Faculty of Arts
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Could you be more specific?

A study towards the influence of the level of concreteness of advertisement text and image on persuasiveness

Master's thesis Communicatie en Beïnvloeding

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Preface

Dear reader,

With pleasure I present to you my Master's thesis. It is the final product of my degree in *Communicatie & Beïnvloeding* with a specialisation in marketing. The past semester I have put the academic skills that I acquired during my five years lasting student career to the test and tried my best to produce something to be proud of, which I truly am.

It is important to acknowledge the people who made it possible for me to reach this point. First of all, I would like to thank all dedicated teachers and student advisors within the Communication & Information Studies department whom I've met throughout both my bachelor's and master's degree. Their wisdom, enthusiasm and commitment have guided me through the years. Secondly, I would like to explicitly recognise the efforts of dr. Lisa Vandeberg, who provided a session for additional support in writing my thesis. Last but not least, I would like to express my gratitude towards my coordinator dr. Wilbert Spooren, who gave me the opportunity to independently conduct my own study and put all the experience that I gained in the past years into practice.

Thank you very much.

Mats van den Nouwland

Nijmegen, 14 June 2019

Abstract

The main purpose of this study was to contribute to the ongoing dispute on the relationship between the degree of concreteness of a stimulus and its persuasiveness, applied in a marketing context. Product and service ads were designed and manipulated with regard to the concreteness of the texts and the images. The analyses were twofold. First, the relation between the concreteness of the ad (text and image) and self-assessed comprehension, appreciation of the ad, attitude towards the offer and construal level was analysed. Moreover, it was tested whether the type of offer (service or product) moderated this relationship. Then, the effect of self-assessed comprehension, appreciation of the ad, attitude towards the offer and construal level on purchase intention was determined. Appreciation of the ad and attitude towards the offer appeared to be influenced by the degree of concreteness of the ad. Furthermore, appreciation of the ad affected purchase intention, displaying a speculative mediation effect. The results of this study both agree with and contradict previous studies, which puts them into a new perspective. Moreover, suggestions for ad design with regard to concreteness are provided.

Background

Designing an advertisement that manages to induce the desired outcome is a very complicated task. As Pogacar, Shrum and Lowrey (2018) stated, there is sizeable literature on the linguistical devices that can be used to manipulate the effects an advertisement has on the receiver. Yet, prominent advertisements do not only include verbal messages, but also encompass visual elements (Bulmer & Buchanan-Oliver, 2006; Rossiter & Percy, 1980). Complementing text with image and vice versa is an approach that can be used to influence the level of concreteness of an ad, as it contributes to the ability to form mental representations (Paivio & Csapo, 1973). Concreteness, as opposed to abstractness, is mainly characterised by imageability (Brysbaert, Warriner & Kuperman, 2014), sensory perceptibility (Connell & Lynott, 2012), drawability and specificity (Hustinx & Spooren, 2019). Furthermore, as discussed in the Dual Coding Theory (DCT) by Paivio and Csapo (1973), individuals are able to form perceptual memory codes in addition to verbal memory codes of concrete stimuli, while abstract stimuli can only be verbally coded.

Heretofore, research has demonstrated contrasting results in various domains with regard to the use of concreteness and the accompanying degree of persuasiveness. Collins, Taylor, Wood and Thompson (1988) found that vivid (i.e. concrete and colourful) messages were easier to recall, but not necessarily more persuasive than their less vivid counterparts. In contrast, Reyes, Thompson and Bower (1980) did find an effect of vividness on the judgments of respondents in a jury decision, which was later substantiated by Shedler and Manis (1986). Kisielius and Sternthal (1984) argued in favour of a vividness effect as well. They stated that their findings may be accounted for by the availability heuristic (Tversky & Kahneman, 1973), which claims that individuals process information by relating it to existing information in their memory that is most available. Subsequently, the valence of this available information translates into the judgment of the new information. Due to the fact that concrete information can be processed both verbally and perceptually (DCT), it is generally more available than abstract information and therefore has more impact on one's attitudinal judgments.

However, Guadagno, Rhoads and Sagarin (2011) argued that using vividness as a tool in advertising should be done carefully. According to their study, there are conditions in which vividness could work counterproductive, as it may distract the

attention from the actual message, for instance. Blondé and Girandola (2016) carried out a meta-analysis in order to find conclusive answers with regard to the proposed existence of a vividness effect. They found that, if existing, a vividness effect is rather weak. Moreover, there appeared to be multiple moderators that could have influenced the effect outcomes in the various studies. As concreteness is strongly related to vividness, it remains unclear what the exact effects are that concreteness could bring about. In a recent study, no effect of concreteness on persuasion was found (Hustinx & Spooren, 2019), implying that there remains to be an ongoing dispute on whether concreteness affects persuasion or not. An important note is that the previous studies were heterogeneous by means of their methods and contexts. This implies that their results are not interchangeable. One of the goals of the present study was to contribute to the current dispute by determining whether and in what way concreteness affects persuasiveness in a marketing context. Secondly, it was meant to provide better insight in the use of concreteness in advertising, which resulted in recommendations for ad design.

Literature review

Print advertisements are among the most common tools that are used in advertising for reaching and, ideally, convincing potential consumers to purchase their brand's products and services. As Bulmer and Buchanan-Oliver (2006) stated, ads are, in addition to their verbal elements, highly dependent on their visual structure. Their straightforward, yet debatable, explanation for this is that visuals are often less ambiguous and more universal compared to verbal messages. However, this is mainly the case when the image is an explicit portrayal rather than a more abstract or implicit representation of the advertised product or service (e.g. Burgers, Konijn, Steen & Iepsma, 2015; Jeong, 2008; Scott, 1994).

