

Running head: THE EFFECTS OF CONTRAST AND SPACE ON EVALUATION

A Product and its Setting:

‘The Effects of Contrast and Space on Product and Brand Evaluation through Processing Fluency’

Sophie C. Petiet

University of Twente, Enschede

First Supervisor University of Twente: T.J.L. van Rompay

Second Supervisor University of Twente: M. Galetzka

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## **Abstract**

A setting has a key role in providing informational cues to consumers about a product, the subsequent inferences and evaluations and therefore should be seen as an important feature of a product. This research provides a view of how the perception and evaluation of a product can be influenced by the setting elements contrast and space. It is proposed that the use of contrast and space in a setting through processing fluency can positively influence the evaluation of a product or brand. An experiment using a product display closet altering the elements contrast and space reveals the extent to which setting variables are capable of influencing people's product perceptions through processing fluency.

**Keywords: Contrast; Space; Processing Fluency; Product Evaluation.**

## 1. Introduction

*Imagine you are at the retailer being confronted with an enema product that has a pink label with flowers and smells like roses. But something is wrong; you are looking at a presentation of male products. Therefore this pink product is surrounded by mainly black or blue products. You probably will not like this product and can imagine processing that what you are confronted with is not easy. This pink product would make much more sense in the product presentation for women.*

A store environment has a key role in providing informational cues to customers about products, the inferences consumers make about these products, and evaluations regarding product quality. Research shows people rely on the office designs of doctors, hairstylists and banks to assess the scope and nature of their services (Crane & Clarke, 1988). Expensive looking facilities even prompt customers of a bank to infer the bank to be inappropriately spending their money (Baker, 1987). Examples are also known on product level. Potato chips in polyvinyl vs. wax-coated bags (which are harder to open), led consumers to believe the chips tasted better. It may well be that harder-to-open bags are seen as sealers of the freshness of the chips and therefore are diagnostic for consumer product evaluation (McDaniel & Baker, 1977). All these research findings show how an environment can affect the perception of a product and therefore should be considered as an important feature of a product.

A setting of a product can be arranged in such a way that it maximizes the likelihood of the product to be seen, processed and bought by a consumer. So before a person can make any inferences about a product customers must pay attention to the product, only then the processing can begin. The ease with which (new) information can be integrated into established knowledge structures is called the fluency of processing. This is the ease with which information is processed by the mind. High processing fluency indicates the interaction of a person with the environment goes smoothly, with no need to pay particular attention to the environment. Low processing fluency means there are problems with the interaction between a person and the environment, requiring more attention and an analytical processing style to solve the problem. It is thought that fluent processing is inherent positive (Reber, Schwarz & Winkielman, 1998; Winkielman & Cacioppo, 2001), meaning that when processing fluency is high, a favorable effect is shown in terms of positive affect towards and positive judgment of a product under attention (Reber &

Schwarz, 1999). Indicating that it would be favorable when confronted with a product-setting combination the following processing fluency is high. Yet, often a product is on display amongst a multitude of other products, offering a tremendous amount of information. As consequence an enormous capacity for mental processing is required. So how can a product draw attention and be easy to process, leading to positive evaluation and the purchase of the product? Furthermore, how do setting elements affect processing fluency and evaluation? This research contributes to that end by exploring the effect of two underexposed setting elements on evaluation, namely contrast and space. By contrast is meant the difference between opposites, in this case the difference between a product and its setting. Space is defined as the available room between products, thus the amount of products in a setting. These two elements are part of a vast amount atmospherics that have been the subject of research addressing the interaction between setting and product. Atmospherics most often researched in similar contexts are color, music, lighting, scent and store layout. Some store layout research examples are; physical obstructions in shopping aisles reduce the control of a shopper, thereby lowering shopping pleasure (Rompay et al., 2008), a spacious as opposed to a cluttered layout can heighten pleasure in retail settings (Finlay, Marmurek, Kanetkar, & Londerville, 2010) and primed processing type as result of ceiling height of a room influences the evaluation of products (Meyers-Levy & Zhu, 2007).

The underlying constructs of these findings, such as consumer inferences and beliefs, have not received much attention. Baker, Grewal and Parasuraman were in 1994 the first to research the influence of several store atmospherics on perceptions of merchandise quality and value. The effects of store layout and display appearances on judgment were also addressed by Baker, Grewal, Parasuraman and Voss in 2002. But no known research attempt has been made to uncover the effects of contrast and space on consumer inferences and multifaceted product/brand evaluation. This is unfortunate, because when it is known which inferences are linked to contrast or space, primes could be used to activate them directing a person's thought process. Research on priming showed the sensitivity of a surrounding context on interpretations of ambiguous information (e.g., Herr, 1989; Meyers-Levy & Tybout, 1989). Yi (1991) showed an ad context is not just background, but can influence the effectiveness of an advertisement. It is proposed that through contextual factors certain product attributes can be primed and the likelihood that product information is interpreted in terms of these activated attributes can be increased. This is said to result in the formation or change of beliefs, and thereby affecting the evaluations made by consumers.

## **2. Theoretical Background**

### **2.1 Attention, Processing Fluency and Product & Brand Evaluation**

No inferences or evaluation can occur if a product is not noticed. Attention occurs when we mentally put the spotlight on an element of the external environment. It is defined as the process by which information knowingly is brought within through the senses and mental capacity is needed to process the information (Gregory, 1998). Processing is that what goes on in a person's mind when he or she is exposed to an element of the environment (Percy & Elliot, 2001). Both attention and processing are a part of more elaborate process of being presented the stimuli to actual behavior. This process has been described in the Theory for Attitude Change (McGuire, 1956). According to McGuire the probability of behaving is the probability of the following factors; being presented the stimulus, paying attention to the stimulus, comprehending the stimulus, yielding to the stimulus, retaining the intention and behavior. Unfortunately people have a limited capacity to perform mental activity; therefore the attention must be allocated to specific items. The ability of a person to do this depends on the degree of routine acquired in performing the task (Kahneman, 1973). For example, when a customer has bought a product many times before and is brand loyal the task is routine and not much thought is put into it. But for a first time buyer the task is much more difficult.

According to Keller (2003) the ease with which new information can be integrated into established knowledge structures depends on the nature of the information in terms of inherent simplicity, vividness and concreteness. As mentioned before, in literature this integration is called processing fluency and is defined as the speed and accuracy of ongoing content-independent processing (Reber, Wurtz & Zimmermann, 2004b). Processing fluency can be either perceptual or conceptual (Lee, 2002). A perceptually fluent product or brand is one that consumers can easily recognize and identify, is sensitive to physical features changes (i.e. the logo or packaging), but is not affected by elaboration. Conceptual fluency profits from elaborative processing. A product or brand that is conceptually fluent when the meaning of the product and other associations come to mind more readily. According to Labroo and Lee (2006) a third sort of fluency exists: goal fluency. Their goal fluency hypothesis posits more favorable attitudes toward a product or brand will be developed if the regulatory goal addressed by the target is easy to process. For example, imagine people have been presented with a mayonnaise advertisement before seeing a ketchup advertisement. When the goal addressed in the ketchup advertisement is compatible with the goal addressed in mayonnaise advertisement (e.g., both addressing achieving great taste), consumers

will develop more favorable attitudes toward ketchup. If the two goals conflict with each other (e.g., achieving great taste versus limiting calories), consumers will develop less favorable attitudes toward the ketchup. Thus when the goals match, consumers are more likely to experience fluent processing of the product or brand and have a more favorable response.

Either because of perceptual or conceptual fluency (or goal fluency) it is thought that fluent processing of a product or brand is inherently positive (Reber, Schwarz & Winkielman, 1998; Winkielman & Cacioppo, 2001). Several reasons can be given for the inherent positivity of fluent processing. High fluency may bring forth positive affect because it is associated with successful recognition of the stimulus, processing that is error-free, or the availability of right knowledge structures for interpretation of the stimulus (Carver & Scheier, 1990; Derryberry & Tucker, 1994; Fernandez-Duque, Baird, & Posner, 2000; Simon, 1967). The good feeling resulting from high fluency may also be a reason, because it signals to us we are familiar with the stimulus which most likely is not harmful (Zajonc, 1968).

