

## **Red Bull gives you wings!**

Exploring the effects of synesthetic metaphorical slogans in advertisements  
among consumers

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**ABSTRACT**

This study investigates whether the *directionality of mapping* principle in synesthetic metaphors influence consumers' attitude toward slogans, because little is known about the effect of this specific type of metaphor in a marketing context. A metaphor is synesthetic when only the source domain or both the source and target domain includes a concept from the sensory domain (touch, taste, smell, sound, color). According to Ullman (1957), these sensory have a certain ranking and are more likely to be preferred when mapping goes from a lower sensory modality to a higher modality, also called the *directionality of mapping* principle. A digital questionnaire was distributed to measure the attitude toward personally designed slogans among 150 participants. The slogans include every combination of sensory modalities. Each of these slogans was analyzed with respect to the attitudes suitability, persuasiveness, comprehensibility, vivacity and purchasing intention. Statistical analyses showed that when sensory combinations in slogans conformed to the *directionality of mapping* principle, attitudes regarding persuasiveness, comprehensibility and purchasing intention were evaluated as slightly more positive than the attitudes suitability and vivacity. In general, we conclude that a small part of synesthetic metaphorical slogans conform the *directionality of mapping* principle will positively affect consumers' attitude toward slogans.

*Keywords: slogans, advertisements, synesthetic metaphor, directionality of mapping principle*

# EFFECTS OF SYNESTHETIC METAPHORICAL SLOGANS

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## CHAPTER 1

### INTRODUCTION

In today's modern world where possibilities of choice and available options are constantly increasing, it is important for marketers to make their new, but also existing products conspicuous. Pryor and Brodie (1998) did a study regarding new extended brand products and the effects of advertising slogans on consumers' behavior. They found that respondents evaluate slogans more positively if the advertised slogan includes features of existing family branded products than when these features are not mentioned. In addition to Pryor and Brodie's (1998) study about slogans, McQuarrie and Phillips (2005) also found that a specific type of slogan, namely slogans including metaphorical claims, result in a more positive evaluation towards the advertised product. Metaphorical claims are a specific type of claim that trigger a comparison between two objects even though the two objects are from a different domain (Lakoff & Johnson, 1980). This specific type of slogan claims represents an indirect and figurative way to describe a product. An example of a slogan with a metaphorical claim is "Red Bull gives you wings!". The company Red Bull claims that thanks to their unique formula, the energy drink will increase consumers' performance to the extent that they would fly. Another example of a metaphorical slogan is "The taste of a paradise" from the chocolate bar Bounty. The comparison in this metaphorical slogan is made between the chocolate bar and a paradise that is associated with white beaches, a blue sea and palm trees. More specifically, the metaphor includes a synesthesia. A synesthetic metaphor is a metaphor mapping across various sensory domains. The synesthetic metaphor "The taste of a paradise" consist of two sensory domains, namely taste and sight (paradise).

The aim of this study is to identify the effect of synesthetic metaphors in slogans on consumers' behavior and attitude. In order to identify the effect of synesthetic metaphors in slogans on consumers' behavior and attitude, some aspects must be discussed in detail. First, attitudes will be divided into different aspects: suitability, persuasiveness, comprehensibility, vivacity and purchasing intention. Next, these attitudes should be measured. This is done by filling out a questionnaire containing various items on several product advertisements. These items are all related to the aforementioned five product attitudes. Finally, to identify the effect of the advertisements, respondents are asked which slogan(s) they remembered.

The reason for studying effects of synesthetic metaphors in slogans is cognitive relevance, as results of this study give a deeper understanding of how people perceive, judge,

process and apprehend metaphors. Besides the cognitive relevance, this study is also social relevance; results could contribute to the optimization of product positioning for existing products as well as new products. Therefore, advertisers will be able to take these results into account while creating their ads.

In the following chapter a review of literature containing concepts and theories related to this study, such as synesthesia and metaphors, will be discussed. It ends with a discussion about a specific type of metaphor, namely the synesthetic metaphor. Chapter three will present the methodology of this study. The chapter contains descriptions of the respondents, material, instrumentation, procedure and data analysis of this study. The results will be presented in the fourth chapter. In the final chapter, a discussion of the results will be given. It will end with the limitations of this study and recommendations for future research.

## CHAPTER 2

### LITERATURE REVIEW

This chapter will provide different concepts and theories related to this study of synesthetic metaphors in product advertisements. Section 2.1 will explain metaphors and present metaphors related to advertisements. After having discussed metaphors, the subsequent section will focus on the central concept of this study. It will elaborate on synesthetic metaphors and the related directionality of mapping theory. The theory is relevant, since it explains how people understand and interpret synesthetic metaphors. The last section will present the research question and the hypotheses of this study.

#### 2.1 Metaphors

As described in the introduction “Red Bull gives you wings!” is an example of a metaphor. The explanation for this slogan is that the energy drink is supposed to give consumers so much energy that they could fly. A metaphor is a figure of speech that is based on a comparison between two different objects in which one object is being understood in terms of the other one. Therefore, metaphors consist of two domains: a target and a source domain. The target domain refers to an object that has its properties and attributes borrowed from the source domain, in order to understand its meaning. According to Lakoff and Johnson (1980) “The essence of a metaphor is understanding and experiencing one kind of thing in terms of another” (p. 5). In order to understand the metaphorical expression ‘love is a journey’, the meaning of journey is mapped into the object love. Thus the source domain refers to journey and the target domain is love. Lovers are in this expression the travellers and share for example the same goal, which in terms of traveling is the destination of their journey. There are basically three metaphorical concepts that are most common in everyday language (Lakoff & Johnson, 1980). First, there is the *orientational metaphor*. These metaphors involve spatial orientation, such as more is up and less is down, health is up and sick is down, good is up and bad is down etc. The following example is an example of an up-down orientational metaphor: ‘You made a *high* number of mistakes’. A second kind of metaphor is the *ontological metaphor*. Ontological metaphors use concrete objects, for instance containers, to explain abstract objects, such as a problem. In addition, containers in this context can be seen as objects where people can sit in and came out of. An example of an ontological metaphor is: ‘getting *in* trouble’. The third metaphorical concept is the *structural metaphor*. These

metaphors involve structuring one kind of experience or activity (time) in terms of another experience or activity (money). For example, 'Time is money'.

### **2.1.1 Metaphors in advertisements**

Sopory and Dillard (2002) conducted a meta-analysis of metaphors and persuasion. They reviewed existing literature regarding the persuasive effects of metaphors and summarized the underlying theories. Based on these theories, Sopory and Dillard (2002) derived nine hypotheses and a central question: Are metaphors really effective persuasion devices? All theories predicted that metaphorical language is more persuasive than literal language. Results showed that this hypothesis was confirmed. Moreover, the effectiveness of persuasion will increase when fewer metaphors are used. Metaphors can roughly be placed in the beginning, middle and/or at the end of a message. Sopory and Dillard (2002) found that metaphors placed in the introduction are more persuasive than when they were placed in the middle or at the end of messages. Metaphors can also be encountered through various media. Two different modalities were compared in the meta-analysis; the written and the auditory modality. Results revealed that metaphors presented in auditory modality are more persuasive than metaphors presented in written modality. The last hypothesis that received support was that novel metaphors were more persuasive than conventionalized metaphors. Novel metaphors are metaphors that allow people to create new information about a person or object. Conventionalized metaphors are used repeatedly and therefore conventionalized in everyday language. These metaphors are not immediately recognized as metaphors (Lakoff & Johnson, 1980).

In addition to Sopory and Dillard (2002), Brennan and Bahn (2006) studied metaphors in advertisements. They compared the effects of advertisements containing non-literal messages and advertisements containing literal messages. Two experiments regarding non-literal and literal messages were conducted. In both experiments participants examined a booklet containing advertisements, including the target advertisement. They were asked to respond to a series of questions regarding their attitudes towards the ad, brand and message credibility. Brennan and Bahn (2006) found that the need for cognition had a moderating effect on their study. High need for cognition is defined in the literature as a personality trait. Individuals with this trait are likely to evaluate relevant arguments, are motivated to find solutions, like to debate etc. Individuals with low need for cognition have the opposite tendencies. They are more likely to rely on peripheral cues, such as the attractiveness of an image or person. Brennan and Bahn (2006) found that in both experiments, individuals with a

high need for cognition used fewer counter-arguments towards the non-literal advertisement than whenever literal messages were presented. Overall, non-literal messages resulted in a more positive evaluation towards the advertised brand. An explanation for this result is that individuals with a high need for cognition are more likely to be distracted in the process of decoding non-literal messages and therefore produce fewer counter-arguments. Moreover, non-literal messages allow audience to draw their own conclusions and this seems to result in a more favorable evaluation towards the advertised brand.

In addition to verbal metaphors, pictorial metaphors are a well-known method used in advertisements as well. McQuarrie and Phillips (2005) examined the effect of both non-literal and literal claims used in advertisements on consumers. Furthermore, they hypothesized that pictorial indirect claims would generate more positive and spontaneous assumptions regarding the brand than verbal indirect claims. Participants were exposed to a total of seven advertisement and statements. Next, they had to complete a questionnaire offline. Findings showed again that when using indirect claims as verbal metaphors, consumers are more likely to make positive assumptions about the advertised brand compared to direct claims. Moreover, pictorial metaphors appeared to generate positive and spontaneous inferences about the advertised brand compared to either verbal metaphors or direct claims. An explanation is that both verbal and pictorial metaphors have a lack of constraints on interpretations, so perceivers are free to interpret the message. According to McQuarrie and Phillips (2005) the fewest constrains and greatest openness in interpretation occur in pictorial metaphors. Additionally, Ang, Ai and Lim (2006) also studied the influence of metaphors in print advertisements on attitudes towards a brand, an advertisement and purchasing intention. Attitudes are positive or negative evaluations of a particular person, object, event, idea or thing (Eagly & Chaiken, 1998). According to Mackenzie, Lutz and Belch (1986, p.130) an attitude towards advertisements is defined as: "Predisposition to respond in a favorable or unfavorable manner to a particular advertising stimulus during a particular exposure situation". Ang, Ai and Lim (2006) found that using either verbal or printed metaphors in advertisements will increase the participants' attitudes towards the brand and advertisement as well as purchasing intention. The brands were also perceived as more sophisticated and exciting than advertisements without metaphors. Furthermore, using a combination of both types of metaphors influenced the attitudes towards the brand and advertisements more than when the metaphors were used separately. Pictorial and verbal metaphors are thus effective tools to enhance a brand perception positively and it could increase purchasing intentions among consumers.



## 2.2 Synesthetic metaphors

Synesthesia is described as a phenomenon in which ordinary activities trigger extraordinary experience that normally is not experienced by most people. Each form of synesthesia consist a set of two interrelated components. The stimulus that triggers the synesthesia is referred as the ‘inducer’ and the ‘concurrent’ refers to the induced sensory (Grossenbacher & Lovelace, 2001). People who experience synesthesia are called synesthetes (Spector & Maurer, 2009).

