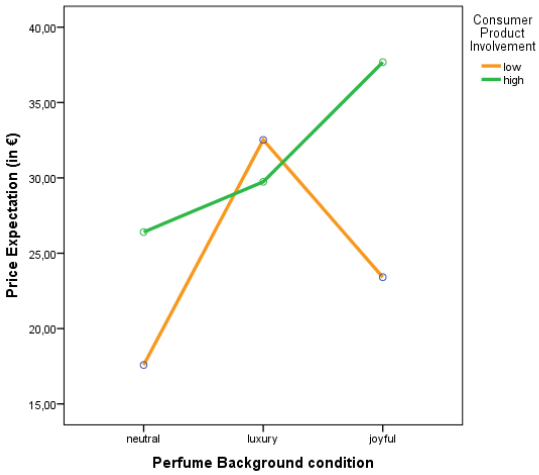
Table 14| ANOVA results of product involvement of perfume

	High involvement		Low involvement		Main effect		Interaction effect	
	M	***SD***	***M***	***SD***	***F (df)***	***p***	***F***	***p***
Product evaluation*	4.50	1.202	4.35	1.238	2.019(1,134)	>.05	.037 (2,134)	>.05
Purchase intention	3.545	1.415	3.04	1.515	5.59 (1,134)	**<.05**	.46 (2,134)	>.05
Price expectation (€)	31.13	25.295	25.86	21.989	2.59 (1,134)	>.05	1.58 (2,134)	>.05
Luxury PX	4.35	1.485	4.18	1.553	.593 (1,136)	>.05	.694 (2,136)	>.05
Joyful PX*	**4.52**	**1.324**	**4.23**	**1.375**	**3.103 (1,131)**	**.080**	**.070 (2,131)**	**>.05**
Natural	4.46	1.331	4.06	1.352	3.138 (1,128)	.079	.522	>.05

*= significant <.05 for the main effect of watch







Product Experience as a mediator

Table 15| Step 1 correlation between Visual backgrounds and Product evaluation

	Unstandardized Coefficients		Standardized Coefficients		
	B	**Std. Error**	**β**	**t**	**Sig.**
Constant	4,016	,176		22,799	,000
Neutral – Luxury background	,780	,245	,305	3,183	,002
Neutral – Joyful background	,452	,237	,183	1,905	,059

Table 16| Step 2 correlation between Visual backgrounds and Joyful px

	Unstandardized Coefficients		Standardized Coefficients		
	B	**Std. Error**	**β**	**t**	**Sig.**
Constant	3,558	,206		17,303	,000
Luxury background	,909	,288	,302	3,159	,002
Joyful background	,989	,277	,341	3,574	,000

Table 17| Step 3 correlation between Joyful px and Product Evaluation

	Unstandardized Coefficients		Standardized Coefficients		
	B	**Std. Error**	**β**	**t**	**Sig.**
Constant	2,822	,291		9,699	,000
Joyful PX	,382	,065	,443	5,833	,000

Table 18| Step 4 Lineair regression

	Unstandardized Coefficients		Standardized Coefficients		
	B	**Std. Error**	**β**	**t**	**Sig.**
Constant	2,850	,345		8,272	,000
Speels/ Vreugdevol	,357	,068	,414	5,217	,000
Luxury background	,347	,220	,134	1,583	,116
Neutral background	-,109	,232	-,042	-,470	,639