The influence of processing fluency has been captured with psychophysiological measures. By use of facial electromyography (EMG) Winkielman and Cacioppo (2001) assessed participants' affective responses to fluent stimuli. EMG relies on the observation that positive affective responses increase activity of the zygomaticus major ("smiling muscle"), where negative affective responses increase activity of the corrugator supercilli ("frowning muscle"). As predicted high fluency was associated with stronger activity over the smiling muscle (indicating positive affect), but was not associated with the activity of the frowning muscle (indicating negative affect). Furthermore, these differences occurred in the first three seconds after the presentation of the stimuli and several seconds before participants made judgments, indicating a spontaneous affective response to processing fluency. Further research on processing fluency showed a positive effect of processing fluency on the experience of an object being more beautiful or pleasing to the senses (Van Rompay, Pruyn, & Tieke, 2009). Also Reber, Winkielman, and Schwarz (1998) found pictures primed by matched contours were recognized faster, indicating higher fluency, and were liked more than pictures preceded by mismatched contours. Other research examples show a positive effect of processing fluency on product evaluation (Labroo & Lee, 2004; Shapiro, 1999), consideration set membership (Nedungadi, 1990), brand evaluation (Reber, Schwarz & Winkielman 1998; Winkielman & Cacioppo 2001) and brand choice (Lee, 2002; Shapiro, MacInnis & Heckler, 1997).

## 2.2 Contrast

A list of features that facilitate fluent processing was compounded by Reber et al. (2004a), including symmetry, goodness of form, figure-ground contrast and conceptual and perceptual priming procedures. As mentioned before, one of the features of an environment examined here is contrast, in specific between a product and the product closet in which it is presented.

Research gives several accounts to substantiate the belief that high contrast between a product and a product closet enhances processing fluency (e.g. Reber & Schwarz, 1998, 1999; Unkelback, 2007; Song & Schwarz, 2008). According to Checkosky and Witlock's (1973) high clarity of patterns increases the reaction time in a cognitive task, (indicating slower encoding for low clarity stimuli). Reber and Schwarz (1998) predicted pictures with higher figure-ground contrast were clearer and would be judged more positively. By letting participants rate the prettiness of circles with different contrast, they found stimuli were judged as less ugly and prettier when the contrast between the figure and the background was higher. A year later Reber and Schwarz (1999) presented research in which statements in different colors against a white background altering the easy to perceive the statements, thus manipulating ease of processing. As expected, they found moderately visible color statements to be judged as true at chance level, yet highly visible color statements were judged as true significantly above chance level, thus higher truth ratings when processing was easy rather than difficult. Almost a decade later Unkelback (2007) replicated the above described research by Reber and Schwarz (1999). They also found that the high color contrast statements were more frequently judged to be true than low color contrast statements. Song and Schwarz followed in 2008 with research in which questions were presented printed in difficult-to-read (low contrast) and easy-to-read (high contrast) fonts. Their research showed people felt the easy-to-read font to feel more fluent and natural, required fewer skills and were more willingly to engage, than the people who were shown the difficult-to-read font.

In each of the above described cases the fluency of processing is not caused by prior presentation, but by a manipulation of factors surrounding the presentation of the stimulus. Therefore the foregoing literature review supports the following reasoning; high contrast makes sure a product stands apart from its environment and ensures attention, whereas low contrast results in only coincidental attention for a product. Also, high contrast between a product and its setting results in higher processing fluency than low contrast, and consequently high contrast results in a more positive affect and evaluation towards a product. Because the evaluation of the product/brand is thought to be reflected in the product price, it is expected that high contrast positively influences the price perception. Furthermore this is also considered to be the case for other factors that are

determined to be positive for product evaluation. The positive evaluation is according to multiple scales (e.g. Liking Product Scale by Duncan and Nelson, 1985) based on the product being of high quality, it being reliable product and superior to other products. Therefore and based on the foregoing evidence, it is proposed that

- H1a** *When the contrast between a product and its setting is high a product will be more eye-catching, than when the contrast between a product and its setting is low.*
- H1b** *When the contrast between a product and its setting is high products are seen as more reliable, higher in quality, superior and less complex, than when the contrast between a product and its setting is low.*
- H1c** *When the contrast between a product and its setting is high products are seen as prettier and less ugly, than when the contrast between a product and its setting is low.*
- H1d** *When the contrast between a product and its setting is high products are seen as more expensive, than when the contrast between a product and its setting is low.*
- H1e** *When the contrast between a product and its setting is high individuals will evaluate the products displayed as a consequence of more fluently processing more positively, than when the contrast between a product and its setting is low.*
- H1f** *When the contrast between a product and its setting is high, individuals will give higher scores on brand evaluation, than when the contrast between a product and its setting is low.*

### **2.3 Space**

What if instead of full well arranged product shelves, room exist between the products? Consumers are used to fully filled shelves, because space is a scarce good and must be optimized. Therefore literature on shelf arrangement is mainly devoted to determining sales optimizing arrangements (Corstjens & Doyle, 1981; Urban, 1998; Van Nierop & Fok, 2008). No surprise, seen as out of stocks are avoided at all costs.

Research states that the relation of a product's shelf place and sales is positive curvilinear (Curhan, 1972). The more space allocated to a product the more likely it is seen by a customer, making it more likely to be processed, considered and purchased. This is especially true in case of products likely to be purchased on impulse (Cairns, 1965), which are 70% of the total sales (Armata, 1996). People infer when a product/brand has many facings it must be a product that most people buy, and therefore it must be a good product. The amount of shelf space allocated to a product/brand serves as an indication that other people are buying the product. Meaning the larger part of the consumers is satisfied with the product/brand and it is a safe choice. And these indications serve as aids for processing. But what if there was a lot of space between the products and customers do not have the adjacent product facings as base for inferences. It is fair to assume that, when customers are faced with a setting in which products are not adjacent and room exists between them the product presentation will seem out of the ordinary; a situation which would reduce the fluency of processing. It would seem empty, bare and poor, giving a feeling of cheapness and low in quality, products that are not preferred by anyone. Therefore it is fair to assume that the display closet in which the space between the products is small is easier to process than a closet in which the space is large. Accordingly, the following hypothesis are proposed

**H2a** *When the space between the products on the shelves is large, consumers will perceive the products as less expensive, cheap appearing and low in quality; when the space between the products on the shelves is small consumers will perceive the products as expensive, luxurious and higher in quality.*

**H2b** *When the space between the products on the shelves is large (small), consumers will evaluate the products displayed as less (more) positive and will give lower (higher) scores on the measures of brand evaluation.*

It is thought that combining Contrast and Space in a setting enhances processing fluency even furthermore and therefore affecting evaluation even more positively. Therefore the following hypothesis are proposed

**H2c** *When a few products per variant are displayed with room between the products, consumers will judge the product more positively in a high contrast setting and score higher on measures of the brand evaluation, than when all products have more facings and little room exists between in products.*

## **2.4 CVPA (Centrality of Visual Product Aesthetics)**

According to Bloch, Brunel and Todd (2003) people differ in sensitivity toward product aesthetics as a result of e.g. differences in culture, personality and surroundings. This degree of ‘design sensitivity’ depends on the amount of design acumen an individual possesses, making it possible to make faster sensory connections resulting in more refined preferences in design (Bloch, 1995). Based on the research by Bloch et al in 2003 the Centrality of Visual Product Aesthetics (CVPA) Scale was created. This scale is build out of 4 dimensions (1) appreciation for design, (2) recognize categorize and evaluate design, (3) level of response and (4) design determination. Individuals who score high on this scale devote more attention to visual aesthetics than the average person. To test whether the above stated relations are influenced by design sensitivity, it is proposed that

**H3** *The effects of setting (contrast and space) on product and brand evaluation are only applicable for persons with high CVPA scores, as supposed to individuals with low scores.*

## **3. Method**

In several actual selling situations (pharmacies) containing the factors intended to be manipulated photos were taken of display closets. The products displayed in the pictures, and under evaluation, were those of the brand Eucerin. Eucerin is a product brand of Beiersdorf, which has in its portfolio many different worldwide known brands, such as Nivea, Labello, Hansaplast, 8\*4 and La Prairie. First, a pretest was needed to make sure the stimuli are interpreted as intended.