As discussed earlier, metaphors are a figure of speech that consists of a comparison between two different objects in which a meaning from the source domain is passed onto the target domain. According to Werning, Fleischhauer and Beşeoğlu, (2006) a metaphor is synesthetic if only the source domain or both the source and target domain include a concept from the sensory modalities. There are five sensory modalities: touch, taste, smell, sound and color. Synesthetic metaphors can be distinguished into two forms: strong and weak. In a strong metaphor both the source domain and the target domain contains a sensory modality. A weak synesthetic metaphor only has a sensory modality in the source domain and not in the target domain. Two examples are used to clarify the difference between weak and strong synesthetic metaphors:

- (a) The rich woman has a *warm heart*.
- (b) The statue has a *cold smell*.

Both sentences are examples of a synesthetic metaphor. However, sentence (a) is composed of a sensory modality in the source domain, but not in the target domain. The word ‘warm’ belongs to the source domain and refers to touch. ‘Heart’ belongs to the target domain, but does not have a concept from the sensory domain. This means that sentence (a) is an example of a weak synesthetic metaphor. In contrast to (a), sentence (b) is a strong synesthetic metaphor, since both the source and the target domain include a sensory modality, which is cold and smell respectively.

According to Ullman (1959) there is a certain hierarchy between the five sensory modalities. The hierarchy is based on two factors (Shen, 1997). The directness of contact between sense and perceived object is the first factor. Lower modalities expose direct contact, while higher modalities expose no such direct contact. The second factor is the lack of a special organ in the human body. Consequently, touch is the lowest sense of the hierarchy, because it needs direct physical contact and this sensory is the least mediated by a special organ. The second lowest modality is taste for the reason that direct contact is necessary and

the tongue, a special organ, is needed to taste anything. Followed by taste, smell is the next modality in the hierarchy. Smell displays a smaller degree of direct contact and a special organ, the nose, is required. Finally the two senses sound and color remain. Both modalities require the least direct contact and are mediated by a special organ. Figure 1 shows the hierarchy of senses.

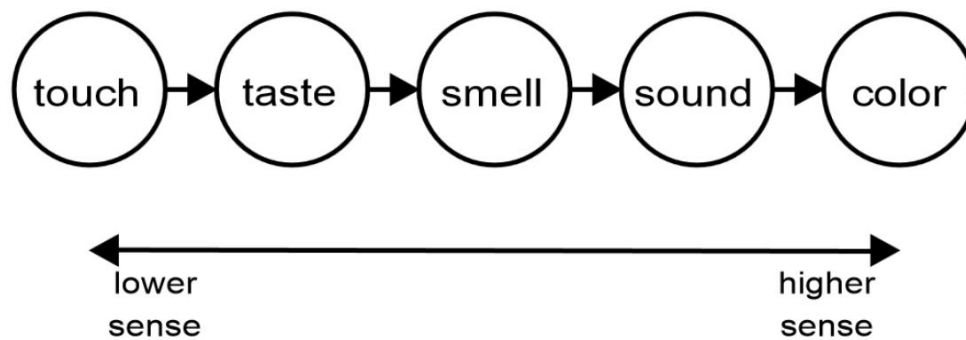


Figure 1. Direction and hierarchy of senses according to Ullman (1957). Adapted from 'Panchronistic Tendencies in Synaesthesia', by Ullman, S. 1957 in: S. Ullman. *The Principles of Semantics*, pp. 266-289. By Oxford: Blackwell.

As reported by Ullman (1957), lower sensory modalities on the left side of figure 1 mainly appear in the source domain and evoke sensory experiences, while higher sensory modalities on the right side of figure 1 mainly appear in the target domain and evoke object experiences. Ullmans (1957) main observation of synesthetic metaphors is that metaphors with a lower sensory modality in the source domain than the sensory modality in the target domain tend to be more accessible than a metaphor with a reverse direction. Accessibility in this case means the ease in which a lexical concept can be retrieved and comprehended and as a result these lexical concepts will be experienced as more natural. The advancement of mapping from a lower sensory modality to a higher sensory modality is also called the *directionality of mapping*. Next, there will be two examples to illustrate this principle.

- (c) A sweet silence.
- (d) A silent sweetness.

In sentence (c) the source domain is 'sweet' and the target domain is 'silence'. 'Sweet' belongs to the sensory modality taste and 'silence' to sound. The direction of mapping goes

from the source domain that represents a low sensory modality to the target domain that represents a higher sensory modality. The second example (d) presents an opposite mapping direction. The source domain maps a higher (sound) sensory modality to the target domain, which contains a lower (taste) sensory modality.

All in all, two aspects play an important role in the ranking of senses in Ullman's (1957) hierarchy, which affects in the degree of accessibility of lexical concepts. First, the directness of contact and second the lack of a special organ. Table 1 sum up the discussed aspects.

**Table 1** Factors influenced the sensory hierarchy

<i>Sense</i>	<i>Degree of directness</i>	<i>Use of a special organ</i>	<i>Degree of accessibility</i> (indicate with +/-)
Sight	No direct contact required	Eyes	-
Hearing	No direct contact required	Ears	-
Smell	Smaller degree of directness	Noise	-
Taste	Direct contact required	Tongue	+
Touch	Direct contact required	Not mediated by a special organ according to Shen (1997)	+

Shen (1997) tested the accessibility and therefore people's preference with regard to the directionality of synesthetic metaphors. A list of synesthetic metaphors conform the hierarchy and a list of synesthetic metaphors in a nonstandard direction of the hierarchy were presented to subjects. Two examples from the experiment are "*sweet silence*" and "*silent sweetness*". The experiment was carried out in two stages. First, respondents were asked to read the list of synesthetic metaphors whether or not in accordance to *directionality of mapping* principle and at the same time the words were also read aloud by the experimenter. This was done to increase respondent's recall in the second phase of the experiment. The second phase involved a recall task in which respondents had to recall as many words as they

remembered. Shen (1997) found that respondents exposed to words conform *the directionality of mapping* principle were better in recalling than while they were exposed to words that conflict this principle.

### **2.2.1 The universality of the directionality of mapping principle**

Ullman (1957) sampled over 2000 synesthetic metaphors used in poetry from three different languages: English, French and Hungarian. In addition, William (1979) examined synesthetic metaphors in everyday English, Japan and languages from Indo-European countries. In all the languages the *directionality of mapping* principle is used to understand synesthetic metaphors. In addition, languages as Chinese (Yu, 2003) and Indonesian (Shen & Gil, 2008) had also been studied. Both languages appear to use the *directionality of mapping* as well.

In order to find out whether the *directionality of mapping* principle can be generalized and thus extended to other languages, Shen (1997) analyzed another set of synesthetic metaphors from Hebrew poetry. As a result, Shen's (1997) corpus examined synesthetic metaphors from a totally different culture and a different period. The poets represented four different historical periods, which means that each period reject or respond to the previous period. After analyzing 130 synesthetic metaphors drawn from Hebrew poetry, 75% were consistent with the *directionality of mapping* principle. This means that mapping from a lower modality to a higher modality in the hierarchy is preferred over the other way around. Based on Shen's (1997) corpus research regarding synesthetic metaphors in Hebrew poetry, it is reasonable to assume that the *directionality of mapping* can be applied to other languages with different cultural environments as well.

### **2.3 Research question**

In sum, results of conducted studies suggest that printed and pictorial metaphors are an effective way to persuade audiences (Brennan & Bahn, 2006; Sopory & Dillard, 2002), increase consumers' attitudes towards the brand and advertisement as well as purchasing intention (Ang et al., 2006). According to McQuarrie and Phillips (2005), an explanation for these results is that metaphorical claims have a lack of constraints on interpretations, so perceivers are free to interpret the message. It is reasonable to assume that the positive influence also applies when synesthetic metaphors are used. As discussed before, a metaphor is synesthetic if only the source domain includes a concept from the sensory domain (touch, taste, smell, sound, color). Ullman (1957) states that these sensory modalities have a certain ranking, in which touch is the lowest, followed by taste and smell. Sound and color are the

final two senses in the ranking. Shen (1997) found that synesthetic metaphors mapping from a lower sensory modality to a higher modality were better recalled by respondents. This suggests that synesthetic metaphors conform the hierarchy are more likely preferred and experienced as natural. The advancement of mapping from a lower sensory modality to a higher sensory modality is also named as the *directionality of mapping* principle. It seems that, after some studies in different languages including poetry in historical periods, this principle is generalizable. However, little is known about synesthetic metaphors in Dutch language. Additionally, the influence of this specific type of metaphor has not been studied yet in a Dutch advertising context. Taken together, this leads to the question:

*To what extent does the directionality of mapping principle in synesthetic metaphors influence attitudes toward the slogans?*

Based on the discussed concepts and theories related to synesthetic metaphors the following general hypothesis has been formulated:

*H1: a bottom-up approach to the sensory hierarchy in synesthetic metaphors will have a positive effect on attitudes toward slogans.*

These attitudes are subdivided into suitability, persuasiveness, comprehensibility, vivacity, purchasing and intention. Based on these attitudes, the following sub hypotheses can be formulated:

*H2: Suitability of slogans will be evaluated as more positively or negatively depending on the sensory combination conforms or contradicted to the hierarchy.*

*H3: Persuasiveness of slogans will be evaluated as more positively or negatively depending on the sensory combination conforms or contradicted to the hierarchy.*

*H4: Comprehensibility of slogans will be evaluated as more positively or negatively depending on the sensory combination conforms or contradicted to the hierarchy.*

*H5: Vivacity of slogans will be evaluated as more positively or negatively depending on the sensory combination conforms or contradicted to the hierarchy.*

*H6: Products in slogans will be evaluated as more or less likely to purchase depending on the sensory combination conforms or contradicted to the hierarchy.*

Having discussed the theoretical framework, next chapter will discuss the methodology of this study.

## METHOD

As discussed in chapter two there is a certain hierarchy between the sensory modalities. The aim of this study is to identify whether the use of this hierarchy in synesthetic metaphors has effect on attitudes toward advertisements. These attitudes are subdivided into: suitability, persuasiveness, comprehensibility, vivacity, purchasing and intention. In the following paragraphs participants, material, instruments, procedure, research design and data analysis will be presented.

### 3.1 Participants

A total of 152 Dutch adults served as participants in this study: 96 women and 56 men. The age varied between 18 and 60 years ( $M = 26.8$ ,  $SD = 10.4$ ). Among both genders, the youngest participant was 18. The oldest participant among the male group was 57 years old, whereas the oldest participant among the females was 60 years old. The majority of the participants had an average educational level. Fifty-four participants (30.4%) finished vwo. In addition, havo and mbo are average educational levels as well. Twenty-one (11.8%) participants finished an mbo-level education, while 15 participants (8.4%) completed a havo level education. Moreover, 29 (16.3%) and 27 (15.2%) participants completed a higher educational level, hbo and wo respectively. Finally, 4 (2.2%) participants had the lowest educational level, vmbo, as background.