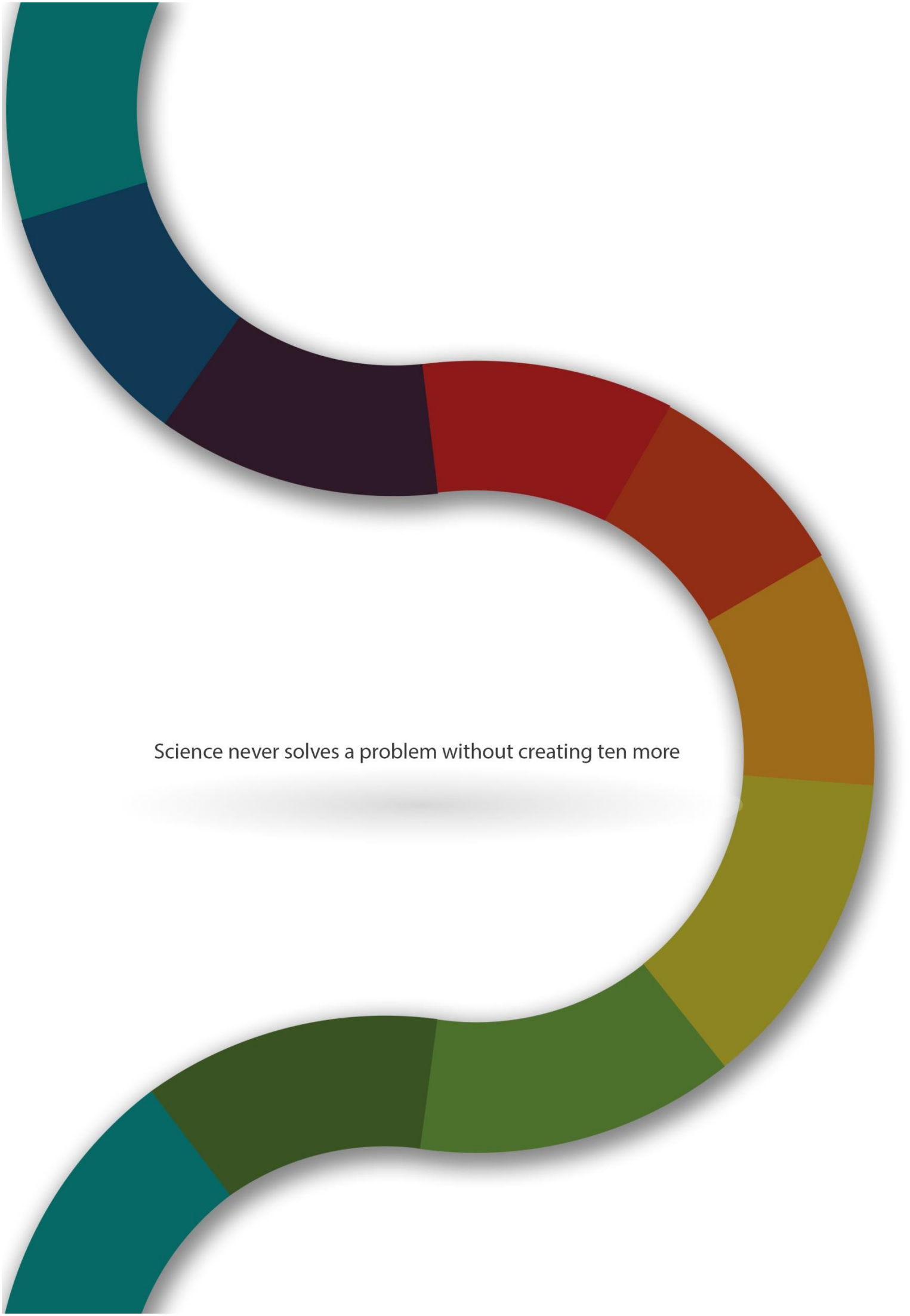
Factorial Analysis

Table 19 | Total variances of the factorial analysis watch

	Total	% of Variance	Cumulative %
Innovative	5,077	46,157	46,157
Luxury	1,109	10,085	56,242
Sporty	,908	8,257	64,498
Joyful	,795	7,225	71,723
Natural	,668	6,076	77,799
Fresh	,529	4,805	82,605
Light	,495	4,498	87,102
Robust	,420	3,816	90,919
Modern	,401	3,644	94,562
Hip	,266	2,420	100,000

Table 20 | Total variances of the factorial analysis perfume

	Total	% of Variance	Cumulative %
Innovative	4,504	40,949	40,949
Luxury	1,352	12,294	53,243
Sporty	1,212	11,014	64,257
Joyful	,779	7,084	71,341
Natural	,735	6,678	78,018
Fresh	,586	5,331	83,350
Light	,473	4,298	87,648
Robust	,442	4,015	91,663
Modern	,363	3,300	94,963
Hip	,230	2,094	100,000


Science never solves a problem without creating ten more


enter