### **3.1 Pretest A**

To ensure people perceive the stimuli as being different in contrast, a pretest was administered to 19 respondents. Five photos of a product display with backgrounds advancing from white to black (three grey tints in between) were used to represent contrast (see Figure 3.1). By means of an online test respondents were presented the five photo’s and asked to give scores to the following three statements on a 7-point Likert Scale (I totally agree-I totally disagree): ‘The products in this

closet attract attention’, ‘The products have good visibility in this closet’ and ‘You immediately see which products are on display in the closet’. To rule out any effects of the order in which the stimuli were presented three versions of the test were made. All showed the photos in a different order. Every respondent was assigned to one of three versions randomly.



**Figure 3.1.** Stimuli Pretest A: Color differences in backboard of the display closet.

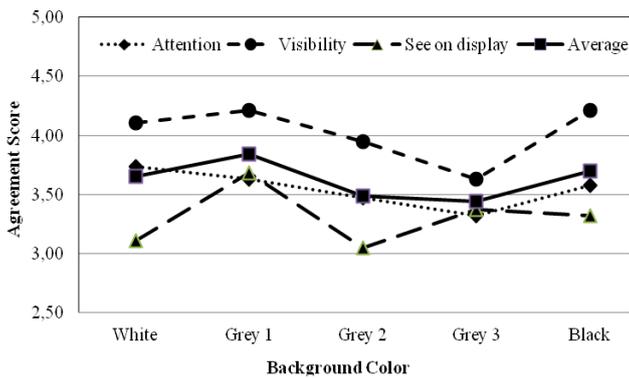
The first reaction of most respondents after filling in the test was: ‘I did not see any differences between the photos’. This was also reflected in the results. Average scores on the three items per photo showed respondents did not perceive the intended difference in contrast between the stimuli (see Table 3.1 and Figure 3.2). This led to the conclusion that the contrast between the products and its setting should be made more obvious. To this end five new adjusted stimuli were tested in a second pretest.

**Table 3.1.**  
Pretest A: Judgments of contrast by background color of the closet

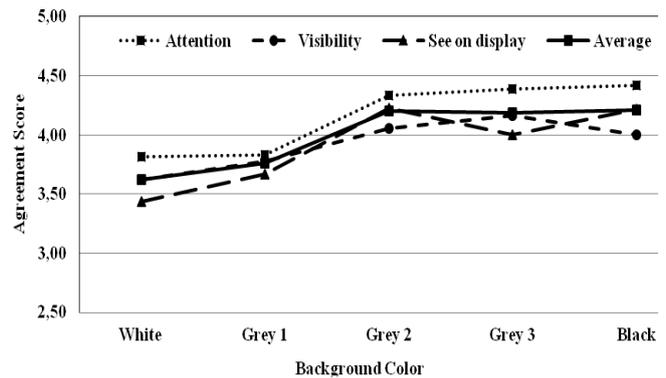
Background color	Contrast Measures			
	Attention	Visibility	See on display	Average
White	3,74	4,11	3,11	3,65
Grey 1	3,63	4,21	3,68	3,84
Grey 2	3,47	3,95	3,05	3,49
Grey 3	3,32	3,63	3,37	3,44
Black	3,58	4,21	3,32	3,70

**Table 3.2.**  
Pretest B: Judgments of contrast by color of the total closet

Closet color	Contrast Measures			
	Attention	Visibility	See on display	Average
White	3,81	3,63	3,44	3,63
Grey 1	3,83	3,78	3,67	3,76
Grey 2	4,33	4,06	4,22	4,20
Grey 3	4,39	4,17	4,00	4,19
Black	4,42	4,00	4,22	4,21



**Figure 3.2.** Pretest A: Judgments of contrast by background color of the closet.



**Figure 3.3.** Pretest B: Judgments of contrast by color of the total closet.

### 3.2 Pretest B

In the second pretest the contrast between setting and product was further emphasized by extending the color difference to practically the whole closet (see Figure 3.4). The method of this second pretest was an exact copy of pretest A, 19 respondents filled in pretest B.



**Figure 3.4.** Stimuli Pretest B: Color differences applied to the total display closet.

The results of pretest B show the products are more visible in the black closet than in a white closet (see Table 3.2 and Figure 3.3), also the mean scores for the black and white closet are substantially different: White/Attention ( $M = 3.65$ ,  $SD = 1.11$ ); Black/Attention ( $M = 4.55$ ,  $SD = 1.18$ ), White /Visibility ( $M = 3.47$ ,  $SD = 1.07$ ); Black/Visibility ( $M = 4.11$ ,  $SD = 1.32$ ), White/Seen on display ( $M = 3.29$ ,  $SD = 0.92$ ); Black/Seen on display ( $M = 4.05$ ,  $SD = 1.47$ ).

Based on these results the white version of the closet was chosen to represent the low contrast condition and the black version of the closet to represent the high contrast condition.

### 3.3 Main Test

The main research employed a 2 (Contrast: Low/High) × 2 (Space: Small/Large) × 2 (CVPA: Low/ High) between subjects design. The respondent freely participated in the experiment, not receiving any compensation.

### 3.4 Participants and Procedure

The experiment was computer administered and filled in at a time best suited to respondents without supervision of the researcher. The respondent were assigned randomly to one of four experimental conditions filling in the same questionnaire, all showing a photo of one of the four product presentations (see Figures 3.5 - 3.8).

The first section of the questionnaire had as goal to determine the demographics of the sample. It contained questions focused on the personal sphere of the respondents, making sure the sample could be defined based on characteristics such as age, gender and education. Next the respondents were shown one of the four stimuli. After the stimulus the actual questionnaire was presented, the stimulus was presented at the top of every new internet page (see Appendix A).

In total 187 respondents filled in the questionnaire. The results of nine respondents were not taken into account because they did not fill in the questionnaire correctly or completely. The remaining sample contained 57 male and 121 female respondents, together adding up to a total of 178 respondents. The average age was 39, ranging from 19 to 68. With 44,4% most respondent were university schooled, 37% of the respondents had some other kind of college degree. The remaining 8.6% of the respondents had a high school diploma or other.



**Figure 3.5.** Stimulus 1 (Low Contrast /Small Space).



**Figure 3.6.** Stimulus 2 (High Contrast/Small Space).



**Figure 3.7.** Stimulus 3 (Low Contrast/Large Space).



**Figure 3.8.** Stimulus 4 (High Contrast/Large Space).

### 3.5 Measures

In the following paragraphs attention will be given to the measures attention, product (characteristics) evaluation and brand evaluation. All individual items were measured on a 7 point Likert scale. When a variable was measured by several items a single construct was compounded by weighting the different items based on their factor scores. Several items were excluded from constructs, because factor analysis showed they did not belong to the variable component.

#### 3.5.1 Attention

*Attention* (eye catching). This concept was measured by a compounded scale ( $\alpha = .89$ ) of four items based on the Attention to Ad Scale by Duncan and Nelson (1985). The specific items used to measure attention were: ‘The products in the closet attract my attention’, ‘The products in this closet stand out’, ‘The products are the first thing I see when looking at the closet’ and ‘The products in this closet immediately catch my eye’.

#### 3.5.2 Product/Brand measures

*Product Evaluation.* By compounding the Value (Object) Scale by Deighton, Romer and McQueen (1989), the Quality (Product) Scale by Petrosuis and Monroe (1987) and the Liking Product Scale by Duncan and Nelson (1985) the concept of Product Evaluation was measured ( $\alpha = .89$ ). Examples of the scale were: ‘I expect the quality of this product is very high’, ‘I think this product radiates luxury’ and ‘When I would use the product, I would probably like it’.