### 3.2 Material

An online questionnaire from Thesistools was constructed to examine participants' attitude towards product advertisements. The online questionnaire included personally designed images of products to provide a better idea of the presented slogans. Every distracting detail from the initial product advertisement was removed with Photoshop, a professional photo editing program. As a result, simple designed product advertisements were used in this study (see figure 2). The five products: toilet paper, coffee, deodorant, earplugs and paint used in this study were based on the five sensory modalities; touch, taste, smell, sound and sight. Each product had a matching slogan which was a synesthetic metaphor which either conformed or contradicted to the *directionality of mapping* principle. Each product advertisement had five possible synesthetic metaphors. These metaphors contained every combination of sensory modalities (sight-sight, sound-sight, smell-sight, etc.). This means that 25 synesthetic metaphors were constructed (see Appendix I). In a single questionnaire

each of the five product advertisements had one synesthetic metaphor. Five questionnaires (see Appendix II) were made in order to use every combination of sensory modalities in metaphors. A translated example of a synesthetic metaphor conform the *directionality of mapping* principle is ‘lavender-like sound’. The opposite synesthetic metaphor in this example is ‘silent smell’. Each synesthetic metaphor was designed in consultation with colleague students.



Figure 2. Example of a product advertisement

### 3.3 Instruments

The online questionnaire consisted of two parts; a descriptive part and an experimental part. In the descriptive part participants were asked for their personal data: age, gender and the highest completed educational level. Participants had to indicate their gender and educational background by checking the options accordingly. They had to fill in their age manually. This option was also possible when the participants' educational level was not offered.

Next, the experimental part was divided into two parts. In the first part participants had to evaluate a given slogan. Items were asked concerning the five subdivided attitudes: suitability, persuasiveness, comprehensibility, vivacity and purchasing intention. In order to measure these attitudes, a seven-point Likert scale, ranging from strongly disagree (1) to strongly agree (7), and a semantic differential was used as a response format. All items regarding suitability, persuasiveness, comprehensibility, vivacity and purchasing intention were randomized. Suitability contained four items (*PAS\_1 to PAS\_4*). Examples of items asked in this aspect are whether the slogan was commonly used and whether the slogan fitted the advertisement. The second aspect included items about participants' opinion on



persuasiveness (*OVK\_1 to OVK\_4*), such as how interesting and credible the slogans are. An example of an item asked in the third aspect comprehensibility, was how clear a slogan was. This aspect contained four items (*BEG\_1 to BEG\_2*). The fourth aspect addressed the issue of vivacity. The attitudes regarding vivacity in a particular slogan was measured with four items (*LEV\_1 to LEV\_4*). The degree of originality and boredom were examples of items asked in this aspect. The items were based on the feelings scale of Edell and Burke (1987). Participants had to evaluate 16 television commercials and write down any feelings elicited from the advertisements. The feelings scale contained 69 feelings as for example happy, depressed, emotional and creative, which can be divided into three dimensions, namely, upbeat, negative and warm. Finally, purchasing intention included four items (*KOOP\_1 to KOOP\_4*). In one of those items participants had to indicate whether they would like to buy the advertised product or not. Snyder and DeBono (1985) found that when consumers are exposed to advertisements with quality claims, they were willing to pay more for the advertised product and were more likely to try this product than when advertisements without quality claims. The items regarding purchasing intention are therefore based on the study of Snyder and DeBono (1985).

The second part of the online questionnaire was a recall task that deviated from the Likert-scale response format. Participants were presented with the five product advertisements in which the slogans were removed. They were asked whether they remembered the matching slogan (*ONT\_1*). Two options were provided: fill in the answer or check the option “I don’t know”. The choice of using a questionnaire was made, since a questionnaire could reach a large number of participants simultaneously.

### **3.4 Procedure**

The content of the questionnaire was presented in Dutch and participants were approached through e-mail. By clicking on the appended hyperlink, the questionnaire automatically appeared on screen. The order of items presented was for all participants the same and the approximate time needed to fill in the questionnaire was 10 minutes.

Prior to starting the questionnaire, participants were presented with an introduction in which the aim of the study was explained, the duration of the questionnaire was told, what participants could expect and the guarantee that the collected data would be processed anonymously. Moreover, the introduction emphasized that the questions concerned the slogans of the product advertisements. For the exact text of the introduction, please refer to Appendix II. After reading the introduction, participants could start to fill in the questionnaire.

First, questions regarding personal data as age, gender and highest completed educational level were asked. After filling in the personal data, a product advertisement with a matching slogan was showed. Participants were then presented with the statement: “This slogan is...”. They had to evaluate the slogan with a semantic differential response format. In addition, participants had to indicate to what extent they (dis)agreed with a number of statements regarding the product advertisement. The statements were evaluated with the seven-point Likert scale. Lastly, they had to answer some questions regarding purchasing intention. This was evaluated through a seven-point Likert scale as well. This three part division was repeated for each product; toilet paper, coffee, deodorant, earplugs and paint.

On the last page a recall task was given. The five products advertisements without the matching slogan were showed. Participants were then asked whether they remembered any matching slogan for each product. They had the option to either fill in their answers or to check the option “I don’t know”. When participants finished the questionnaire, there was a button provided with the text “Click on this button to send the questionnaire”. After clicking on this button, participants were thanked and told their data was successfully processed.

### **3.5 Research design**

Participants were randomly assigned to each questionnaire. The experiment contained a mix between a within subject and between subject design, because each participant was exposed to the five products, but different slogans. Each slogan consists of a different combination of sensory modalities.

### **3.6 Data analysis**

In order to analyze the data, it was first imported into SPSS (version 17.0). The items were structured the same as in the questionnaire: *PAS\_1 to PAS\_4*, *OVK\_1 to OVK\_4*, *BEG\_1 to BEG\_4*, *LEV\_1 to LEV\_4*, *KOOP\_1 to KOOP\_4* and *ONT\_1*. High scores on suitability, persuasiveness, comprehensibility and vivacity indicate a positive attitude towards the advertisement. High scores on purchasing intention indicate the willingness to buy the advertised product based on the slogan. It has to be noted that 27 participants did not do the task properly. Therefore, those participants were treated as missing. Regarding the recall task, remembered slogans indicate a positive effect towards the advertisement.

Before the data was analyzed, an extra set of variables for each cluster of items was created and checked on cohesion, tested by calculating the Cronbach’s alpha. The set of new variables was used to indicate the mean scores. For the mean score of suitability (*PAS\_1 to*

*PAS\_4*) was reported as *PAS\_MEAN*. With a Cronbach alpha coefficient reported of .93, there is a high internal consistency between the items regarding suitability. The mean score of the second attitude, namely, persuasiveness (*OVK 1 to OVK 4*) was reported as *OVK\_MEAN*. A Cronbach alpha coefficient reported of .85, indicates a high internal consistency between the items regarding persuasiveness. Next, *BEG\_MEAN* was reported for the mean score of comprehensibility. The Cronbach alpha reported a .78 coefficient. This means that there is a high internal consistency. The mean score of vivacity (*LEV\_1 to LEV\_4*) was reported as *LEV\_MEAN* and the mean score of purchasing intention (*KOOP\_1 to KOOP\_4*) was reported as *KOOP\_MEAN*. For both attitudes there was a high internal cohesion between the items, a coefficient of .95 and .94 respectively. Finally, after preparing the data, analyses were carried out by using one way ANOVA. To explore the relationship between slogans and recall, Chi-square test for independence was used. A percentage of successful remembered slogans can be calculated by summing up the scores of successful remembered slogans for each product. Then divide this result with the total number of evaluated slogans for each product and multiply by 100.

## CHAPTER 4

### RESULTS

As stated in chapter two, the research question is formulated as follow: *To what extent does the directionality of mapping principle in synesthetic metaphors influence attitudes toward the slogans?*

These attitudes are subdivided into: suitability, persuasiveness, comprehensibility, vivacity and purchasing intention. To find out the answer to the research question, a questionnaire was used and the results will be presented in this chapter. The structure of this chapter will be based on the attitudes: suitability, persuasiveness, comprehensibility, vivacity and purchasing intention. For each product the mean scores, standard deviations, ranking according to the *directionality of mapping* principle and actual ranking from the slogans will be reported in a table. Rank 1 can be seen as the most positive slogan, while rank 5 as the least positive. Moreover, in the last column of each table difference scores between the ranking according to the principle and actual ranking will be provided. Difference scores for each product were calculated by subtracting scores of actual ranked slogans from scores of ranked slogans according to the *directionality of mapping* principle. Next, these results were added up and subtracted from the number of equal ranked slogans. A score of -5 can thus be seen as perfect; no differences between the two rankings. Moreover, a comparison between the slogans within each product will be presented. Finally, in the sixth paragraph of this chapter the recall task will be reported. For each slogan the number of successful and unsuccessful recall will be presented in a table.

#### 4.1 Suitability

As reported in table 4.1, with a difference score of 2 the actual ranking from the advertised product deodorant was the closest to the ranking according to the *directionality of mapping* principle, followed by toilet paper, with a difference score of 3. Other products, as earplugs, paint and coffee correlated the least with the principle, with a difference score of 6, 7 and 8 respectively.

**Table 4.1** Scores of five products regarding suitability (N = 166; minimum score is 1, maximum score is 7 and perfect difference score is -5)

Product	Slogan	Mean (SD)	Ranking according to the <i>directionality of</i> <i>mapping principle</i>	Actual ranking	Difference scores
Toilet paper	1) Zijdezacht gevoel (touch - touch)	5.01 (1.06)	1	1	
	2) Zoet gevoel (taste - touch)	1.85 (.79)	2	5	
	3) Bloemig gevoel (smell - touch)	2.32 (1.01)	3	3	3
	4) Fluisterend gevoel (sound - touch)	2.10 (.76)	4	4	
	5) Mooi gevoel (sight - touch)	2.79 (1.41)	5	2	
Coffee	1) Knallende smaak (sound - taste)	3.36 (1.07)	4	4	
	2) Heldere smaak (sight - taste)	4.74 (1.52)	5	2	
	3) Stevige smaak (touch - taste)	5.53 (.81)	1	5	8
	4) Aromatische smaak (smell - taste)	5.71 (1.35)	3	1	
	5) Bittere smaak (taste - taste)	3.38 (1.24)	2	3	
Deodorant	1) Milde geur (taste - smell)	4.04 (1.31)	2	3	
	2) Frisse geur (smell - smell)	6.24 (.71)	3	1	
	3) Kleurige geur (sight - smell)	2.79 (1.21)	5	5	2
	4) Sensuele geur (touch - smell)	5.11 (1.14)	1	2	
	5) Stille geur (sound - smell)	3.00 (1.77)	4	4	
Earplugs	1) Donker geluid (sight - sound)	2.76 (1.13)	5	4	
	2) Warm geluid (touch - sound)	4.75 (1.28)	1	2	
	3) Oorverdovend geluid (sound - sound)	4.15 (1.77)	4	3	6
	4) Lavendalachtig geluid (smell - sound)	1.66 (.82)	3	5	
	5) Lekker geluid (taste - sound)	5.16 (1.36)	2	1	

Paint	1) Bloesemachtige kleur (smell – sight)	3.22 (1.40)	3	5	
	2) Sprekende kleur (sound – sight)	5.22 (1.23)	4	2	
	3) Zoete kleur (taste – sight)	3.32 (1.38)	2	4	7
	4) Bonte kleur (sight – sight)	4.65 (1.67)	5	3	
	5) Warme kleur (touch – sight)	5.37 (.89)	1	1	

#### 4.1.1 Comparisons

To compare the difference between the five slogans within each product (toilet paper, coffee, deodorant, earplugs and paint) a one-way ANOVA was used. As can be seen in table 4.2, there was a significant difference at the  $p < .05$  level in suitability for all the products.