Visual metaphors

A more implicit representation of a product or service that is often used in advertising is the metaphor (Jeong, 2008; Morgan & Reichert, 1999; Van Mulken, Van Hooft, & Nederstigt, 2014). It is a comparison between two different concepts that are linked to one another: 'A is B' (Sopory & Dillard, 2002), in which 'A' is called the 'target' and 'B' the 'base' (Gentner, 1982). Fusions appeared to be the most effective with regard to appreciation and comprehension (Van Mulken et al., 2014). In fusions the source and target of the metaphor are merged into one image, allowing both to be visible. Multiple examples of fusions in advertising can be found in a study by Van Mulken and Le Pair (2012). Importantly, they used the term 'hybrid' instead. For instance, half an orange is displayed with the handle of a tea cup (Lipton ad), implying that the tea tastes like fresh orange.

Due to the indirect and polysemic character of visual metaphors, one may assume that metaphors are more abstract than literal statements. Yet, Burgers et al. (2015) argue that it is possible to use metaphors to visualise abstract aspects of a product or service offer (e.g. storage capacity) and thereby make them more concrete. This implies that, despite its figurative nature, a metaphor could increase the comprehensibility of an advertisement, as it visualises (and concretises) an abstract benefit. This increased concreteness, in turn, may positively affect the persuasiveness of the ad (Burgers et al., 2015). Furthermore, Burgers et al. (2015) found that ads with metaphors were considered more creative than those with literal statements. They speculated that this outcome could be attributed to increased vividness of the ad. This

might imply that metaphors could also increase the persuasiveness through the vividness effect (Blondé & Girandola, 2016; Reyes et al., 1980; Shedler & Manis,1986).

In a meta-analysis conducted by Sopory and Dillard (2002) it was found that an enhanced comprehension of textual metaphors, compared to literal language, lead to greater persuasiveness of ads as well. This claim was later supported by Van Mulken et al. (2014), who found that ads containing a visual metaphor were better understood and thereby more appreciated than ads without one. Furthermore, the pleasure that consumers experience when deciphering the meaning of the ad could also positively affect the attitude toward the offer in the ad (Berlyne, 1974). A recent meta-analysis by Van Stee (2018) led to comparable results with regard to comprehension of visual metaphors. However, the latter noted that it should not be assumed that metaphors are always more persuasive than their literal equivalent. With the results of the previous studies in mind, the following hypothesis is proposed:

H1: The effect of visual metaphors (versus literal images) in ads on persuasiveness is mediated by (a) comprehension, (b) ad appreciation, and (c) attitude towards the offer. Namely, visual metaphors lead to an increased level of comprehension, ad appreciation and attitude towards the offer, which (all separately) result in increased persuasiveness.

Processing mechanisms and comprehension

Formerly, it has become clear that the way consumers process ads is an important factor that influences the persuasiveness of the ad. Past research has proposed multiple theories on how individuals see and process stimuli (e.g. ads) that they are exposed to. The most relevant theories for this study can be found in Table 1. Understanding and utilising these theories in conducting ads is of high importance. As the DCT suggests, consumers generate both verbal and, if possible, perceptual mental codes while processing stimuli. The possibility to form perceptual codes is dependent on whether the stimuli are able to be represented visually (i.e. concrete) (Paivio & Csapo, 1973). The Cognitive Theory of Multimedia Learning (CTML) agrees with this duality in coding stimuli and elaborates on this by adding a next step, which involves combining the two mental codes into one integrated representation. In the case of an ad, text and image are linked and interpreted as a combined construct. In order to be able to do so, one should be capable of understanding what is represented. In terms of this comprehension, the Integrated Model of Text and Picture Comprehension (ITPC) states that it is necessary for the image to have a close semantic relationship

with the text (Schnotz, 2005). If the relationship is too distant or too hard to deduce, it may backfire (Van Mulken et al., 2014). Sadoski, Goetz and Rodriguez (2000) emphasised the importance of comprehending what the ad tries to convey, as they found that comprehension affected interestingness positively and, through that, ad recall. Moreover, the Resource-Matching Hypothesis suggests that, in order to maximise the persuasiveness of an ad, a balance is needed between the cognitive resources and the required resources to process an ad (Larsen, Luna & Peracchio, 2004). Should the required resources exceed the available resources, the consumer either fails to process the content or misinterprets it, which negatively affects persuasion.

Table 1.   Relevant theories on text and image processing

Processing theory	Author(s) & date
Dual Coding Theory (DCT)	Paivio & Csapo (1973)
Construal Level Theory (CLT)	Trope & Liberman (2000)
Resource-Matching Hypothesis (RMH)	Larsen et al. (2004)
Cognitive Theory of Multimedia Learning (CTML)	Mayer (2005)
Integrated Model of Text and Picture Comprehension (ITPC)	Schnotz (2005)

In addition to interestingness and recall, Sadoski et al. (2000) found a major influence of concreteness on comprehension. Despite the fact that their study was conducted in multiple contexts, the authors claim that their findings are considerably generalisable, since they used typical text samples from various common text types. Notably, these findings plead for using concrete text in order to increase comprehension, while other studies solicit the use of (visual) metaphors rather than literal (i.e. concrete) statements (Sopory & Dillard, 2002; Van Mulken et al., 2014; Van Stee, 2018). An explanation for this difference could be that metaphors can also be assessed on a concreteness scale. This scale involves the complexity and the actual meaning of the metaphor (Morgan & Reichert, 1999; Van Mulken et al. 2014). A 'concrete' metaphor is fairly easy to comprehend and helps the consumer to understand an abstract benefit of a product or service offer (Burgers et al., 2015). In fact, such metaphors might display this abstract benefit more comprehensibly than a literal description. 'Abstract' metaphors are characterised as more complex, which

makes them harder to understand. This complexity is mainly caused by the more distant relationship between the base and the target of the metaphor (Van Mulken et al., 2014). 'Replacements', for instance, are commonly characterised as being highly complex. While 'fusions' contain both the base and the target, replacements only display the base and leave the target invisible (Van Mulken et al., 2014). An example of a replacement is an ad for instant coffee displaying exclusively a small spoon with the sentence '*coffee machine'*, implying that the coffee can be made with just a spoon (Van Enschot, Hoeken & Van Mulken, 2008). When abstract metaphors become too complex, consumers can be left confused and annoyed of not being able to infer the actual meaning.