*Product Characteristic Perception.* Beside the above mentioned measures concerning the product the questionnaire also contained items on the perceived characteristics of the product ( $\alpha = .81$ ). This concept was based on the Products Aesthetics Scale by Hirschman (1986) and the Attitude Towards the Product Scale by Osgood, Suci and Tannebaum (1957).

Based on the above product evaluation and characteristic items, scales were created for the following constructs:

*Prettiness.* Prettiness was based on the bipolar items: 'nice-not nice', 'attractive-unattractive' and the item 'I think these products are pretty'. The Cronbach's alpha score on the compounded scale was  $\alpha = .76$ .

*Reliable.* Reliability was compounded from the following items: 'I think these products are reliable' and the bipolar items 'safe-unsafe' and 'dependable-undependable' ( $\alpha = .75$ ).

*Quality.* To measure Quality ( $\alpha = .79$ ) the following items were used: 'I believe these products are sustainable', 'I expect these products are high in quality' and the bipolar item 'valuable-worthless'.

*Superiority.* Superiority was based on the bipolar item 'superior-inferior' and the items 'I expect people like me perceive these products as exclusive' and 'I think these products are luxurious' and had a Cronbach's alpha score of  $.76$  ( $\alpha = .76$ ).

*Expensiveness.* The construct Expensiveness was based on the items 'I think these products are more expensive than an average care product', 'I think these products are relatively expensive', which together had a Cronbach's alpha score of  $.95$  ( $\alpha = .95$ ).

*Brand Evaluation.* For measuring this construct the same scales were used as for measuring product evaluation, replacing the word product with brand. The Cronbach's alpha score on the compounded scale was  $\alpha = .86$ . Examples of items used are; 'I think this brand looks attractive' and 'I suspect the products of this brand are expensive'.

*Product Usage Perception (Complexity).* To measure perceived Complexity of Use the questionnaire contained five items ( $\alpha = .73$ ), based on the Product Complexity Scale by McCabe (1987). One of the items was 'I believe before using the product you must read the label of instructions first'.

*Intention to buy.* Based on the Intention to Buy Scale by Duncan and Nelson (1985) the questionnaire contained three questions to composite a measure for the willingness to buy the product. Items such as 'I would consider to buy the products shown in the setting' and 'I would

discourage people to buy the products shown in the setting' together compounded the measure ( $\alpha = .88$ ).

### 3.5.3 Moderating measure

*Centrality of Visual Product Aesthetics (CVPA)*. Of the ten items that make up the CVPA scale measuring individual differences in visual product aesthetics four items were selected, which best corresponded to the here set research goals. One of the four items was: 'I enjoy seeing products that have a superior design'. The Cronbach's alpha score on the compounded scale was ( $\alpha = .84$ )

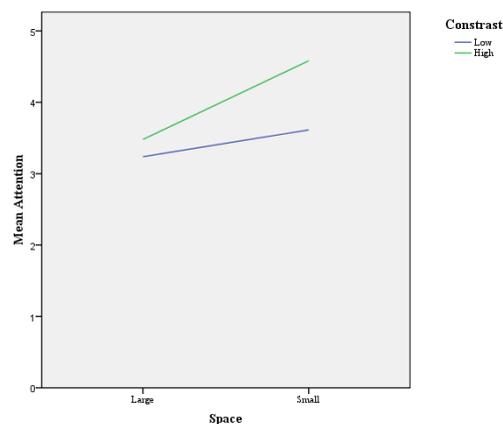
## 4 Results

The data generated by respondents filling in the questionnaires were analyzed using the statistical software program SPSS 16. Mainly ANOVA's and regression analysis were used to determine the correctness of the proposed hypotheses' with as independent variables Contrast (Low/High) and Space (Small/Large). The results show a person's CVPA score does not function as a moderating factor on the relation between setting (Contrast and Space) and Product and Brand Evaluation. Therefore hypothesis 3 is rejected and will not further be addressed.

### 4.1 Attention

Before starting the actual analysis it is important to ensure the pretest (B) results are also upheld in the main test. The scores on attention per condition indicate the respondents did see the contrast difference between the conditions (High/Small ( $M = 4.58$ ,  $SD = 1.03$ ) High/Large ( $M = 3.48$ ,  $SD = 1.20$ ), Low/Small ( $M = 3.61$ ,  $SD = 1.36$ ), Low/Large ( $M = 3.24$ ,  $SD = 1.29$ )). Therefore the main test results meet the precondition of attention.

A main effect was found of Contrast on Attention  $F(1,174) = 11.47$ ,  $p = .00$ . This showed high contrast between the products and the setting had a positive effect on the Attention given to the products. Hereby H1a is accepted. Also a significant main effect of Space on Attention was found  $F(1,174) = 16.04$ ,  $p = .00$ . Showing that when the Space between products was small respondents had more attention for the products, than when the Space between a product and its setting was large.



**Figure 4.1.** Interaction of Contrast x Space on Attention.

To see whether the combination of High Contrast and a small Space between the products positively affects attention, an analysis of variance with Contrast and Space as independent variables and attention as dependent variable was conducted. This analysis showed a significant interaction effect of Contrast x Space on Attention  $F(1,174) = 3.88, p = .05$  (see Figure 4.1). When the space between the products is small people and the contrast between the products and the setting is high the Attention for the closet was higher ( $M = 4.58, SD = 1.03$ ), than when the space between the products is large and contrast between the products and the setting is low ( $M = 3.24, SD = 1.29$ ).

#### 4.2 Product Evaluation

The results (see Table 4.4) showed no significant main effects of either Contrast or Space on Product Evaluation ( $F < 1$ ). When the contrast between a product and its setting was high respondents did not evaluate the product as more positive, than when the contrast between a product and its setting was low. And a full display closet in which the distance between the products was small did not receive a more positive product evaluation than an empty closet in which the distance between the products was large. Furthermore an interaction effect of Contrast x Space on Product Evaluation was not found ( $F < 1$ ). Therefore combination of High Contrast and a Small Space between the products does not positively affect the Product Evaluation. Hereby we reject Hypothesis 1e and Hypothesis 2c, and partially reject Hypothesis 2b.

**Table 4.3. Average Ratings and Standard Deviations of Attention, Product Evaluation and Brand Evaluations as a function of Contrast and Space**

Contrast	Space	Attention			Product Evaluation			Brand Evaluation		
		<i>M</i>	<i>SD</i>	<i>n</i>	<i>M</i>	<i>SD</i>	<i>n</i>	<i>M</i>	<i>SD</i>	<i>n</i>
High	Yes	3.48	1.20	47	3.70	0.72	47	4.05	0.65	47
	No	4.58	1.03	39	4.33	0.54	39	4.59	0.70	39
Low	Yes	3.24	1.29	47	3.52	0.93	47	3.62	0.91	47
	No	3.61	1.36	45	3.90	0.98	45	4.21	1.01	45

**Table 4.4 Analysis of Variance for Product and Brand Evaluation and Product Characteristics**

<i>Source</i>	<i>df</i>	<i>F</i>	<i>p</i>
<i>A. Analysis of Variance for Product Evaluation</i>			
Contrast	1	-0,18	0,86
Space	1	0,36	0,72
Contrast x Space	1	1,03	0,31
Error	174		
<i>B. Analysis of Variance for Product Characteristics</i>			
Contrast	1	-1,23	0,22
Space	1	0,05	0,96
Contrast x Space	1	1,36	0,18
Error	174		
<i>C. Analysis of Variance for Brand Evaluation</i>			
Contrast	1	0,97	0,33
Space	1	1,16	0,25
Contrast x Space	1	0,16	0,87
Error	174		

### 4.3 Product Characteristics

The here hypnotized main effects of Contrast and Space on the compounded concept of Product Characteristics were not found ( $F < 1$ , see Table 4.4). Thus high contrast between the products and its setting did not result in higher evaluation of the total concept of Product Characteristics and small Space between the products also did not result in higher evaluation of the total concepts of Product Characteristics ( $F < 1$ ). Furthermore an interaction effect of Contrast x Space on the evaluation of the total concept of Product Characteristics was not found ( $F < 1$ ). But the combination of Space and Contrast with the separate characteristic shows some interesting effects.