**Table 4.2** Comparison for the five slogans in each product

Attitude	<i>Toilet paper</i>	<i>Coffee</i>	<i>Deodorant</i>	<i>Earplugs</i>	<i>Paint</i>
Suitability	$F(4, 161) = 47.7^{***}$	$F(4, 161) = 22.0^{***}$	$F(4, 159) = 47.4^{***}$	$F(4, 157) = 35.0^{***}$	$F(4, 151) = 17.5^{***}$
Effect size	.54	.35	.54	.47	.32

\*:  $p = .05$ , \*\*:  $p = .01$ , \*\*\*:  $p = .001$

Besides reaching statistical significance, the actual difference in mean scores between the slogans in toilet paper was large. The effect size, calculated using eta squared, was .54. Post-hoc comparison using the Tukey HSD test indicated that the mean score for slogan 1 was significantly different from slogan, 2, 3, 4 and 5. A second significant difference was found between slogan 2 and 5.

The actual differences in mean scores between the slogans in coffee were calculated using eta squared. The effect size was .35, which is a large effect. First, Post-hoc comparison using Tukey HSD test indicated that the mean score for slogan 1 was significantly different from slogan 2, 3 and 4. Secondly, slogan 2 differed significantly from all the other slogans. Thirdly, the Tukey HSD test found that slogan 3 besides significantly differed from 1, also significantly differed from 5. Finally, the evaluation of slogan 5 was only significantly difference from slogan 2 for suitability.

Despite reaching statistical significance for the five slogans within deodorant, the actual difference in mean scores between the slogans was large. The effect size, calculated using eta squared, was .54. According to the Tukey HSD test, slogan 1, 2 and 4 was significantly different from the rest of the slogans.

The large effect size between the slogans within earplugs, calculated using eta squared, was .47. The mean score of slogan 1 was significantly different from all the other slogans. This also counts for slogan 4. Furthermore, Tukey HSD test found that slogan 3 significantly differed from slogan 1, 4 and 5.

For the last product paint, a large effect size of .32 was found. Post-hoc comparison using Tukey HSD test indicated that slogan 1 and slogan 3 was significantly different from slogan 1, 2 and 5.

**Table 4.3.** Summary Post-hoc comparison regarding suitability, means (and standard deviations)

Toilet paper	Slogan 1 5.01 (1.06)	>	Slogan 5 2.79 (1.41)	>	Slogan 3 2.32 (1.01)	=	Slogan 4 2.10 (.76)	>	Slogan 2 1.85 (.79)
Coffee	Slogan 4 5.71 (1.35)	=	Slogan 3 5.53 (.81)	>	Slogan 2 4.74 (1.52)	>	Slogan 5 3.38 (1.24)	=	Slogan 1 3.36 (1.07)
Deodorant	Slogan 2 6.24 (.71)	>	Slogan 4 5.11 (1.14)	>	Slogan 1 4.04 (1.31)	>	Slogan 3 2.79 (1.21)	=	Slogan 5 3.00 (1.77)
Earplugs	Slogan 5 5.16 (1.36)	=	Slogan 2 4.75 (1.28)	>	Slogan 3 4.15 (1.77)	>	Slogan 1 2.76 (1.13)	>	Slogan 4 1.66 (.82)
Paint	Slogan 5 5.37 (.89)	=	Slogan 2 5.22 (1.23)	=	Slogan 4 4.65 (1.67)	>	Slogan 3 3.32 (1.38)	=	Slogan 1 3.22 (1.40)

*Notes:* Evaluation regarding suitability could range from 0 (*strongly disagree*) to 7 (*strongly agree*). There are no significant differences between means separated by an “=” mark, while the means separated by a “>” mark differ significantly.

## 4.2 Persuasiveness

The actual ranking from the advertised product earplugs was the nearest to the ranking of slogans as the *directionality of mapping* principle expected. As reported in table 4.4 the difference score between the rankings were 2, followed by a difference score of 3 for the actual ranking of coffee. Furthermore, the actual ranking of deodorant (difference score 5), paint (difference score 6) and toilet paper (difference score 7) correlated the least with the ranking according the *directionality of mapping* principle.

**Table 4.4** Scores of five products regarding persuasiveness (N = 166; minimum score is 1, maximum score is 7 and perfect difference score is -5)

Product	Slogan	Mean (SD)	Ranking according to the <i>directionality of mapping</i> principle	Actual ranking	Difference scores
Toilet paper	1) Zijdezacht gevoel (touch - touch)	3.73 (.87)	1	1	
	2) Zoet gevoel (taste - touch)	2.47(1.18)	2	4	
	3) Bloemig gevoel (smell - touch)	2.41(.92)	3	5	7
	4) Fluisterend gevoel (sound - touch)	2.84(1.17)	4	3	
	5) Mooi gevoel (sight - touch)	3.12(1.26)	5	2	
Coffee	1) Knallende smaak (sound - taste)	4.11 (1.14)	4	4	
	2) Heldere smaak (sight - taste)	4.46 (1.30)	5	2	
	3) Stevige smaak (touch - taste)	4.91 (.73)	1	1	3
	4) Aromatische smaak(smell – taste)	4.33 (1.11)	3	3	
	5) Bittere smaak (taste - taste)	3.86 (1.33)	2	5	
Deodorant	1) Milde geur (taste – smell)	3.19 (1.14)	2	4	
	2) Frisse geur (smell – smell)	4.63 (1.01)	3	1	
	3) Kleurige geur (sight – smell)	2.83 (1.00)	5	5	5
	4) Sensuele geur (touch – smell)	4.63 (1.15)	1	2	
	5) Stille geur (sound – smell)	3.33 (1.25)	4	3	
Earplugs	1) Donker geluid (sight – sound)	3.81 (1.23)	5	4	
	2) Warm geluid (touch – sound)	4.72 (1.16)	1	1	
	3) Oorverdovend geluid (sound – sound)	4.42 (1.46)	4	3	2
	4) Lavendalachtig geluid (smell – sound)	2.59 (.96)	3	5	
	5) Lekker geluid (taste – sound)	4.45 (1.48)	2	2	



Paint	1) Bloesemachtige kleur (smell – sight)	3.34 (1.28)	3	5	
	2) Sprekende kleur (sound – sight)	4.86 (1.19)	4	2	
	3) Zoete kleur (taste – sight)	3.54 (1.23)	2	4	6
	4) Bonte kleur (sight – sight)	4.06 (1.20)	5	3	
	5) Warme kleur (touch – sight)	5.58 (.95)	1	1	

#### 4.2.6 Comparisons

A one-way ANOVA was used to compare the difference between the five slogans within the following products: toilet paper, coffee, deodorant, earplugs and paint. As can be seen in table 4.5, there was a significant difference at the  $p < .05$  level in persuasiveness for all the products.

**Table 4.5** Comparison for the five slogans in each product

Attitude	Toilet paper	Coffee	Deodorant	Earplugs	Paint
Persuasiveness	$F(4, 160) = 7.6^{***}$	$F(4, 160) = 3.5^{**}$	$F(4, 157) = 16.6^{***}$	$F(4, 157) = 13.9^{***}$	$F(4, 151) = 10.0^{***}$
Effect size	.16	.07	.30	.35	.21

\*:  $p = .05$ , \*\*:  $p = .01$ , \*\*\*:  $p = .001$

Besides reaching statistical significance, there was an actual difference in mean scores between the slogans in toilet paper. Using eta squared, a large effect size of .16 was found. Post-hoc comparison using the Tukey HSD test indicated that there was a significant difference between slogan 1 and all the other slogans.

For the advertised product coffee, Tukey HSD test found that there was a significant difference between slogan 3 and slogan 5. A medium effect size of .07 was found, calculated using eta squared.

The actual difference in mean scores between the slogans in the product deodorant was large. The effect size, using eta squared, was .30. Post-hoc comparison using the Tukey HSD test indicated that slogan 1 was significantly different from slogan 2 and 4. Next, slogan 2 and

4 was besides significantly different from slogan 1 also significantly different from slogan 3 and 5. Finally, slogan 3 was also found significantly different from slogan 4.

The actual difference in mean scores between the slogans in the fourth product, namely, earplugs, was again large. Using eta squared, the effect size was .35. Post-hoc comparison using Tukey HSD test showed a significant difference between slogan 1 and slogan 2 and 4. Moreover, the test indicated that the mean score of slogan 4 was significantly different from slogan 1, 2, 3 and 5.

Finally, a large effect size was found for the last advertised product paint. Using eta squared, a score of .21 was found. Tukey HSD test displayed that the mean score for slogan 2 was significantly different from slogan 1, 3 and 4. Furthermore, slogan 5 significantly differed from slogan 1 and 4.

**Table 4.6.** Summary Post-hoc comparison regarding persuasiveness, means (and standard deviations)

Toilet paper	Slogan 1 3.73 (.87)	>	Slogan 5 3.12 (1.26)	>	Slogan 3 2.41 (.92)	=	Slogan 4 2.84 (1.18)	>	Slogan 2 2.47 (1.18)
Coffee	Slogan 4 4.33 (1.11)	=	Slogan 3 4.91 (.73)	>	Slogan 2 4.46 (1.30)	>	Slogan 5 3.86 (1.33)	=	Slogan 1 4.11 (1.14)
Deodorant	Slogan 2 4.63 (1.01)	>	Slogan 4 4.63 (1.15)	>	Slogan 1 3.19 (1.14)	>	Slogan 3 2.83 (1.00)	=	Slogan 5 3.33 (1.25)
Earplugs	Slogan 5 4.45 (1.48)	=	Slogan 2 4.72 (1.16)	>	Slogan 3 4.42 (1.46)	>	Slogan 1 3.81 (1.23)	>	Slogan 4 2.59 (.96)
Paint	Slogan 5 5.58 (.95)	=	Slogan 2 4.86 (1.19)	=	Slogan 4 4.06 (1.20)	>	Slogan 3 3.54 (1.23)	=	Slogan 1 3.34 (1.28)

*Notes:* Evaluation regarding suitability could range from 0 (*strongly disagree*) to 7 (*strongly agree*). There are no significant differences between means separated by an “=” mark, while the means separated by a “>” mark differ significantly.

### 4.3 Vivacity

The actual ranking from the slogans regarding paint correlated the most with the ranking as the *directionality of mapping* principle predicted compared to other products. As can be seen in table 4.7 the difference score is 3. In contrast, with a difference score of 10, actual ranking from deodorant corresponded to the least with the principle.