H2: The effect of concrete (versus abstract) language in ads on persuasiveness is mediated by (a) comprehension, (b) ad appreciation, and (c) attitude toward the product or service offering. Namely, concrete language leads to an increased level of comprehension, ad appreciation and attitude towards the product or service offering, which (all separately) result in increased persuasiveness.

Lastly, construal levels were found to influence the persuasiveness of ads as well (Hernandez, Wright & Ferminiano Rodrigues, 2015; Trope & Liberman, 2000). Construal Level Theory (CLT) links the psychological distance toward, for instance, objects and events with the way individuals think about them. Generally, closer objects and events are thought of more concretely than more distant ones (Trope & Liberman, 2000). An example of this is provided by Ding and Keh (2017). They stated that consumers planning a holiday one year in advance would be concerned about having a good time, which is the essence of the trip, while consumers who spontaneously book a trip for the next day would pay more attention to specific details (e.g. train tickets, accommodation) and peripheral cues. By implementing the CLT, Hernandez et al. (2015) presented recommendations for ad design and content. Overall, these recommendations were meant to manipulate the construal level from distant to near, by increasing the vividness and concreteness of the appeal. Accordingly, they recommended to use active language (e.g. certain verb tenses), pictures and colours, and emphasis on the near (versus distant) future of the appeal. By doing so, consumers should be more willing to comply with the offer, implying that concrete language would positively affect persuasiveness.

H3: The effect of concrete (versus abstract) language and images in ads on persuasiveness is mediated by the construal level. Namely, (a) concrete language and (b) literal images lower the construal level, which results in increased persuasiveness.

Products and services

In addition to ads, product and service offers that appear in them can also differ in the degree of concreteness. The main difference between products and services is (in)tangibility (Flipo, 1988; Lovelock, Vandermerwe, Lewis, & Fernie, 2004). Overall, products are tangible; they can be held. Their features can generally be thought of rather concretely. Services, however, consist of both tangible and intangible attributes, with the outcome being intangible (e.g. transport) (Ding & Keh, 2017). This intangible nature of services complicates the ability to form mental representations of what one could expect when utilising one. Ding and Keh (2017) carried out an extensive literature review in order to draw conclusions on what to focus on while advertising services. They argued that it varies per service type whether focus on tangible or intangible aspects would be more effective. According to them, this was highly related to construal level and the CLT. Following their reasoning, consumers with a low construal level are more likely to have a concrete mindset and hence could be persuaded more easily if they were exposed to more tangible aspects of a service. The opposite goes for consumers with high construal level. They value abstract (i.e. intangible) characteristics of services more highly and would therefore be more sensitive to ads highlighting more intangible aspects of a service.

H4: The effect of concrete (versus abstract) language and images on (a) comprehension, (b) ad appreciation, (c) attitude towards the offering, and (d) construal level is moderated by the kind of offering (service/product).

Method

Materials

In this study the concreteness of non-existent product and service advertisements of known brands was manipulated. These were products and services that could be targeted at students (i.e. large trip, notebook). The manipulation of the ads was twofold; both the concreteness of the text and the image were adjusted. Adjustment of the concreteness of the ad text was carried out in three manners: (1) by varying the focus on either abstract or concrete aspects of the offer (Sadoski, Goetz & Rodriguez, 2000); (2) by using Semin and Fiedler's (1988) Linguistic Categorization Model, which classifies verbs and adjectives in terms of their abstractness; and (3) by using the list conducted by Brysbaert, Stevens, De Deyne, Voorspoels and Storms (2014), in which approximately 30,000 Dutch words were rated on a five-point Likert scale for concreteness. In the abstract condition, an attempt was made to mainly use words that scored low on the concreteness scale and vice versa. The concreteness scores of the ad texts were determined using *Cesar*, which is a new software that calculates the score based upon the list of Brysbaert et al. (2014). Furthermore, in order to prevent finding results due to differences in text length, the amount of words was kept constant between the abstract and concrete conditions, with a maximum length difference of two words.

Images were manipulated by either using a literal (i.e. concrete) portrayal of the offer or by using a visual metaphor. Since metaphors carry an implicit meaning (Jeong, 2008), they were, in this study, considered as the abstract counterpart of literal images. However, it was kept in mind that visual metaphors can differ in their level of complexity and concreteness. In line with the research of Van Mulken et al. (2014) only moderately complex metaphors (fusions; Phillips & McQuarrie, 2004), were used. These were considered moderately 'concrete' (Burgers et al., 2015). An overview of the advertisements that were used in this study can be found in Appendix A.