#### *Contrast*

To determine whether contrast between a product and its setting has an effect on the individual characteristics, here the effects of Contrast on Prettiness, Reliability, Quality, Superiority and Expensiveness are determined.

*Prettiness.* No significant effect was found of Contrast on Prettiness ( $F < 1$ ). Thus people did not perceive the products as prettier when contrast was high between the products and the product

display. The element also did not show a clear difference in mean between the two conditions in any direction (see Table 4.5).

*Reliable.* On average respondents rated the High Contrast condition as higher on Reliability, but no significant effect was found ( $F < 1$ ).

*Quality.* Thought the respondents did rate the Quality of the products higher when the Contrast between the products and the setting was high (See Table 4.6), no significant effect was found of Contrast on Quality ( $F < 1$ ).

*Superiority.* Contrast did not significantly influence the perceived superiority of the products ( $F < 1$ ). This shows the products were not perceived as more superior when high contrast existed between the products and the setting.

*Expensiveness.* ( $F < 1$ ). No significant effect was found of Contrast on Expensiveness ( $F < 1$ ). The products were not perceived as more expensive when high contrast existed between the products and the setting, than in the case of low contrast.

**Table 4.5. Average Ratings and Standard Deviations of Prettiness, Quality, Reliability, Superiority and Expensiveness as a function of Contrast**

Contrast	Prettiness			Quality			Reliability		
	<i>M</i>	<i>SD</i>	<i>n</i>	<i>M</i>	<i>SD</i>	<i>n</i>	<i>M</i>	<i>SD</i>	<i>n</i>
High	3.69	0.97	86	4.37	0.94	86	4.55	0.87	86
Low	3.68	1.21	92	4.16	1.15	92	4.40	1.10	92

Contrast	Superiority			Expensiveness		
	<i>M</i>	<i>SD</i>	<i>n</i>	<i>M</i>	<i>SD</i>	<i>n</i>
High	3.91	1.02	86	4.74	1.05	86
Low	3.72	1.22	92	4.74	1.21	92

Concluding for the effects of Contrast on separate characteristics; when looking at the separate elements of Product Characteristics no significant effects were found of Contrast on Prettiness, Reliability, Quality, Superiority and Expensiveness. Hereby hypothesis 1b is partially rejected and hypothesis c and d are rejected.

#### *Intention to buy and Usage perception*

Contrast did not significantly influence the Intention to Buy one of the products ( $F < 1$ ). People were not more inclined to buy one of the products when the contrast between the products and their setting was high as supposed to when the contrast was low. Also no significant effect was

found of Contrast on the perceived Complexity of Use ( $F < 1$ ). When the contrast between a product and its setting was high products were not perceived as being less complex, than when the contrast between a product and its setting was low. Hereby hypothesis 1b is now completely rejected.

### *Space*

To determine whether Space between a product and its setting has an effect on the individual characteristics, here the effects of Space on Prettiness, Reliability, Quality, Superiority and Expensiveness are determined.

*Prettiness.* No significant effect was found of Space on Prettiness ( $F < 1$ ). Respondents did rate the products as prettier when the Space between the products was small (See Table 4.6).

*Reliable.* The hypothesized effect of Space on Reliability was not found ( $F < 1$ ). When the space between products was small respondents did not judge the products as more reliable as to when the distance between the products was large. The respondents did on average score the products higher on reliability when the Space between the products was small (See Table 4.6).

**Table 4.6. Average Ratings and Standard Deviations of Prettiness, Quality, Reliability, Superiority and Expensiveness as a function of Space**

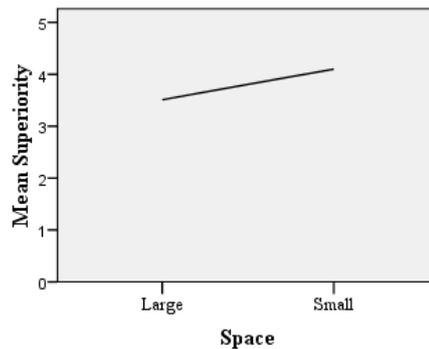
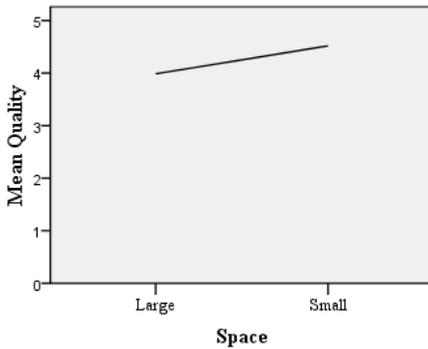
Space	Prettiness			Quality			Reliability		
	<i>M</i>	<i>SD</i>	<i>N</i>	<i>M</i>	<i>SD</i>	<i>n</i>	<i>M</i>	<i>SD</i>	<i>n</i>
Yes	3,32	1,01	86	3,99	1,09	86	4,27	0,99	86
No	4,02	1,07	92	4,52	0,96	92	4,66	0,97	92
Space	Superiority			Expensiveness					
	<i>M</i>	<i>SD</i>	<i>n</i>	<i>M</i>	<i>SD</i>	<i>n</i>			
Yes	3,51	1,16	86	4,58	1,19	86			
No	4,10	1,03	92	4,90	1,06	92			

*Quality.* The use of Space had a positive effect on Quality  $F(1,174) = 11.95, p = .00$  (see Figure 4.2). When the space was small between products the respondents judged the products as higher in Quality ( $M = 4,52, SD = 0.96$ ) than when the distance between the products was large ( $M = 3.99, SD = 1.09$ ).

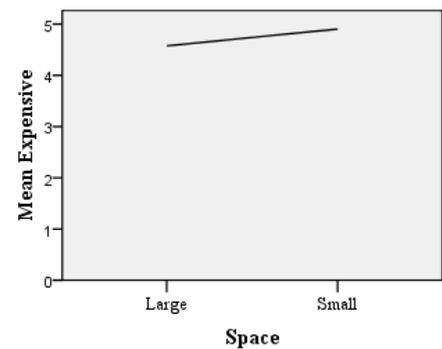
*Superiority.* Superiority can be positively be influenced by the use of Space  $F(1,174) = 12.95, p = .00$  (see Figure 4.2). When the space was small between products respondents judged the

products as more superior ( $M = 4.10$ ,  $SD = 1.03$ ), than when the distance between the products was large ( $M = 3.51$ ,  $SD = 1.16$ ).

*Expensiveness.* As hypothesized the perception of expensiveness can be influenced by use of Space  $F(1,174) = 3.75$ ,  $p = .054$  (see Figure 4.2).. When the distance between the products on the shelves is small consumers perceive the products as more expensive ( $M = 4.90$ ,  $SD = 1.06$ ), than when the distance between the products is large ( $M = 4.58$ ,  $SD = 1.19$ ).



**Figure 4.3.** Space on Superiority



**Figure 4.4.** Space on Expensiveness

Concluding for the effects of Space on separate characteristics; when the distances between the products on the shelves are small, consumers perceive the products characteristics Expensiveness, Superiority and Quality as more positive. Hereby hypothesis 2a is accepted.

#### *Intention to buy and Usage perception*

People were not more inclined to buy one of the products when the space between the products was small, as opposed to when the Space was large. Space did not significantly influence the intention to buy one of the products ( $F < 1$ ). Furthermore no significant effect was found of Space on the perceived Complexity of Use ( $F < 1$ ). When the Space between products was small products were not perceived as lower in complexity, than when the Space between a products and their setting was large.