**Table 4.7** Scores of five products regarding vivacity (N = 166; minimum score is 1, maximum score is 7 and perfect difference score is -5)

Product	Slogan	Mean (SD)	Ranking according to the <i>directionality of mapping</i> principle	Actual ranking	Difference scores
Toilet paper	1) Zijdezacht gevoel (touch - touch)	2.78 (1.01)	1	5	
	2) Zoet gevoel (taste - touch)	4.30 (1.27)	2	1	
	3) Bloemig gevoel (smell - touch)	3.42 (.90)	3	3	7
	4) Fluisterend gevoel (sound - touch)	4.03 (.81)	4	2	
	5) Mooi gevoel (sight - touch)	3.45 (1.28)	5	4	
Coffee	1) Knallende smaak (sound - taste)	4.56 (1.11)	4	1	
	2) Heldere smaak (sight - taste)	3.75 (1.19)	5	4	
	3) Stevige smaak (touch - taste)	3.48 (.78)	1	3	7
	4) Aromatische smaak (smell - taste)	2.91 (.90)	3	5	
	5) Bittere smaak (taste - taste)	3.38 (1.24)	2	2	
Deodorant	1) Milde geur (taste - smell)	2.71 (.89)	2	5	
	2) Frisse geur (smell - smell)	2.88 (.97)	3	4	
	3) Kleurige geur (sight - smell)	3.77 (.92)	5	3	10
	4) Sensuele geur (touch - smell)	4.09 (1.23)	1	2	
	5) Stille geur (sound - smell)	4.14 (1.07)	4	1	
Earplugs	1) Donker geluid (sight - sound)	4.51 (1.07)	5	2	
	2) Warm geluid (touch - sound)	4.50 (1.03)	1	3	
	3) Oorverdovend geluid (sound - sound)	4.28 (1.17)	4	4	9
	4) Lavendalachtig geluid (smell - sound)	4.60 (1.35)	3	1	
	5) Lekker geluid (taste - sound)	3.58 (1.24)	2	5	

Paint	1) Bloesemachtige kleur (smell – sight)	3.96 (1.18)	3	3	
	2) Sprekende kleur (sound – sight)	4.54 (1.10)	4	1	
	3) Zoete kleur (taste – sight)	4.06 (1.28)	2	2	3
	4) Bonte kleur (sight – sight)	3.60 (1.16)	5	5	
	5) Warme kleur (touch – sight)	3.63 (.88)	1	4	

#### 4.3.6 Comparisons

To compare the difference between the five slogans within each product (toilet paper, coffee, deodorant, earplugs and paint) a one-way ANOVA was used. As can be seen in table 4.8, there was a significant difference at the  $p < .05$  level in vivacity for all the products.

**Table 4.8** Comparison for the five slogans in each product

Attitude	Toilet paper	Coffee	Deodorant	Earplugs	Paint
Vivacity	$F = (4, 157) = 10.1^{***}$	$F = (4, 159) = 8.8^{***}$	$F = (4, 161) = 13.6^{***}$	$F = (4, 154) = 3.6^{**}$	$F = (4, 151) = 4.6^{**}$
Effect size	.20	.18	.25	.08	.11

\*:  $p = .05$ , \*\*:  $p = .01$ , \*\*\*:  $p = .001$

There was an actual difference in mean scores between the slogans presented with toilet paper. A large effect size of .20 was found, using eta squared. Tukey HSD test indicated that there was a significant difference between slogan 1 and slogans 2 and 4. A second significant difference was found between slogan 2 and slogans 1, 3 and 5.

Using eta squared, an effect size of .18 was found which means that the actual difference between slogans in coffee was large. Post-hoc comparison using the Tukey HSD test found that the mean score of slogan 1 significantly differed from slogan 2, 3 and 4. Furthermore, a significant difference was found between the mean scores of slogan 4 and slogan 1, 2 and 5.

As table 4.8 presents, there was a statistically significant difference at the  $p < .05$  level in vivacity for the five slogans concerning deodorant:  $F(4, 161) = 13.6$ ,  $p = .001$ . Despite reaching statistical significance, the actual difference in mean scores between the five slogans was large. An effect size of .25, using eta squared, was found. According to the Tukey HSD

test, the mean scores of slogan 1 as well as slogan 2 significantly differed from slogan 3, 4 and 5.

More significant difference was found for the mean scores of the five slogans within earplugs. With the Tukey HSD test, the difference was found between slogan 5 and slogan 1, 2 and 4. The actual difference in mean scores between these slogans was medium. The effect size, calculated using eta squared, was .08.

Finally, a difference in mean scores between slogans regarding paint was quite large. An effect size of .11 was found, calculated using eta squared. Post-hoc comparison using the Tukey HSD test indicated that the mean score for slogan 2 was significantly different from the slogans 4 and 5.

**Table 4.9.** Summary Post-hoc comparison regarding vivacity, means (and standard deviations)

Toilet paper	Slogan 2 4.30 (1.27)	=	Slogan 4 4.03 (.81)	>	Slogan 3 3.42 (.90)	=	Slogan 5 3.45 (1.28)	>	Slogan 1 2.78 (1.01)
Coffee	Slogan 1 4.56 (1.11)	>	Slogan 5 3.38 (1.24)	=	Slogan 2 3.75 (1.19)	=	Slogan 3 3.48 (.78)	>	Slogan 1 4.56 (1.11)
Deodorant	Slogan 3 3.77 (.92)	=	Slogan 4 4.09 (1.23)	=	Slogan 5 4.14 (1.07)	>	Slogan 1 2.71 (.89)	=	Slogan 2 2.88 (.97)
Earplugs	Slogan 4 4.60 (1.35)	=	Slogan 1 4.51 (1.07)	=	Slogan 2 4.50 (1.03)	=	Slogan 3 4.28 (1.17)	>	Slogan 5 3.58 (1.24)
Paint	Slogan 2 4.54 (1.10)	>	Slogan 3 4.06 (1.28)	=	Slogan 1 3.96 (1.18)	=	Slogan 4 3.60 (1.16)	=	Slogan 5 3.63 (.88)

*Notes:* Evaluation regarding suitability could range from 0 (*strongly disagree*) to 7 (*strongly agree*). There are no significant differences between means separated by an “=” mark, while the means separated by a “>” mark differ significantly.

#### 4.4 Comprehensibility

With difference scores of 2 and 3 actual ranking of slogans regarding deodorant and coffee, the ranking of these products correlated the most with the ranking according to the *directionality of mapping* principle. In contrast, ranking of the slogans in paint differed the most from the predicted ranking according to the principle. As can be seen in table 4.10, the difference score was 7.

**Table 4.10** Scores of five products regarding comprehensibility (N = 166; min. score is 1, max. score is 7 and perfect difference score is -5)

Product	Slogan	Mean (SD)	Ranking according to the <i>directionality of mapping</i> principle	Actual ranking	Difference scores
Toilet paper	1) Zijdezacht gevoel (touch - touch)	5.21 (.79)	1	1	
	2) Zoet gevoel (taste - touch)	2.35 (1.24)	2	4	
	3) Bloemig gevoel (smell - touch)	2.73 (1.33)	3	3	4
	4) Fluisterend gevoel (sound - touch)	2.17 (1.00)	4	5	
	5) Mooi gevoel (sight - touch)	3.67 (1.42)	5	2	
Coffee	1) Knallende smaak (sound - taste)	4.00 (1.42)	4	5	
	2) Heldere smaak (sight - taste)	4.77 (1.68)	5	4	
	3) Stevige smaak (touch - taste)	5.70 (.68)	1	1	3
	4) Aromatische smaak (smell - taste)	5.50 (1.26)	3	2	
	5) Bittere smaak (taste - taste)	5.14 (1.37)	2	3	
Deodorant	1) Milde geur (taste - smell)	4.28 (1.54)	2	3	
	2) Frisse geur (smell - smell)	6.41 (.70)	3	1	
	3) Kleurige geur (sight - smell)	2.87 (1.12)	5	5	2
	4) Sensuele geur (touch - smell)	5.34 (1.18)	1	2	
	5) Stille geur (sound - smell)	3.01 (1.87)	4	4	
Earplugs	1) Donker geluid (sight - sound)	2.65 (1.33)	5	4	
	2) Warm geluid (touch - sound)	4.93 (1.17)	1	2	
	3) Oorverdovend geluid (sound - sound)	4.81 (1.51)	4	3	6
	4) Lavendalachtig geluid (smell - sound)	1.89 (.94)	3	5	
	5) Lekker geluid (taste - sound)	5.14 (1.62)	2	1	

Paint	1) Bloesemachtige kleur (smell – sight)	3.18 (1.44)	3	5	
	2) Sprekende kleur (sound – sight)	5.23 (1.40)	4	2	
	3) Zoete kleur (taste – sight)	3.38 (1.27)	2	4	7
	4) Bonte kleur (sight – sight)	4.33 (1.80)	5	3	
	5) Warme kleur (touch – sight)	5.33 (1.06)	1	1	

#### 4.4.6 Comparisons

A one-way ANOVA was used to compare the difference between the five slogans within the following products: toilet paper, coffee, deodorant, earplugs and paint. As can be seen in table 4.11, there was a significant difference at the  $p < .05$  level in comprehensibility for all the products.

**Table 4.11** Comparison for the five slogans in each product

Attitude	<i>Toilet paper</i>	<i>Coffee</i>	<i>Deodorant</i>	<i>Earplugs</i>	<i>Paint</i>
Comprehensibility	$F = (4, 155) = 33.2^{***}$	$F = (4, 155) = 6.9^{***}$	$F = (4, 151) = 43.3^{***}$	$F = (4, 152) = 36.3^{***}$	$F = (4, 147) = 14.8^{***}$
Effect size	.46	.15	.53	.49	.29

\*:  $p = .05$ , \*\*:  $p = .01$ , \*\*\*:  $p = .001$

Despite reaching statistical significance, the actual difference in mean scores between each slogan within the product toilet paper was large. The effect size, calculated using eta squared, was .46. Post-hoc comparison using the Tukey HSD test indicated that there was significantly different between slogan 1 and the other slogans. The same concerned for slogan 5. Tukey HSD test found that slogan 5 significantly differed from slogans 1, 2, 3 and 4.

An effect size of .15 was found for the actual difference in mean scores between the five slogans presented with coffee. This means that the difference in mean scores was quite large. Tukey HSD test found that the mean score for slogan 1 was significantly different from slogan 3, 4 and 5. A second significant different was found between slogan 2 and slogan 3.

Calculated using eta squared, the large effect size of .53 between the actual mean scores of each slogan within deodorant advertisements was found. With the Tukey HSD test,

some significant differences were found. First, a significant difference in mean scores was found between slogan 1 and slogan 2, 3, 4 and 5. A second significant difference was found between slogan 2 and slogan 3, 4 and 5. Thirdly, Post-hoc comparison using Tukey HSD test indicated that the mean scores for slogan 3 was significantly different from slogan 4. Finally, mean scores of slogan 4 was significantly different from slogan 5.

For earplugs, the Tukey HSD test indicated that the mean scores for slogan 1 was significantly different from slogan 2, 3 and 5. Moreover, a second significant difference was found between slogan 4 and slogan 2, 3 and 5 as well. Again, with a large effect size of .49 was found.

For the actual difference in mean scores between slogans in the last product paint, a large effect size of .29 was found. Post-hoc comparison using the Tukey HSD test found that mean scores of slogan 1 as well as slogan 3 significantly differed from slogan 2 and 5. Finally, a significant difference was found between mean scores of slogan 2 and slogan 3.