The ads contained both products and services. It was hypothesised that the persuasiveness caused by the degree of concreteness of the ads would be moderated by the offer being either of the two (Ding & Keh, 2017). Only high-involvement offers were used, because of the way consumers process ads. As indicated by the Elaboration Likelihood Model (Petty & Cacioppo, 1986), low-involved consumers are

more likely to process ads along the peripheral route, including heuristics and peripheral cues (e.g. visual metaphors). Ad evaluation is, in this case, mainly based upon non-argumentative elements. On the other hand, high-involved consumers will process ads centrally and pay closer attention to the claims and argument quality within an ad. This demonstrates that high-involved consumers pay more attention to ad content than low-involved consumers, which was required for this study to find valid results with regard to ad content and not to effects of heuristics and peripheral cues. Moreover, in a laboratory setting, respondents presumably pay nearly equal attention to both low- and high-involvement offers in ads. This is not in correspondence with real-life situations, since high-involvement offers are generally paid more attention to. For this reason ecological validity would have been violated.

A pretest (N = 8) was carried out in order to find out whether the composed stimuli yielded the expected ratings of text and image on the degree of concreteness. An extended version of the scale introduced by Hustinx and Spooren (2019) was used for this. The item used by Brysbaert et al. (2014) (*abstract-concrete*) was added and the item *vividness* was included, as vividness has often been operationalised as being concrete and colourful (e.g. Collins et al., 1988; Guadagno et al., 2011). Furthermore, the items on drawability and perceptibility were left out for the images, as they are only applicable to text. The outcomes of this pretest were not as desired. Therefore, slight adjustments were made to the ad texts in order to make the (lack of) concreteness stand out more. Furthermore, the questions with regard to the concreteness of the images were formulated differently, but kept internally the same. Then, a second pretest (N = 11) was conducted with the same purpose of verifying the manipulations. This pretest lead to desirable results, which made it possible to proceed with the actual questionnaire.

Participants

The questionnaire was spread among students in higher education. In total, 93 unique questionnaires were started, but 26 had (partly) non-response (28%). These were excluded from the analysis. Three participants were not enrolled in a study programme and therefore also left out. Moreover, one participant was excluded for taking an extensive amount of time to fill out the questionnaire (93 minutes). Consequently, a total of 63 questionnaires were used in the analysis.

The participants were equally divided among the two conditions. The condition with the visual metaphors was exposed to 30 participants and the condition with literal portrayals to 33. Of those exposed to the visual metaphors, twenty-two were female (73.3%). In the other condition, 25 were female (75.8%). A Chi-square test showed no significant relation between condition and gender ($\chi^2(2) = 5.67$, $p = .773$).

The mean age of the participants who were exposed to the visual metaphors was 21.9 ($SD = 2.30$), ranging from 18 to 31. In the other condition, the mean age was 22.5 ($SD = 1.81$), ranging from 19 to 27. A one-way analysis of variance showed that there was no significant difference between the groups in terms of age ($F(1, 61) = 1.42$, $p = .238$).

In conclusion, it appeared that both groups were homogeneous with regard to the vital demographic characteristics.

Design

This study was conducted in a 2x2x2 mixed design. Text concreteness and offer type (product/service) were within-subjects variables and image concreteness was a between subjects variable. The decision to make this variable between-subjects was based upon the fact that it could have been fairly easy for participants to recognise the differences between the literal and metaphorical portrayals of the product and service offers, which was now forestalled. Furthermore, participants could become weary while filling in lengthy questionnaires (Schuman & Presser, 1996). Instead of including all eight ads in one questionnaire, there were two versions of the questionnaire with each four ads. The stimuli were counterbalanced across the participants in order to limit order and sequence effects. The compositions of the eight stimuli can be found in Table 2. The first four stimuli formed one version of the questionnaire and the remaining stimuli formed the other.

Instruments

The variables that were measured were ad comprehension, appreciation of the ad, attitude towards the offer, construal level, and purchase intention (see Figure 1). Comprehension was determined by using two seven-point semantic differentials (*easy-difficult* and *confusing-understandable*; Mick, 1992). Spearman's *r* was determined and showed a positive correlation between the two items for all advertisements except

those of TUI (see Table 3). Due to the fact that six out of eight were significant and to prevent further complication of the analyses, it was decided to consider the two items to be sufficient in measuring comprehension. The scale is meant for self-assessed comprehension, which is a substitute for subjective comprehension. For this study it was more relevant to know to what extent participants believed they understood the advertisement rather than their actual understanding.
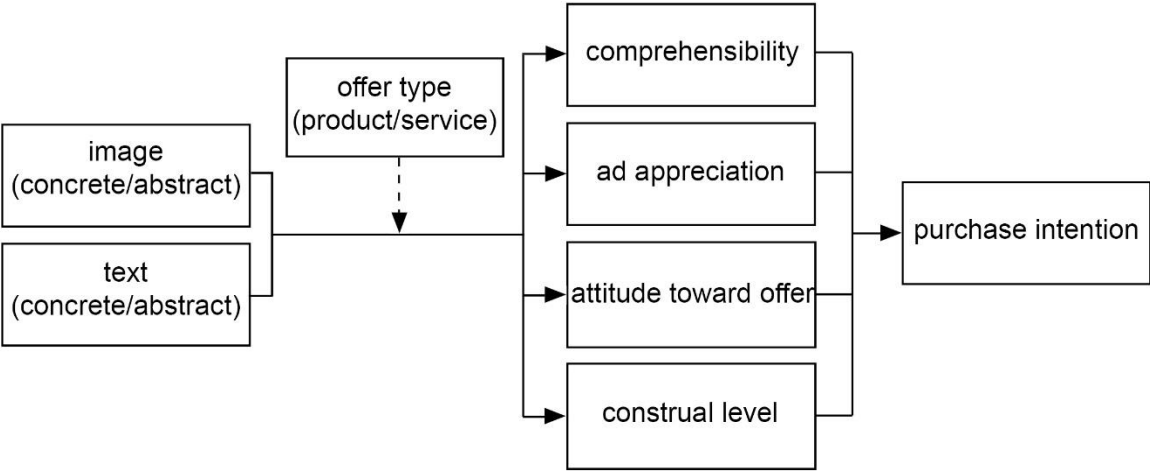

Figure 1.   Overview of variables.