#### **4.4 Brand Evaluation**

As can be seen in Table 4.4 Contrast does not significantly influence Brand Evaluation ( $F < 1$ ). Therefore when the contrast between a product and its setting was high respondents did not evaluate the brand more positive, than when the contrast between a product and its setting is low. Also no significant effect was found of Space on Brand Evaluation ( $F < 1$ ). A full display closet in which the distance between the products was small did not evaluate more positive than an empty

closet in which the distance between the products was large. Furthermore the combination of High Contrast and a Small Space between the products does not positively affect the evaluation of the brand Eucerin. The expected interaction effect of Contrast x Space on Brand Evaluation was not found ( $F < 1$ ).

Though significantly correlated ( $r = .336$ ), familiarity with the brand had no effect on the above found findings. Hereby we reject Hypothesis 1f and can now completely reject Hypothesis 2b.

#### 4.5 Female

In the actual market male and female care products differ in color. Male products are often blue or black, whereas female care products are most often white. For this reason the analysis was repeated with only the female respondents. This showed the female sample is not very dissimilar to the total sample. No main of Contrast or Space or interaction effect of Contrast x Space was found on Product Evaluation or Brand Evaluation ( $F < 1$ , see Table 4.7).

**Table 4.7. Analysis of variance (for Females) for Product Evaluation and Brand Evaluation**

<i>Source</i>	<i>df</i>	<i>F</i>	<i>p</i>
<i>A. Analysis of Variance for Product Evaluation</i>			
Contrast	1	-0,43	0,67
Space	1	0,4	0,69
Contrast X Space	1	0,92	0,36
Error	117		
<i>B. Analysis of Variance for Brand Evaluation</i>			
Contrast	1	0,33	0,75
Space	1	0,86	0,39
Contrast X Space	1	0,46	0,65
Error	117		

Also no significant effects were found of Contrast on the individual elements of Product Characteristics ( $F < 1$ ). Just as found in the main study the use of Space influenced several individual elements: a small space between the products resulted in a higher Quality perception for both females  $F(1,117) = 13.31, p = .00$  and males  $F(1,53) = 2.22, p = .02$  and a small space between the product also resulted in a more luxurious perception of the products for also both females  $F(1,117) = 9.34, p = .00$  and males  $F(1,53) = 9.34, p = .00$ . Females perceived the

products as more prettier,  $F(1,117) = 13.64$ ,  $p = .00$ , and more reliable,  $F(1,117) = 8.95$ ,  $p = .00$  than males when the space between the products is small. And also Space influenced the perception of using the products of females positively,  $F(1,117) = 5.20$ ,  $p = .02$ . No effect of Space on perception of using was found for males. Furthermore the comparison of females and males showed that the males perceive the products as more expensive when space was small between the products  $F(1,53) = 1.75$ ,  $p = .11$  whereas the females did not.

## **5. Discussion**

The purpose of this study was to demonstrate how a setting can affect the perception of a product in it and why it should be considered as an important feature of a product. The contextual materials contrast and space were proposed to affect processing fluency, which in turn influences the evaluation of a product or brand. This way these inferences linked to contrast or space can be used to directing a person's thought process.

### **5.1 Contrast and Space**

The actual findings reported do only partially confirm the effect of the setting elements contrast and space on product and brand evaluation.

#### **5.1.1 Contrast**

The study reported here suggest that high contrast between a product and its setting does not result in a more smooth interaction between a person and their environment leading to higher processing fluency, at least not to the extent to which it would lead to higher evaluation of the product or brand at hand. These results conflict with the research findings of e.g. Reber and Schwarz (1998; 1999), Unkelback (2007) and Song and Schwarz (2008), which showed that contrast between an object with its surrounding enhances evaluation through processing fluency. Furthermore the expected effects of contrast on the separate product characteristics, prettiness, reliability, quality, superiority and expensiveness were not found. In addition people's intent to buy the products was not influenced by contrast and people did not perceive the products easier to use when the contrast was high between a product and its setting. Although these predicted effects for contrast were not significant, the direction of most relations were as predicted and also substantiated by the correlation scores.

The results did show contrast had a positive effect on the attention given to the products. So the bases needed for making inferences, *Attention*, can be influenced by using contrast. Contrast

therefore can be seen as an element of a setting that can be arranged in such a way that it maximizes the likelihood of the product to be seen.

### **5.1.2 Space**

Next to contrast, space also is as an element of a setting that can be arranged in such a way that it maximizes the likelihood of the product to be seen. The results show space had a positive effect on the attention given to the products. When the space between the products is small more attention is drawn to the products than when the space between the products is large. So the bases needed for making inferences, *Attention*, can be influenced by making use of space.

Although proposed, no effect of space on product and brand evaluation was found. It is possible that the use of space and this particular sort of setting triggered another concept in the minds of the respondents, namely out of stocks. When products are out of stock this negatively affects the state of mind of respondents, consequently generating a more negative evaluation of the products.

But the results do show space affects the perception of several product characteristics positively. When the distance between the products was small they were seen as more expensive, more luxurious and higher in quality, than when a large space existed between products. Thus, a large space between the products made the closet look empty, bare and poor, giving a feeling of cheapness and low quality. No effect of the use of space was found on the judged prettiness and reliability of the products.

When looking at the male versus the female responses, most often females showed slightly different reactions to the presented stimuli. The perception of use of a product by females was influenced by the use of space, thus when the space between products was small females perceived the products more difficult to use, men did not. Also females found a product more reliable and prettier than men when a small space existed between the products. An explanation for these findings can be that in the actual market place male and female care products differ in color; male products are often blue or black, whereas female care products are most often white. The products shown in the stimuli are white and thus the probability a female will identify with the products and will find them prettier than men.

### **5.1.3 Contrast/Space**

Because contrast and space did not significantly influence the evaluation of the product, the proposed interaction effect combining the elements of contrast and space enhancing processing fluency and positively influencing evaluation was also not found. Yet an interaction effect was

found of high contrast/small space on attention. This means that when the contrast between the product and its setting is high and a small space existed between the individual products, a product itself draws more attention. Therefore the state of awareness can be manipulated by using a specific combination of contrast and space. These findings support the research by e.g. Yi (1991) who showed that through contextual factors certain product attributes can be primed and the likelihood that product information is interpreted in terms of these activated attributes can be increased. The thought following result of formation or change of beliefs and affecting the evaluations made by consumers was not supported. When framing these findings into the Theory of Attitude Change of McGuire it is possible the respondents had problems with comprehending the stimulus or yielding to the stimulus, and therefore no effect on evaluation was found.

## **5.2 Limitations**

Though some interesting significant effects were found, the main effects of contrast and space on product and brand evaluation were not. One possible explanation for the present results might be that the participants were influenced by prior presentation. Another much more likely explanation is that the results are influenced by the complexity of the stimuli. The products were presented in a real life situation, a display closet of 39 up to 75 products complete with minis of products, promotional boxes as sign posting and brochures. These are all variables taken from a real life situation which could also have influenced the results. It is also possible the stimuli did not facilitate the other features indicated by Reber et al (2004a) as increasing fluent processing such as symmetry, goodness of form, and conceptual and perceptual priming procedures or even may have possessed the negative counterparts of these features. For example the lack of symmetry in the stimuli may have distorted the effect of the figure/ground contrast on evaluation.

In addition the chosen product category could also have influenced the results. The involvement of a person with a specific category could influence the fluency of processing. Low involvement may negatively influence the sensitivity of people to physical features and may reduce the readily availability in the mind of the meaning of the product and other associations. Opposite high involvement may have a positive influence on physical features sensitivity and may enhance the readily availability in the mind of the meaning of the product.