**Table 4.12.** Summary Post-hoc comparison regarding comprehensibility, means (and standard deviations)

Toilet paper	Slogan 1 5.21 (.79)	>	Slogan 5 3.67 (1.42)	>	Slogan 2 2.35 (1.24)	=	Slogan 3 2.73 (1.33)	=	Slogan 4 2.17 (1.00)
Coffee	Slogan 3 5.70 (.68)	=	Slogan 4 5.50 (1.26)	=	Slogan 5 5.14 (1.37)	=	Slogan 2 4.77 (1.68)	>	Slogan 1 4.00 (1.42)
Deodorant	Slogan 2 6.41 (.70)	>	Slogan 4 5.34 (1.18)	>	Slogan 1 4.28 (1.54)	>	Slogan 3 2.87 (1.12)	=	Slogan 5 3.01 (1.87)
Earplugs	Slogan 5 5.14 (1.62)	=	Slogan 2 4.93 (1.17)	=	Slogan 3 4.81 (1.51)	>	Slogan 1 2.65 (1.33)	>	Slogan 4 1.89 (.94)
Paint	Slogan 5 5.33 (1.06)	=	Slogan 2 5.23 (1.40)	=	Slogan 4 4.33 (1.80)	>	Slogan 3 3.38 (1.27)	=	Slogan 1 3.18 (1.44)

*Notes:* Evaluation regarding suitability could range from 0 (*strongly disagree*) to 7 (*strongly agree*). There are no significant differences between means separated by an “=” mark, while the means separated by a “>” mark differ significantly.

#### 4.5 Purchasing intention

As reported in table 4.13, ranking of the slogans in the advertised product earplugs correlated the most with the *directionality of ranking* principle. The difference score between the two rankings was 2. With a difference score of 10, ranking of the slogans in paint differed the most from the ranking according to the principle.



**Table 4.13** Scores of five products regarding purchasing intention (N = 166; min. score is 1, max. score is 7 and perfect difference score is -5)

Product	Slogan	Mean (SD)	Ranking according to the <i>directionality of mapping</i> principle	Actual ranking	Difference scores
Toilet paper	1) Zijdezacht gevoel (touch - touch)	3.37 (1.14)	1	1	
	2) Zoet gevoel (taste - touch)	2.08 (1.07)	2	5	
	3) Bloemig gevoel (smell - touch)	3.16 (.75)	3	2	4
	4) Fluisterend gevoel (sound - touch)	2.34 (1.18)	4	4	
	5) Mooi gevoel (sight - touch)	3.09 (1.33)	5	3	
Coffee	1) Knallende smaak (sound - taste)	3.59 (1.51)	4	4	
	2) Heldere smaak (sight - taste)	3.90 (1.68)	5	3	
	3) Stevige smaak (touch - taste)	4.27 (1.24)	1	2	7
	4) Aromatische smaak (smell - taste)	4.43 (1.12)	3	1	
	5) Bittere smaak (taste - taste)	2.27 (1.46)	2	5	
Deodorant	1) Milde geur (taste - smell)	2.99 (1.45)	2	4	
	2) Frisse geur (smell - smell)	4.21 (1.34)	3	1	
	3) Kleurige geur (sight - smell)	2.64 (1.11)	5	5	5
	4) Sensuele geur (touch - smell)	3.93 (1.34)	1	2	
	5) Stille geur (sound - smell)	3.01 (1.71)	4	3	
Earplugs	1) Donker geluid (sight - sound)	3.43 (1.46)	5	4	
	2) Warm geluid (touch - sound)	4.44 (1.49)	1	1	
	3) Oorverdovend geluid (sound - sound)	3.53 (1.76)	4	3	2
	4) Lavendalachtig geluid (smell - sound)	2.39 (1.38)	3	5	
	5) Lekker geluid (taste - sound)	4.21 (1.41)	2	2	

Paint	1) Bloesemachtige kleur (smell – sight)	2.75 (1.31)	3	5	
	2) Sprekende kleur (sound – sight)	4.33 (1.56)	4	1	
	3) Zoete kleur (taste – sight)	3.14 (1.31)	2	4	10
	4) Bonte kleur (sight – sight)	3.46 (1.21)	5	3	
	5) Warme kleur (touch – sight)	4.09 (1.19)	1	2	

#### 4.5.6 Comparisons

Again, a one-way ANOVA was used to compare the difference between the five slogans within the following products: toilet paper, coffee, deodorant, earplugs and paint. Table 4.14 presents a significant difference at the  $p < .05$  level in purchasing intention for all the products.

**Table 4.14** Comparison for the five slogans in each product

Attitude	Toilet paper	Coffee	Deodorant	Earplugs	Paint
Purchasing intention	$F = (4, 158)$ = 9.2***	$F = (4, 154)$ = 10.1***	$F = (4, 153)$ = 6.6***	$F = (4, 152)$ = 8.8***	$F = (4, 147)$ = 7.0***
Effect size	.19	.21	.15	.19	.16

\*:  $p = .05$  , \*\*:  $p = .01$  , \*\*\*:  $p = .001$

A one-way ANOVA was conducted to compare the scores of each slogan regarding toilet paper. Post-hoc comparison using Tukey HSD test indicated that the mean scores of slogan 1 was significantly different from slogan 2 and 4. In addition, slogan 2 significantly differed from slogan 1, 3 and 5. As third significant difference the Tukey HSD test found, was between slogan 3 and slogan 2 and 4. The actual difference in mean scores between the slogans was large. The effect size, using eta squared, was .19.

The second product, namely, coffee had a large effect size of .21. This was calculated using eta squared. The Tukey HSD test showed that the mean score for slogan 5 was significantly different from slogan 1, 2, 3 and 4.

An effect size of .15 was found, which means that the actual difference in mean scores between the five slogans regarding deodorant was large. Two significant differences

were found between the five slogans. This was done by a post-hoc comparison using the Tukey HSD test. The test found that the mean score for slogan 2 was significantly different from slogan 1, 3 and 5. The second significant difference was found between slogan 3 and slogan 2 and 4.

Again, the actual difference in mean scores between the five slogans regarding earplugs was large. An effect size of .19, calculated using eta squared, was found. Additionally, the Tukey HSD test indicated that the mean score for slogan 4 was significantly different from slogan 2, 3 and 5.

For the last product paint, a large effect size of .16, using eta squared, was found. According to the Tukey HSD test, the mean score for slogan 1 was significantly different from slogan 2 and 5. Moreover, a significant difference was found between slogan 2 and slogan 1 and 3.

**Table 4.15.** Summary Post-hoc comparison regarding purchasing intention, means (and standard deviations)

Toilet paper	Slogan 1 3.37 (1.14)	=	Slogan 3 3.16 (.75)	=	Slogan 5 3.09 (1.33)	>	Slogan 4 2.34 (1.18)	=	Slogan 2 2.08 (1.07)
Coffee	Slogan 4 4.43 (1.12)	=	Slogan 3 4.27 (1.24)	=	Slogan 2 3.90 (1.68)	=	Slogan 1 3.59 (1.51)	>	Slogan 5 2.27 (1.46)
Deodorant	Slogan 2 4.21 (1.34)	=	Slogan 4 3.93 (1.24)	>	Slogan 5 3.01 (1.71)	=	Slogan 1 2.99 (1.45)	=	Slogan 3 2.64 (1.11)
Earplugs	Slogan 2 4.44 (1.49)	=	Slogan 5 4.21 (1.41)	=	Slogan 3 3.53 (1.76)	=	Slogan 1 3.43 (1.46)	>	Slogan 4 2.39 (1.38)
Paint	Slogan 2 4.33 (1.56)	=	Slogan 5 4.09 (1.19)	>	Slogan 4 3.46 (1.21)	=	Slogan 3 3.14 (1.31)	=	Slogan 1 2.75 (1.31)

*Notes:* Evaluation regarding suitability could range from 0 (*strongly disagree*) to 7 (*strongly agree*). There are no significant differences between means separated by an “=” mark, while the means separated by a “>” mark differ significantly.

#### 4.6 Recall task

The final part of the questionnaire involved a recall task; participants were presented with the five product advertisements in which the slogans were removed and then asked whether they remembered the matching slogan. It was to see which slogan had the most impact on participants, positively as well as negatively. Table 4.17 presents for each slogan how many participants successfully and unsuccessfully remembered them.

**Table 4.17** Scores of recall task (numbers of slogans successfully:unsuccessfully remembered)

Product	Slogan	Slogan remembered	
		successfully	unsuccessfully
Toilet paper	1) Zijdezacht gevoel (touch - touch)	19	3
	2) Zoet gevoel (taste - touch)	23	23
	3) Bloemig gevoel (smell - touch)	16	15
	4) Fluisterend gevoel (sound - touch)	14	13
	5) Mooi gevoel (sight - touch)	12	16
Coffee	1) Knallende smaak (sound - taste)	11	10
	2) Heldere smaak (sight - taste)	31	15
	3) Stevige smaak (touch - taste)	20	11
	4) Aromatische smaak(smell – taste)	17	10
	5) Bittere smaak (taste - taste)	24	4
Deodorant	1) Milde geur (taste – smell)	17	4
	2) Frisse geur (smell – smell)	23	6
	3) Kleurige geur (sight – smell)	15	16
	4) Senseuele geur (touch – smell)	20	7
	5) Stille geur (sound – smell)	44	4
Earplugs	1) Donker geluid (sight – sound)	20	1
	2) Warm geluid (touch – sound)	38	12
	3) Oorverdovend geluid (sound – sound)	23	8
	4) Lavendalachtig geluid (smell – sound)	17	10
	5) Lekker geluid (taste – sound)	20	8
Paint	1) Bloesemachtige kleur (smell – sight)	15	6
	2) Sprekende kleur (sound – sight)	31	16
	3) Zoete kleur (taste – sight)	19	12

4) Bonte kleur (sight – sight)	24:3
5) Warme kleur (touch – sight)	26:1

Participants successfully remembered 54.5% of the slogans in product advertisements involving toilet paper. Next, of all slogans in the advertised product coffee, 103 slogans were successfully remembered by participants. This means 61.4% of total examined slogans in coffee. Furthermore as can be seen in table 4.17, slogans according deodorant, earplugs and paint were largely successful remembered, respectively 76.3%, 75.2% and 75.2%.