Appreciation of the ad and the attitude towards the offer were measured by using four semantic differential items (*good/bad*; *favorable/unfavorable*; *pleasant/unpleasant*; *appealing/unappealing*; e.g. Lutz, 1983; MacKenzie, Lutz & Belch, 1986). Responses were provided on seven-point Likert scales, which was in correspondence with the study of Jeong (2008). The reliability of 'appreciation of the ad' was (very) good for every advertisement: all $\alpha > .84$. This also accounted for 'attitude towards the offer': all $\alpha > .86$.

Purchase intention was measured using a measurement scale introduced by Hornikx, Van Meurs and Hof (2013), containing three seven-point semantic differentials ranging from 1 (*something I never want to do*) to 7 (*something I certainly want to do*), 1 (*something I do not recommend to my friends*) to 7 (*something I recommend to my friends*), and 1 (*really not something for me*) to 7 (*really something for me*), following the statement "*Buying the product/service is*". The reliability of 'purchase intention' was (very) good for every advertisement: all $\alpha > .80$.

Table 2.　　Compositions of the stimuli that were used in the questionnaires

Stimulus	Image	Text (Brysbaert score)	Offer type
1	Metaphor	Abstract (2.71)	TUI (service)
2	Metaphor	Abstract (2.46)	MacBook (product)
3	Metaphor	Concrete (3.12)	Kras (service)
4	Metaphor	Concrete (3.57)	Dell (product)
5	Literal	Concrete (3.38)	TUI (service)
6	Literal	Concrete (3.41)	MacBook (product)
7	Literal	Abstract (2.73)	Kras (service)
8	Literal	Abstract (1.86)	Dell (product)

Table 3.　　Correlations (r_s) between the two items (*easy-difficult* and *confusing-understandable*) measuring self-assessed comprehension among visual metaphors versus literal portrayals in advertisements

Advertisement	Visual metaphor ($n = 30$)		Literal portrayal ($n = 33$)	
	r_s	p	r_s	p
TUI	.234	.214	.133	.460
MacBook	.494**	.006	.556**	.001
Kras	.546**	.002	.617**	<.001
Dell	.511**	.004	.418*	.016

* $p < .050$, ** $p < .010$

Lastly, construal level was determined before and after being exposed to an ad and its scale items. This showed whether it had been affected by the exposal to the stimulus. Five random items from the Behavioral Identification Form (BIF; Vallacher & Wegner, 1989) were used for measuring the construal level. Every item consisted of a description of a certain behaviour followed by two statements each belonging to either low-construal or high-construal level, from which participants were asked to choose one. An example is the statement *'Greeting someone'* with the options '*Saying hello*' (low-level construal) and '*Showing friendliness'* (high-level construal). Due to the fact that the scale was only available in English, it was translated into Dutch and audited

by a second translator, in order to ensure the translation was accurate. The original and translated version of the BIF can be found in Appendix B.

Procedure

Participants were approached through Facebook. This happened between 30 April and 6 May 2019. They were asked to voluntarily and anonymously fill in an online questionnaire regarding ads of various brands, in order to optimise the design of these ads. They were told that it would take approximately fifteen minutes to fill in the questionnaire, so that they knew what agreeing to take part in the study comprised. In reality, it took participants averagely approximately seven minutes to complete it, so this indication appeared slightly misjudged. However, it could have discouraged participants to continue and therefore have caused a higher non-response. The questionnaire was optimised for online completion. This implied, for instance, that participants were equally assigned to one of the two versions of the questionnaire and that one could only proceed to the next question after answering all pivotal preceding questions. Moreover, question and answer randomisation were applied where possible, which was meant to decrease occurrence of the response bias.

Participants first read a brief introduction, which repeated the terms and conditions of participating in the study and also provided instructions for filling in the questionnaire. Then they were asked to answer a made up practice question for the BIF-scale. After answering this, they were exposed to a sequence of five random BIF-items followed by an advertisement with the scales measuring the dependent variables. Furthermore, they were asked if they were familiar with the brand in the advertisement. The questions and items were randomised in order. After being exposed to all advertisements, the BIF-score was determined one last time and then the demographic questions followed (gender, age, study programme). Participants were also asked if they had purchased a large trip or laptop recently. Conclusively, they were thanked for their participation.

Statistical treatments

The theoretical framework was split in two in the analyses. First, the relationship between the degree of concreteness of the ad (text and image) and comprehension, appreciation of the ad, attitude towards the offer and construal level was analysed by a repeated measures analysis and univariate follow-up analyses. Separate two-way

analyses for products and services were carried out for appreciation of the ad and for attitude towards the offer in order to interpret the apparent three-way interactions. Lastly, a multiple regression analysis was conducted to analyse the right part of the theoretical framework. It showed whether comprehension, appreciation of the ad, attitude towards the product and construal level affected purchase intention.

Results

Table 4 presents the mean evaluations on self-assessed comprehensibility, attitude towards the offer, appreciation of the ad, the shift in construal level and purchase intention.