## **5.3 Future research**

Further research is needed to determine how to use the setting elements contrast and space as a priming tool for the interpretations of ambiguous information, thus determining which other

inferences are linked to contrast and or space. Although this research showed no significant effect of either contrast or space on product and brand evaluation some product characteristics were influenced by the elements, making it worthwhile to devote more research to this topic. Also because the direction of most relations hypothesized was reflected in the reported correlations and means and standard deviations. Therefore the following stepwise suggestions for further research are proposed. First, reduce the complexity of the situation by addressing only a single dimension. By using stimuli portraying only one or two products, this way the effect of contrast on evaluation can be tested in a more controlled environment. When the proposed effects of contrast through processing fluency on evaluation are present, second the setting can be extended by showing one shelf including the setting element space. Third, the study can be expanded to a whole display closet and eventually to display closet including point of sale material. By following these steps for further research the results found in this study can be better put into perspective.

The effect of the setting (contrast and space) on product and brand evaluation was not proven to only be applicable for persons with high CVPA scores, as supposed to individuals with low scores. A reason for this might be that the stimuli do not extremely differ in product aesthetics. Other individual specific factors (besides CVPA) could influence the effect of contrast en space on evaluation. For example the motivation of a person for processing or the preference for abstract product for setting forms. When the motivation for processing is high or the stimulus is congruent with a person's preference for a degree in abstractness of a product or setting, this could positively influence fluent processing and evaluation. Also the experience with the products or the sensitivity for complexity could moderate the relation between a setting and the evaluation of this setting. The here presented stimuli was high on complexity therefore it can be possible, only a person with a preference or more complex environment would evaluate the products as more positive.

Other possibilities for further research can be drawn from the list of features that according to Reber (2004a) increase fluent processing. The present research focused on Contrast and Space to facilitate fluent processing but many other factors could also facilitate fluent processing when presenting a product in a product display. Fluent processing could be positively influenced when the buildup of the display closet is symmetric or when presenting only one sort product keeping all packages equal thereby. This creates clarity which also could facilitate fluent processing. Other features as balance and proportion which are considered the bases of beauty should be further examined. By altering the balance and proportions of the display closet the effect on evaluation through fluent processing can be determined.

In addition the effects of other dimensions of a setting on processing fluency are worthwhile to examine. For example, what if the products are presented behind a counter or behind glass? This way an obstacle is put in between people and the actual product, possibly activating feelings of distance and unattainability. Also variations in backboard of the closet (transparent or mirror) and color blocking parts of the display closet would be interesting to research.

Another suggestion for further research is determining the effect of the use of different product categories on the fluency of processing, by eliciting high or low involvement. This could be combined in combination with different settings. The possibility of priming certain evaluation facets with setting elements may vary per product category.

### *Conclusion*

In general the study reported here suggests that the evaluation of a product can be influenced by the setting it is placed in. The use of space in a setting has been proven to influence the perception of several product characteristics. As the rate at which new products enter the market is high, it becomes increasingly important to study how a setting influences the perception of the products presented in it. This way not only help can be given to consumers to navigate through the assortment available, a retailer can properly present their products to consumers increasing their sales and for a supplier a setting can determine a product introduction its survival.

## References

- Armata, K. (1996). Signs that sell. *Progressive Grocer*, 75(10), 21.
- Baker, J. (1987). *The role of environment in marketing services: The consumer perspective. The services challenge: Integrating for competitive advantages*. Chicago, IL: American Marketing Association. 79-84.
- Baker, J., Grewal, D., & Parasuraman, A. (1994). The influence of store environment on quality inferences and store image. *Journal of the Academy of Marketing Science*, 22(4), 328-339.
- Baker, J., Grewal, D., Parasuraman, A., & Voss, G.B. (2002). The influence of multiple store environment cues on perceived merchandise value and patronage intentions. *Journal of Marketing*, 66, 120-141.
- Bloch, P.H. (1995). Seeking the ideal form: Product design and consumer response. *Journal of Marketing*, 59 (July), 16-29.
- Bloch, P.H., Brunel F.F., & Todd J.A. (2003). The centrality of visual product aesthetics: concept and measurement. *The Journal of Consumer Research*, 29 (4), 551-565.
- Cairns, J.P. (1965). Allocate space for maximum profits. *Journal of Marketing*, 26, 34-36.
- Carver, C. S., & Scheier, M. F. (1990). Origins and functions of positive and negative affect: A control-process view. *Psychological Review*, 97, 19-35.
- Checkosky, S.F., & Witlock's, D. (1973). The effects of pattern goodness and recognition time in a memory search task. *Journal of Experimental Psychology*, 100, 341-348.
- Corstjens, M., & Doyle, P. (1981). A model for optimizing retail space allocations. *Management Science*, 27(7), 822-833.
- Crane, F.G., & Clarke, T.K. (1988). The identification of evaluative criteria and cues used in selective services. *Journal of Services Marketing*, 2, 53-39.
- Curhan, R.C. (1972). The relationship between shelf space and unit sales in supermarkets. *Journal of Marketing Research*, 9(4), 406-412.
- Deighton, J., Romer, D., & McQueen, J. (1989). Using drama to persuade. *Journal of Consumer Research*, 16, 335-343.
- Duncan, C.P., & Nelson, J.E. (1985). Effects of humor in a radio advertising experiment. *Journal of Advertising*, 14, 3340, 64.
- Fernandez-Duque, D., Baird, J. A., & Posner, M. I. (2000). Executive attention and metacognitive regulation. *Consciousness and Cognition*, 9, 288-307.
- Finlay, K., Marmurek, H.H.C., Kanetkar, V., & Londerville, J. (2010). Casino décor effects on

- gambling emotions and intentions. *Environment and Behavior*, 42, 524-545.
- Gregory, R.L. (1998). *Eye and brain: The psychology of seeing*. 5th edn. Oxford University Press.
- Herr, P.M. (1989). Priming price: Prior knowledge and context effects. *Journal of Consumer Research*, 16, 67-75.
- Hirschman, E.C. (1986). The effect of verbal and pictorial advertising stimuli on aesthetic, utilitarian and familiarity perceptions. *Journal of Advertising*, 15(2), 27-34.
- Kahneman, D. (1973). *Attention and effort*. Englewood Cliffs, NJ: Prentice Hall.
- Keller, K.L. (2003). *Strategic brand management: Building, measuring and managing brand equity*. Pearson Education Inc, NJ: Prentice Hall.
- Labroo, A.A., & Lee, A.Y. (2004). The effect of conceptual and perceptual fluency on brand Evaluation. *Journal of Marketing Research*, 41 (May), 151–65.
- Labroo, A.A., & Lee, A.Y. (2006). Between two brands: A goal fluency account of brand evaluation. *Journal of Marketing Research*, (43), 374-384.
- Lee, A.Y. (2002). Effects of implicit memory on memory-based versus stimulus-based brand choice. *Journal of Marketing Research*, 39 (November), 440–54.
- Leeflang, P.S.H, Wittink, D.R, Wedel M., and Naert P.A (2001). *Building models for marketing decisions*. Boston/Dordrecht: Kluwer Academic Publishers.
- McCabe, D.L. (1987). Buying group structure: Constriction at the top. *Journal of Marketing*, 51, 89-98.
- McDaniel, C., & Baker, C.R. (1977). Convenience food packaging and perceptions of product quality. *Journal of Marketing*, 41(4), 57-58.
- McGuire, W.J. (1985). *Attitudes and attitude change*. *Handbook of Social Psychology*, Third edition, NY: Random House.
- Meyers-Levy, J.M., & Tybout, A.M. (1989). Schema congruity as a basis for product evaluation. *Journal of Consumer Research*, 16.
- Meyers-Levy, J., & Zhu, R.J. (2007). The influence of ceiling height: The effect of priming on the type of processing that people use. *Journal of Consumer Research*, 34, X.
- Nedungadi, P. (1990). Recall and consumer consideration sets: Influencing choice without altering brand evaluations. *Journal of Consumer Research*, 17(3), 263–76.
- Osgood, C.E., Suci, G.J, & Tannenbaum, P.H. (1957). *The measurement of meaning*. Urbana,IL.: University of Illinois Press.
- Percy, L. & Elliot, R.H. (2001). *Strategic advertising management*. Second Edition, Oxford: University Press.