## CHAPTER 5

### DISCUSSION

The literature suggest that printed and pictorial metaphors are an effective way to persuade audiences (Brennan & Bahn, 2006; Sopory & Dillard, 2002), improve consumers' attitudes towards the brand and advertisement as well as purchasing intention (Ang, Ai, & Lim, 2006). It is reasonable to assume that the positive influence also applies when a specific metaphor, namely synesthetic metaphors, are used. In addition, results of conducted studies suggested that synesthetic metaphors mapping from a lower sensory modality to a higher modality are more likely preferred and experienced as more natural than when it is mapped reversely (Shen, 1997). The advancement of mapping from a lower sensory modality to a higher sensory modality is also called the *directionality of mapping* principle. However, what has not been examined so far is the influence of synesthetic metaphors in a Dutch advertising context. The aim of this study is therefore to identify the effect of synesthetic metaphors in slogans on consumers' behavior and attitude towards an advertised product. The following sub hypotheses were made based on the aim of this study and the *directionality of mapping* principle:

*H2: Suitability of slogans will be evaluated as more positively or negatively depending on the sensory combination conforms or contradicted to the hierarchy.*

*H3: Persuasiveness of slogans will be evaluated as more positively or negatively depending on the sensory combination conforms or contradicted to the hierarchy.*

*H4: Comprehensibility of slogans will be evaluated as more positively or negatively depending on the sensory combination conforms or contradicted to the hierarchy.*

*H5: Vivacity of slogans will be evaluated as more positively or negatively depending on the sensory combination conforms or contradicted to the hierarchy.*

*H6: Products in slogans will be evaluated as more or less likely to purchase depending on the sensory combination conforms or contradicted to the hierarchy.*

Results revealed inconsistent evaluations for each attitude. While some slogans were evaluated more positively when it conformed to the *directionality of mapping* hierarchy, others were evaluated negatively. Therefore, hits were randomly distributed. The sensory combinations among the hits were varied, for example, evaluations regarding persuasiveness sensory combinations sound-taste, sight-smell and touch-sound were evaluated according the *directionality of mapping* principle. It is however remarkable that the majority of slogans in which the source domain includes the sense touch were evaluated as most positive. In general, based on the difference scores regarding persuasiveness, comprehensibility and purchasing intention, these attitudes were evaluated as slightly more positive than the attitudes suitability and vivacity when sensory combinations conformed to the hierarchy. This means that actual rankings of slogans regarding persuasiveness, comprehensibility and purchasing intention were in some way correlated to the rankings according to the *directionality of mapping* principle. Therefore, hypotheses 3, 4 and 6 are partially conformed.

All in all, an answer can be given for the following research question: *To what extent does the directionality of mapping principle in synesthetic metaphors influence attitudes toward the advertisement?* Results showed that slogans conformed to the hierarchy were evaluated as slightly more suitable, comprehensible and participants were more likely to purchase the advertised product. An overall conclusion that can be drawn from this result is that a small part of synesthetic metaphorical slogans conform the *directionality of mapping* principle will positively affect consumers' attitude toward slogans. Consequently, the following main hypothesis is partially confirmed: a bottom-up approach to the sensory hierarchy in synesthetic metaphors will have a positive effect on attitudes toward slogans.

Despite the fact that the majority of synesthetic metaphorical slogans did not affect the consumer's attitude, the consumers did remember most of the slogans. Results revealed that for each product at least 50% of the slogans were remembered by the participants. The retention rate for some products, such as deodorant, earplugs and paint was even 75% or more. An explanation for the high rate of recall could be that some slogans were perceived as abnormal and while others were perceived as common; both kind of slogans will therefore be remembered by participants.

Several possible explanations can be given for the inconsistent finding and the fact that only synesthetic metaphors containing the sensory combination touch-touch positively influenced consumers' attitude toward advertisements. First of all, Werning, Fleischhauer and Beşeoğlu (2006) found a different direction of mapping regarding sensory modalities than Ullman (1957). Although the order of sensory modalities in synesthetic metaphors turned out

to be a significant factor in Werning, Fleischhauer and Beşeoğlu's study (2006), a linear order (as Ullman claims) for these modalities can be disconfirmed. Figure 2 shows the directionality of mapping according to Werning, Fleischhauer and Beşeoğlu (2006).

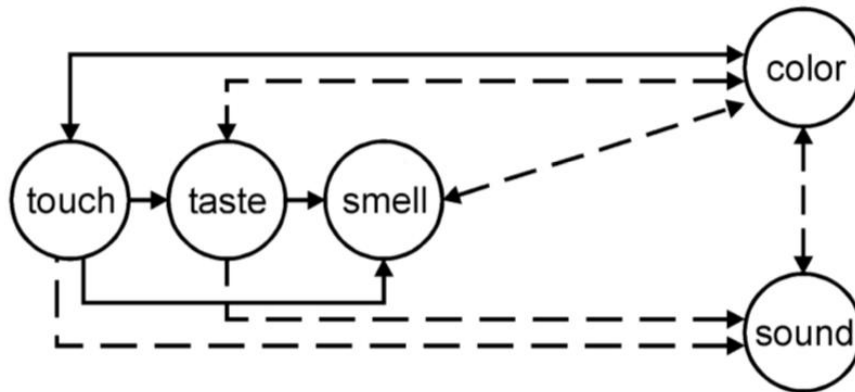


Figure 3. Directionality of mapping according to Werning, Fleischhauer and Beşeoğlu (2006). Black arrows show significant enhancement, while dotted lines represent not significantly impeded directions. Adapted from 'The Cognitive Accessibility of Synaesthetic Metaphors' by *Proceedings of the 28th annual conference of the cognitive science society*, 2365–2370.

As shown, the sensory modality touch, for example in a touch-touch or touch-taste slogan, is the best source domain, since it has the most non-dotted arrows pointing to other modalities. In addition, Werning, Fleischhauer and Beşeoğlu (2006) found that frequency and morphological derivation influence the accessibility of synesthetic metaphors as well. An example of a source domain that morphological derived from a noun is: 'aromatic'. Aromatic comes from the noun aroma. Results showed that derived adjectives tend to reduce the accessibility of metaphors, whereas non-derived adjectives tend to increase the accessibility. Moreover, the degree of accessibility is also dependent on how often a synesthetic metaphor is used. Overused synesthetic metaphors become a dead metaphor, which means that this metaphor lost its figurative value. Referring to Lakoff and Johnson (1980), overused metaphors also can be named as conventionalized metaphors; metaphors that are conventionalized in everyday language and not immediately recognized as metaphors. Taken together, it is reasonable that the slogan 'a silky soft feeling' and 'a strong taste' was evaluated more positive than other slogans. First of all, the slogans have the best sensory modality as source domain, which is touch. Secondly, the source domain of these slogans, can be seen as a genuine adjective and thus not morphological derived from another noun. Finally, the slogans 'a silky soft feeling' and 'a strong taste' are commonly used and thus overused metaphors. Consequently, consumers do not perceive these slogans as a metaphor.



A second possible reason for the inconsistent results is related to consumers' choice. Some studies suggest that consumer choices are driven by utilitarian and symbolic considerations. In turn, this leads to different evaluations and attitudes toward the advertised product (Dhar & Wertenbroch, 2000). Utilitarian products are primarily instrumental, functional and possess a rational appeal (Hirschman and Holbrook, 1982). An example of a utilitarian product is a microwave. In contrast, hedonic products are more used for its experience, like fun and enjoyment. They allow consumers to express their status and prestige, also labeled as conspicuous consumption (Sundie et al., 2011). In this study, toilet paper and deodorant can be clearly classified as utilitarian products. Coffee, earplugs and paint could be perceived as either symbolic or utilitarian products. On the one hand the three products can be purchased to express consumers' status and to impress others. On the other hand it can also be purchased for primarily functional reasons, like for own use. Work by Ang and Lim (2006) suggest that symbolic products are perceived as more sophisticated and exciting, but less sincere and competent than utilitarian products. In addition, metaphors are also perceived as sophisticated and exciting. Using metaphors will enhance the values of utilitarian products, since it adds the elements of sophistication and excitement to utilitarian products. Conversely, since symbolic products are already perceived as sophisticated and exciting, the effects of metaphors on these products would be minimal. As mentioned before, the inconsistent findings of this study could be caused by the ambiguous classification of coffee, earplugs and paint among participants. As a result, the participants could derive different evaluations and attitudes from the products depending on how they perceive it.

A final explanation could be that participants already had an either positive or negative attitude towards the advertisement due to former experience with the advertised products. Therefore, measured attitudes in this study can be a reflection of their previous experience of products, instead of attitudes induced by the advertisements. Toilet paper is not influenced by this, since negative experience with toilet paper is likely limited. One of the most important requirements for toilet paper is that it is soft. Therefore, it seems that the positive evaluation towards the slogan 'a silky soft feeling' is based on this requirement. Compared to toilet paper, an extensive choice of brands is offered for the products coffee, deodorant, earplugs and paint. Even within each brand there is a vast array of alternatives among for its products. As a result of the freedom of choice, it could be assumed that consumers differ in their preferences and requirements regarding the brand and type of product. Consequently, experiences and attitudes towards products will differ among consumers.

*Limitations and future research*

In conclusion, this study explored the relationship between the *directionality of mapping* principle of synesthetic metaphors in slogans and attitudes toward advertisements. It revealed that only the slogan containing a touch-touch combination for toilet paper positively influenced the participants' attitudes towards the advertisement. There are however some limitations. First of all, no pilot study was done before designing the slogans. This might explain some of the non-significant results. For the internal validity, it would have been useful to indicate what the effect of each product was on participants. For example, some participants could favor earplugs over coffee and as a result they would be more likely to purchase earplugs and evaluate this product as more positively than coffee. In addition, it would also be useful to pre-test the adjectives used for each slogan. By measuring the attitudes toward the adjectives prior to the study, we would be able to determine whether the adjectives induce positive, neutral or negative attitudes. Neutral words should have been used to prevent mediation effects caused by the adjectives. A second limitation is that there were more female participants than male participants in this study and therefore the results cannot be generalized to the Dutch population. A next limitation is that the buying intentions in this study differ from real world situations. When participants were asked to indicate how likely they would buy the advertised product, they did not have to spend money and did not have to live with possible consequences. In other words: their choices were riskless. Other effects could be found when participants had to face real purchasing risks. Also, the advertisements used in this study were not actual, real world advertisements. They are therefore not representative to real world and thus not generalizable.

In short, this study provides some insights on the influence of synesthetic metaphors in slogans on consumers' behavior and attitude towards an advertised product. Future research may examine whether and to what extent synesthetic metaphors in other forms than printed advertisements affect consumers' behavior and attitude. Other forms include visual and audio advertisements (television) or only audio advertisements (radio).