Table 4. Means and standard deviations (between brackets) for comprehensibility, attitude towards offering, appreciation of the ad, the shift in construal level (after minus before exposal) and purchase intention

Image type	Visual metaphor				Literal portrayal			
Text type	Concrete		Abstract		Concrete		Abstract	
	Product	Service	Product	Service	Product	Service	Product	Service
	M (SD)	M (SD)	M (SD)	M (SD)	M (SD)	M (SD)	M (SD)	M (SD)
Comprehensibility	5.17 (1.02)	4.82 (1.21)	5.08 (1.19)	5.30 (1.10)	5.48 (1.09)	5.48 (.80)	5.26 (1.10)	5.06 (1.08)
Attitude towards offer	5.00 (.99)	4.38 (1.27)	4.71 (1.15)	5.16 (1.25)	5.03 (.84)	5.07 (.79)	4.75 (1.21)	4.55 (.83)
Appreciation of ad	5.03 (1.11)	4.23 (1.26)	4.51 (1.29)	5.24 (1.22)	4.89 (1.12)	5.05 (.77)	4.69 (1.17)	4.39 (1.01)
ΔConstrual level	-.04 (.23)	.09 (.27)	.01 (.28)	-.04 (.21)	-.02 (.25)	.05 (.31)	.01 (.27)	.04 (.29)
Purchase intention	5.00 (1.08)	4.07 (1.62)	4.00 (1.44)	5.40 (1.25)	5.32 (.99)	5.31 (.96)	4.81 (1.06)	3.76 (1.07)

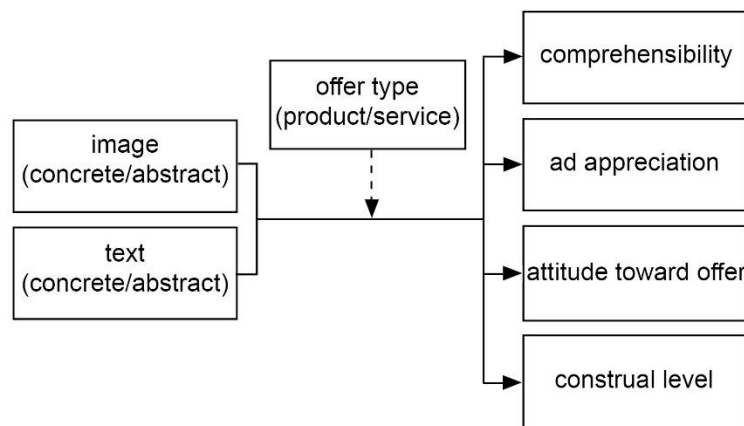First, the left half of the framework (Figure 2) was analysed.

Figure 2. Left half of the theoretical framework

It was hypothesised that there was a relationship between the concreteness of the ad (text and image) and comprehension, attitude toward the offer, appreciation of the ad and construal level, moderated by the type of offer.

A repeated measures analysis for Comprehension, Attitude toward the offer, Appreciation of the ad and Construal level with Text type and Offer type as within-subject factors and Image type as a between-subject factor did not show any main effects for text type, offer type and image type (all $F(4, 58) < 1$). However, there was a significant two-way interaction effect between offer type and image type ($F(4, 58) =$

2.70, $p = .039$, $\eta^2 = .71$), which was modified by a three-way interaction effect between text type, offer type and image type ($F(4, 58) = 3.65$, $p = .010$, $\eta^2 = .85$).

Univariate follow-up analyses showed that only the three-way interactions for attitude ($F(1, 61) = 8.27$, $p = .006$, $\eta^2 = .12$) and appreciation ($F(1, 61) = 14.75$, $p < .001$, $\eta^2 = .20$) were significant. Furthermore, they showed that the two-way interaction between offer type and image type for comprehension ($F(1, 61) = 4.46$, $p = .039$, $\eta^2 = .07$) was significant. There appeared to be no significant findings with regard to the construal level. The three-way interactions were further investigated with an analysis of variance of Image type and Text type separately for the two types of offers.

Comprehension

If a visual metaphor was used in an ad, the ad was self-reported as better understood in case of a service ($M = 5.19$, $SD = 1.12$) than a product ($M = 4.99$, $SD = 1.15$). In contrast, if a literal portrayal was used in an ad, the ad was self-reported as less understood in case of a service ($M = 5.16$ $SD = 1.09$) than a product ($M = 5.49$, $SD = .94$).

Hypothesis H4a, which predicted a moderation effect of offer type on the relationship between text and image type on comprehension, is therefore confirmed. However, Hypothesis H1a, which predicted a relationship between text and image type and comprehension was not confirmed.

Appreciation of the ad

In order to interpret the three-way interaction, separate two-way analyses were carried out for products and for services. The analyses showed a significant main effect of text type on appreciation of the ad ($F(1, 61) = 4.06$, $p = .048$) for products and a significant two-way interaction between text and image type in case of services ($F(1, 61) = 26.93$, $p < .001$). A visual representation of these results can be found in Figure 3.

Product ads with concrete text were more appreciated ($M = 4.96$, $SD = 1.11$) than product ads with abstract text ($M = 4.60$, $SD = 1.23$). This finding supports Hypothesis H2b, which predicted that concrete language would lead to a higher appreciation of the ad.

Furthermore, service ads containing a visual metaphor with concrete text were less appreciated ($M = 4.23$, $SD = 1.26$) than with abstract text ($M = 5.24$, $SD = 1.22$),

while service ads containing a literal portrayal of the offer with concrete text were more appreciated (*M* = 5.05, *SD* = .77) than with abstract text (*M* = 4.39, *SD* = 1.01).