- Percy, P.L., & Rossiter, J.R. (1983). Effects of picture size and color on brand attitude responses in print advertising. *Advances in Consumer Research*, 10, 17-20.
- Petroshuis, S.M., & Monroe, K.B. (1987). Effect of product-line pricing characteristics on product evaluations. *Journal of Consumer Research*, 13, 511-519.
- Reber, R., Schwarz N., & Winkielman, P (1998). Effects of perceptual fluency on affective judgments, *Psychological Science*, 9 (1), 45–48.
- Reber, R., & Schwarz, N. (1999). Effects of perceptual fluency on judgments of truth. *Consciousness and Cognition*, 8, 338-342.
- Reber, R., Schwarz, N., & Winkielman, P. (2004a). Processing fluency and aesthetic pleasure: Is beauty in the perceiver's processing experience? *Personality and Social Psychology Review*, 8, 364–382.
- Reber, R., Wurtz, P., & Zimmermann, T.D. (2004b). Exploring “fringe” consciousness: The subjective experience of perceptual fluency and its objective bases. *Consciousness and Cognition*, 13, 47-60.
- Shapiro, S. (1999). When an ad's influence is beyond our conscious control: Perceptual and conceptual fluency effects caused by incidental ad exposure. *Journal of Consumer Research*, 26 (1), 16–36.
- Shapiro, S., MacInnis, D.J., & Heckler S. (1997). Preattentive processing: Its effects on the formation of consideration sets. *Journal of Consumer Research*, 24 (June), 94–104.
- Simon, H. A. (1967). Motivational and emotional controls of cognition. *Psychological Review*, 74, 29-39.
- Song, H., & Schwarz, N. (2008). If it's hard to read, it's hard to do: Processing fluency affects effort prediction and motivation. *Psychological Science*, 19, 986-988.
- Unkelback, C. (2007). Reversing the truth effect: Learning the interpretation of processing fluency in judgments of truth. *Journal of Experimental Psychology*, 33(1), 219–230
- Urban, T.L. (1998). An inventory-theoretic approach to product assortment and shelf space allocation. *Journal of Retailing*, 74 (1): 15–35.
- Van Rompay, T.J.L., Pruyn, A.T.H., & Tieke, P. (2009). Symbolic meaning integration in design and its influence on product and brand evaluation. *International Journal of Design*, 3 (2), 19-26.
- Van Rompay, T. J. L., Tanja-Dijkstra, K., Verhoeven, J. W. M., & Van Es, A. (in press). On store design and consumer motivation: Spatial control and arousal in the retail context. *Environment & Behavior*.
- Van Nierop, J.E.M., & Fok, D.P.H.F. (2008). Interaction between shelf layout and marketing

- effectiveness and its impact on optimizing shelf arrangements. *Marketing Science, Articles in Advances*, 1-19.
- Winkielman, P., & Cacioppo, J.T. (2001). Mind at ease puts a smile on the face: Physiological evidence that processing facilitation elicits positive affect. *Journal of Personality and Social Psychology*, 81, 989–1000.
- Yi, Y. (1991). The influence of contextual priming on advertising effects. *Advances in Consumer Research*, 18, 417-425.
- Zajonc, R. B. (1968). Attitudinal effects of mere exposure. *Journal of Personality and Social Psychology, Monograph Supplement*, 9, 1-27.

## **Appendix**

### **A. Questionnaire (Dutch)**

Author: Sophie.C.Petiet

Year: 2012

#### **Introductie**

U krijgt nu een foto van een winkelopstelling met daarin unisex verzorgingsproducten te zien. Vervolgens wordt u verzocht om een aantal vragen te beantwoorden.

Allereerst worden een aantal algemene vragen gesteld.

Alvast bedankt voor uw medewerking.

-----

#### **Algemene vragen**

Wat is uw geslacht? (M/V)

Wat is uw leeftijd? (XX)

Wat is uw hoogst genoten opleiding? (MAVO/HAVO/VWO/MBO/HABO/WO/Anders, namelijk)

#### **CVPA:**

Ik geniet ervan om producten tegen te komen die superieur zijn vormgegeven.

Ik beschik over de vaardigheden om me voor te kunnen stellen hoe een product past bij andere designs van producten die ik bezit.

Soms kan het design ervoor zorgen dat ik naar het product toegezogen wordt.

Wanneer ik een product zie met een geweldig design, voel ik een sterke drang om het te kopen.

“Druk op volgende om naar de foto van het winkelschap te gaan”

-----

#### **Foto (elke keer bovenaan de pagina)**

-----

#### **Waardering Product Liking the Product**

Deze producten bij mij passen.

Ik vind deze producten mooi.

Ik vind deze producten aantrekkelijk.

Als ik 1 van deze producten zou gebruiken, zou ik het waarschijnlijk een fijn product vinden.

Mensen zoals ik zullen waarschijnlijk de producten niet fijn vinden.

Ik verwacht dat mensen zoals ik die deze producten gebruiken er tevreden over zijn.

Deze producten lijken mij fijn voor de huid.

Ik verwacht dat mensen zoals ik deze producten als exclusief ervaren

Ik vind dat deze producten luxe uitstralen.

Ik verwacht dat de geur van deze producten lekker ruikt.

Ik denk dat deze producten betrouwbaar zijn.

Ik geloof dat deze producten duurzaam zijn.

Ik verwacht dat de kwaliteit van deze producten hoog is.

### **Attitude towards the product Characteristics**

De producten in deze kast vind ik/zijn:

Aantrekkelijk	Onaantrekkelijk
Bruikbaar/nuttig	Niet bruikbaar/ nutteloos
Mooi	Lelijk
Waardevol	Waardeloos
Superieur	Inferieur
Vertrouwd	Vreemd
Veilig	Onveilig

1 2 3 4 5 6 7

### **Complexiteit in gebruik**

Ik geloof dat dit standaard producten zijn.

Ik geloof dat om de producten te gebruiken men de gebruiksaanwijzing moet lezen.

Ik denk dat er werkzame stoffen in de producten zitten.

Ik verwacht dat de producten relatief moeilijk in gebruik zijn.

Ik verwacht dat er een uitgebreide gebruiksaanwijzing bij deze producten zit.

Ik geloof dat de claims op de verpakking waarheidsgetrouw zijn.

Mensen zoals ik zullen deze producten waarschijnlijk geloofwaardig vinden.

### **Aankoopintentie**

Ik zou overwegen om 1 van deze producten te kopen

Ik zou anderen afraden om 1 van de product te kopen.

Als ik deze producten in een winkel zou tegenkomen zou ik het kopen.

Ik zou naar deze producten op zoek gaan om het te kopen.

### **Merkevaluatie**

Dit merk past bij mij.

Ik vind dit merk er aantrekkelijk uit zien.

Ik vind dit merk geloofwaardig.

Ik geloof dat de claims van dit merk waarheidsgetrouw zijn.

Ik verwacht dat de producten van dit merk van hoge kwaliteit zijn.

Mensen zoals ik zullen waarschijnlijk de producten van dit merk niet fijn vinden.

Deze producten van dit merk lijken mij fijn voor de huid.

Ik verwacht dat mensen zoals ik die dit merk gebruiken er tevreden over zijn.

Ik verwacht dat de producten van dit merk duur zijn.

Ik vind dit merk luxe uitstralen

### **Prijs**

Ik denk dat producten van dit merk duurder zijn dan een gemiddeld huidverzorgingsmerk.

Ik denk dat een product van dit merk relatief duur is.

Hoeveel denk je dat een product van dit merk gemiddeld kost? (open vraag)

### **Algemeen:**

Bent u bekend met producten (merk) getoond in de foto?

Ja/Nee.

### **Attention**

De producten in de kast trekken mijn aandacht

In deze kast vallen de producten op

Hetgeen dat het meeste opvalt aan dit schap zijn de producten

De producten zijn het eerste wat ik zie op deze foto.