**REFERENCES**

- Ang, S. H., Ai, E., & Lim, C. (2006). The Influence of Metaphors and Product Type on Brand Personality Perceptions and Attitudes, *35*(2), 39–53.
- Brennan, I., & Bahn, K. D. (2006). Literal versus Extended Symbolic Messages and Advertising Effectiveness: The Moderating Role of Need for Cognition. *Wiley interscience*, *23*(4), 273–295. doi:10.1002/mar
- Dhar, R., & Wertenbroch, K. (2000). Consumer Choice Between Hedonic and Utilitarian Goods, *XXXVII*(February), 60–71.
- Eagly, A. H., & Chaiken, S. (1993). *The psychology of attitudes*. Forth Worth, TX: Harcourt Brace Jovanovich.
- Edell, J. A., & Burke, M. C. (1987). Power of Feelings Effects in Understanding Advertising, *14*(3), 421–433.
- Grossenbacher, P. G., & Lovelace, C. T. (2001). Mechanisms of synesthesia: cognitive and physiological constraints. *Trends in cognitive sciences*, *5*(1), 36–41.
- Hirschman, E. C. and Holbrook M. B. (1982), “Hedonic Consumption: Emerging Concepts, Methods and Proposition,” *Journal of Marketing*, *46* (Summer), 92-101.
- Lakoff, G., & Johnson, M. (1980). The Metaphorical Structure of the Human Conceptual System. *Cognitive Science*, *4*(2), 195–208.
- MacKenzie, S. B., Lutz, R. J., & Belch, G. E. (1986). The role of attitude toward the ad as a mediator of advertising effectiveness: A test of competing explanations. *Journal of Marketing Research*, *23*, 130-143.
- McQuarrie, E. F., & Phillips, B. J. (2005). How Consumers Process Metaphors Presented in Pictures and Words, *34*(2), 7–20.
- Pryor, K., & Brodie, R. J. (1998). Report Information from ProQuest. *Journal of Product & Brand Management*, *7*(6), 497–508.
- Shen, Y. (1997). Cognitive constraints on poetic figures. *Cognitive Linguistics*, *8*(1), 33–72. doi:10.1515/cogl.1997.8.1.33
- Shen, Y., & Gil, D. (2008). Sweet Fragrances from Indonesia: A Universal Principle Governing Directionality in Synaesthetic Metaphors. *Institute for Evolutionary Anthropology*, 1–17.
- Snyder, M., & DeBono, K. G. (1985). Appeals to image and claims about quality: Understanding the psychology of advertising. *Journal of Personality and Social Psychology*, *49*(3), 586–597. doi:10.1037//0022-3514.49.3.586

- Sopory, P., & Dillard, J. P. (2002). The Persuasive Effects of Metaphor: A literature review and meta-analysis. *Human Communication Research*, 28(3).
- Spector, F., & Maurer, D. (2009). Synesthesia: a new approach to understanding the development of perception. *Developmental psychology*, 45(1), 175–89. doi:10.1037/a0014171
- Sundie, J. M., Kenrick, D. T., Griskevicius, V., Tybur, J. M., Vohs, K. D., & Beal, D. J. (2011). Peacocks, Porsches, and Thorstein Veblen: conspicuous consumption as a sexual signaling system. *Journal of personality and social psychology*, 100(4), 664–80. doi:10.1037/a0021669
- Ullman, Shimon (1957) "Panchronistic Tendencies in Synaesthesia", in S. Ullman ed. *The Principles of Semantics*, Blackwell, Oxford, 266-289.
- Werning, M., Fleischhauer, J., & Beşeoğlu, H. (2006). The Cognitive Accessibility of Synaesthetic Metaphors. *Proceedings of the 28th annual conference of the cognitive science society*, 2365–2370.
- Williams, J. (1976) 'Synaesthetic Adjectives: a Possible Law of Semantic Change', *Language* 52(2), 461-478.
- Yu, N. (2003). Synesthetic metaphor : A cognitive perspective. *Journal of Literary Semantics*, 32, 19–34.

**Appendix I****(AD\_NR 1)****WC papier**

- |                       |               |
|-----------------------|---------------|
| 1. Zijdezacht gevoel  | Touch – Touch |
| 2. Zoet gevoel        | Taste – Touch |
| 3. Bloemig gevoel     | Smell – Touch |
| 4. Fluisterend gevoel | Sound – Touch |
| 5. Mooi gevoel        | Sight – Touch |

**(AD\_NR 2)****Koffie**

- |                      |               |
|----------------------|---------------|
| 1. Knallende smaak   | Sound – Taste |
| 2. Heldere smaak     | Sight - Taste |
| 3. Stevige smaak     | Touch – Taste |
| 4. Aromatische smaak | Smell – Taste |
| 5. Bittere smaak     | Taste – Taste |

**(AD\_NR 3)****Deodorant**

- |                  |               |
|------------------|---------------|
| 1. Milde geur    | Taste – Smell |
| 2. Frisse geur   | Smell – Smell |
| 3. Kleurige geur | Sight – Smell |
| 4. Sensuele geur | Touch – Smell |
| 5. Stille geur   | Sound – Smell |

**(AD\_NR 4)****Oordopjes**

- |                          |               |
|--------------------------|---------------|
| 1. Donker geluid         | Sight – Sound |
| 2. Warm geluid           | Touch – Sound |
| 3. Oorverdovend geluid   | Sound – Sound |
| 4. Lavendelachtig geluid | Smell – Sound |
| 5. Lekker geluid         | Taste – Sound |

**(AD\_NR 5)****Verf**

- |                         |               |
|-------------------------|---------------|
| 1. Bloesemachtige kleur | Smell – Sight |
| 2. Sprekende kleur      | Sound – Sight |
| 3. Zoete kleur          | Taste – Sight |
| 4. Bonte kleur          | Sight – Sight |
| 5. Warme kleur          | Touch – Sight |

## Appendix II

Beste deelnemer,

Voor onze opleiding Communicatie- en Informatiewetenschappen doen wij een onderzoek naar het optimaliseren van productadvertenties. Daarom vragen wij u om uw oordeel te geven over verschillende advertenties. Het onderzoek duurt ongeveer 10 minuten.

Het is belangrijk dat u in een rustige omgeving zit waarin u niet wordt afgeleid en u zich kunt concentreren op het onderzoek.

Deze enquête bevat 5 verschillende productadvertenties met daarbij bijbehorende slogans. Elke slogan dient u op verschillende aspecten te beoordelen.

Wij willen u erop attent maken dat het om de slogans gaat en niet om de productverpakkingen.

Het gaat om uw eerste ingeving dus denk niet te lang na over de antwoorden.

Al uw antwoorden worden anoniem verwerkt.

Alvast bedankt voor uw medewerking!

### Personal data

*Lft*            Wat is uw leeftijd?

*Sexe*           Wat is uw geslacht?     Man         Vrouw

*Opl*            Wat is uw hoogst afgeronde opleiding?

- Basisonderwijs
- VMBO/LTS/LHNO (huishoudschool)
- HAVO
- VWO/gymnasium
- MBO/MTS
- HBO/HTS
- Universiteit
- Anders...



### Deze slogan is...

- (PAS\_1)      Ongebruikelijk – Gebruikelijk  
(OVK\_1)      Krachtig – zwak  
(BEG\_1)      Onduidelijk – Duidelijk  
(LEV\_1)      Afgezaagd – Vernieuwend  
(OVK\_2)      Ongeloofwaardig – geloofwaardig  
(LEV\_2)      Opwindend – Saai  
(PAS\_2)      Ongeschikt – Geschikt  
(BEG\_2)      Helder – Vaag

### Geef aan hoe (on)eens u het bent met de volgende stellingen:

- (OVK\_3)      Deze slogan is interessant  
(PAS\_3)      Deze slogan past bij de advertentie  
(BEG\_3)      Deze slogan is duidelijk  
(LEV\_3)      Deze slogan is levendig  
(PAS\_4)      Deze slogan sluit aan bij de advertentie  
(LEV\_4)      Deze slogan is origineel  
(OVK\_4)      Deze slogan is overtuigend  
(BEG\_4)      Deze slogan is begrijpelijk

**Hieronder volgen enkele stellingen over uw koopintentie, geef aan hoe (on)eens u het bent met de volgende stellingen.**

**LET OP, wij willen u erop wijzen dat het hier om de slogans gaat en niet om de producten.**

- (KOOP\_1)      Dit product zou ik willen hebben  
(KOOP\_2)      Deze slogan zou mij aanzetten tot het kopen van het product  
(KOOP\_3)      Als ik dit product in de winkel zie liggen zou ik het meenemen  
(KOOP\_4)      Ik zou voor dit product geld over hebben

**Retentie taak (recall task)**

(ONT\_1) U heeft zojuist 5 verschillende advertenties met bijbehorende slogans gezien. Hieronder ziet u de advertenties zonder slogans. Zet bij elke advertentie de bijbehorende slogan, als u het niet meer weet kunt u antwoorden door het vakje 'weet ik niet meer' aan te vinken.

**Geniet van**

Antwoord: ...

Weet ik niet meer

GENIET VAN



GENIET VAN



GENIET VAN



EEN KNALLENDE SMAAK EEN AROMATISCHE SMAAK EEN BITTERE SMAAK

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EEN HELDERE SMAAK EEN STEVIGE SMAAK

**Deze slogan is...**

- (PAS\_1) Ongebruikelijk – Gebruikelijk  
 (OVK\_1) Krachtig – zwak  
 (BEG\_1) Onduidelijk – Duidelijk  
 (LEV\_1) Afgezaagd – Vernieuwend  
 (OVK\_2) Ongeloofwaardig – geloofwaardig  
 (LEV\_2) Opwindend – Saai  
 (PAS\_2) Ongeschikt – Geschikt  
 (BEG\_2) Helder – Vaag



**Geef aan hoe (on)eens u het bent met de volgende stellingen:**

- (OVK\_3) Deze slogan is interessant
- (PAS\_3) Deze slogan past bij de advertentie
- (BEG\_3) Deze slogan is duidelijk
- (LEV\_3) Deze slogan is levendig
- (PAS\_4) Deze slogan sluit aan bij de advertentie
- (LEV\_4) Deze slogan is origineel
- (OVK\_4) Deze slogan is overtuigend
- (BEG\_4) Deze slogan is begrijpelijk

**Hieronder volgen enkele stellingen over uw koopintentie, geef aan hoe (on)eens u het bent met de volgende stellingen.**

**LET OP, wij willen u erop wijzen dat het hier om de slogans gaat en niet om de producten.**

- (KOOP\_1) Dit product zou ik willen hebben
- (KOOP\_2) Deze slogan zou mij aanzetten tot het kopen van het product
- (KOOP\_3) Als ik dit product in de winkel zie liggen zou ik het meenemen
- (KOOP\_4) Ik zou voor dit product geld over hebben

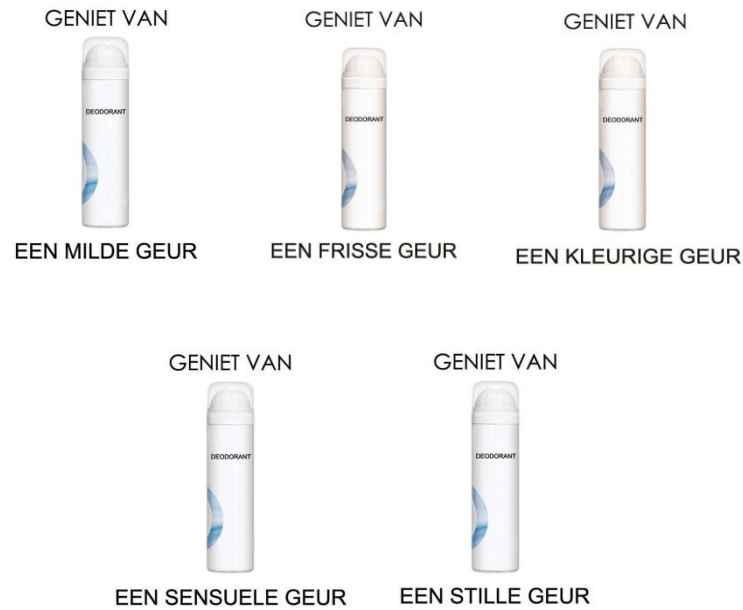
**Retentie taak (recall task)**

- (ONT\_1) U heeft zojuist 5 verschillende advertenties met bijbehorende slogans gezien. Hieronder ziet u de advertenties zonder slogans. Zet bij elke advertentie de bijbehorende slogan, als u het niet meer weet kunt u antwoorden door het vakje 'weet ik niet meer' aan te vinken.

**Geniet van**

Antwoord: ...

Weet ik niet meer



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