Hypothesis H1b, which predicted that visual metaphors would lead to a higher appreciation of the ad than literal portrayals was confirmed for the service ads with abstract language, but opposed for the ads with concrete language. Hypothesis H2b, which predicted that concrete language would lead to a higher appreciation of the ad than abstract language, was confirmed for the ads with a literal portrayal of the offer, but opposed for those with a visual metaphor.
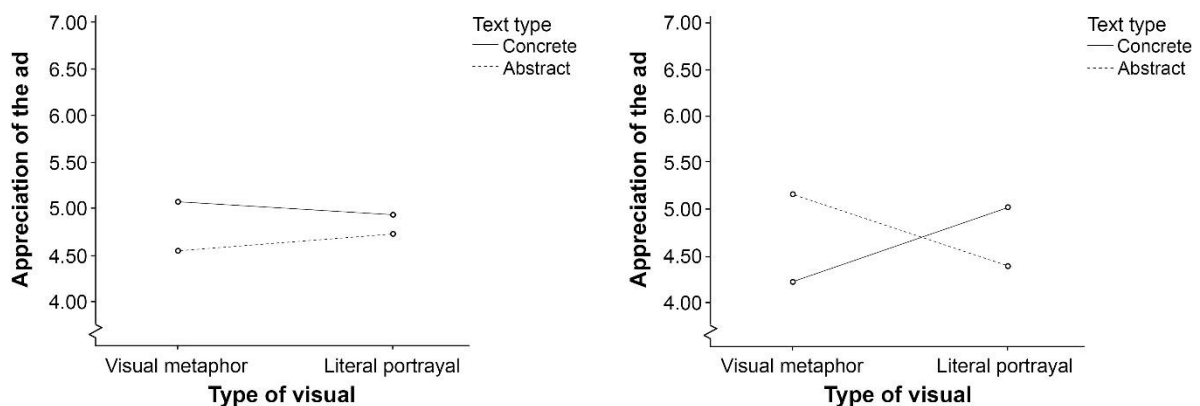
Figure 3. Main effect of text type on appreciation of the ad for products (left) and interaction effect of text and image type for services (right)

In addition, a moderation effect of offer type on the relationship between image and text type and the appreciation of the ad appeared to be present, which implies that Hypothesis H4b was confirmed.

Attitude towards the offer

Again, separate two-way analyses were carried for products and for services. The analyses showed a significant two-way interaction between text and image type in case of services ($F(1, 61) = 18.70$, $p < .001$) and no significant main or interaction effects in case of products. These results are displayed in Figure 4.

Service ads containing a visual metaphor with concrete text induced a less positive attitude towards the offer (*M* = 4.38, *SD* = 1.27) than with abstract text (*M* = 5.16, *SD* = 1.25). In contrast, service ads containing a literal portrayal of the offer with concrete text induced a more positive attitude towards the offer (*M* = 5.07, *SD* = .79) than with abstract text (*M* = 4.55, *SD* = .83).

The interaction is identical to the interaction that occurred with appreciation of the ad. This implies that Hypotheses H1c and H2c were both partly confirmed and partly contradicted and support was found for Hypothesis H4c.
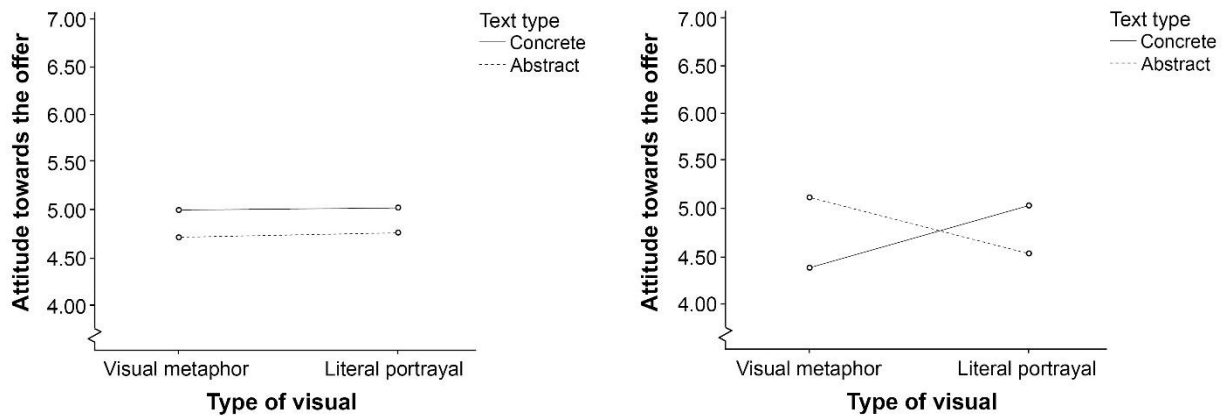

Figure 4. No effect on attitude towards the offer in case of products (left) and interaction effect of text and image type for services (right)

Construal level

Hypotheses H3a and H3b predicted a relationship between the text and image type and the construal level. Results of this study, however, do not support these hypotheses. Construal level appeared not to be influenced by the composition of the ads. This automatically implies that Hypothesis H4d, predicting a moderation effect of offer type, was also not supported.

After these first analyses, the right part of the framework (Figure 5) was analysed.
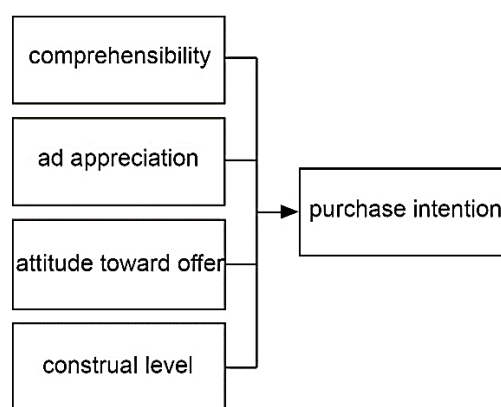
Figure 5.   Right half of the theoretical framework

Hypotheses H1a-c, H2a-c and H3a-b predicted that there was a regression relationship between predictor variables Comprehensibility, Attitude toward the offer, Appreciation of the ad and Construal level and outcome variable Purchase intention.

A multiple regression analysis showed that the variables entered, Comprehensibility, Attitude toward the offer, Appreciation of the ad and Construal level, explained 30% of the variance in Purchase intention (F (4, 58) = 7.63, p < .001).

Appreciation of the ad was shown to be a significant predictor of purchase intention (β = .40, p = .008), but comprehensibility (β = .17, p = .149), attitude towards the offer (β = .13, p = .366) and construal level (β = -.11, p = .345) appeared not to be. The findings are reflected in Table 5.

Table 5.   Regression analysis for comprehensibility, attitude toward the offer, appreciation of the ad and construal level as predictors of purchase intention (N = 63)

variable	B	$SE\ B$	β
intercept	.463	.89	
attitude toward the offer	.181	.20	.13
comprehensibility	.204	.14	.17
appreciation of the ad	.503	.18	.40**
construal level	-1.34	1.41	-.11
R^2	.30		
F	7.63***		

** p < .010, *** p < .001

With regard to these findings, support was only found for Hypotheses H1b and H2b, predicting a relationship between the appreciation of the ad and purchase intention. All other hypotheses with regard to any relationship with purchase intention are refuted.

Conclusion & Discussion

The aim of this study was to contribute to the ongoing dispute on whether the degree of concreteness in advertising influences potential consumers' evaluations of ads and the offer that they promote. An attempt was made to discover if and through which concepts the degree of concreteness of text and images in ads could influence the purchase intention of consumers. Moreover, differences between product and service ads were taken into consideration. The findings partly agree with the expectations, but also display rather surprising outcomes.

Firstly, self-assessed comprehension did not appear to be affected by the degree of concreteness of the ad (both text and image) and also showed no effect on purchase intention. However, offer type appeared to moderate comprehension, as service ads were better understood than product ads if a visual metaphor was used rather than a literal portrayal and vice versa. The fact that comprehension was not affected by the degree of concreteness opposes previous research pleading to use concrete text and (visual) metaphors to improve understanding (Sadoski et al, 2000; Sopory & Dillard, 2002; Van Mulken et al., 2014; Van Stee, 2018). It is notable that comprehension scores were all moderately high, which could imply that complexity of the ads could have played a more convincing role if there had been bigger differences between the ads with regard to this. The decision to only use fusions as type of visual metaphor, for instance, was deliberately made to facilitate better comprehension. Moreover, the visual metaphors were supplemented by an explanatory sentence in order to increase comprehension as well (ITPC; Schnotz, 2005) and to reduce the required resources to deduce the meaning of the visual (RHM; Larsen et al. (2004), which was meant to prevent the content from backfiring. With this in mind, the supposed insignificance of comprehension in this study may have turned out differently if the elements of the ads that could influence complexity had been manipulated to a larger extent.

Then, with regard to appreciation of the ad, some interesting results were found. The expectation that concrete language would lead to a higher appreciation of the ad than abstract language was confirmed in case of products and confirmed for service ads with literal portrayals of the offer. Service ads with visual metaphors, however, were more appreciated if they contained abstract language. This means that in three out of four ad compositions, concrete language may have contributed to a higher

appreciation of the ad. In these cases, it could have been caused by the fact that one was able to form visual mental representations of the contents of the texts and failed to a certain extent to do so for the abstract counterparts (DCT; Paivio & Csapo, 1973). They were able to visualise themselves using the notebook or going on the trip, which, in turn, could have improved their attitude towards the ad. Moreover, as concreteness is strongly affiliated with vividness, the vividness effect may have occurred (Shedler & Manis, 1986; Sternthal, 1984). On the other hand, the fact that the service ad with the visual metaphor and the abstract text was appreciated more than the one with concrete text is not necessarily a surprise. Since the service was a large trip, which is generally booked far in advance, people supposedly had a high construal level (CLT; Ding & Keh, 2017; Trope & Liberman, 2000). The abstract text appealed more to the essence of the trip (having an unforgettable experience) rather than the actual things one could do. The CLT suggests that focusing on the intangible aspects of the service could increase the persuasiveness of the message (Ding & Keh, 2017). It could therefore be possible that appreciation of the ad was also affected by this.

Furthermore, it was predicted that ads with visual metaphors would be more appreciated than ads with literal portrayals of the offers. This was the case for the service ads with abstract language, but not for the ones with concrete language. Moreover, in case of products, no difference was found. A possible explanation for the difference found in service ads is that the semantic relationship between the images and the texts was closer between the concrete texts and the literal portrayals than between the concrete texts and the visual metaphors (ITPC; Schnotz, 2005). Important to mention is that all appreciation scores were above average and therefore the differences cannot be attributed to any backfire effects that were outlined in previous research (Van Mulken et al., 2014). In conclusion, the results of this study make it hard to tell whether the degree of concreteness of ad images influences the appreciation of the ad and further research is required.

With regard to the attitude towards the offer, very similar results to those concerning appreciation of the ad were found, apart from product ads, since no effect of the degree of concreteness of the ad was discovered whatsoever. The same line of thought that provided a possible explanation for the results found regarding the appreciation of the ad could account for the findings regarding the attitudes towards the offer in the matter of service ads. The expectation that the pleasure of deciphering the implicit meaning of the visual metaphors would increase the attitude towards the

offer (Berlyne, 1974) appeared not to be universally applicable. This could be ascribed to the relatively low complexity of these metaphors, which may have led to a rather quick understanding of the intended message.

Fourth, construal levels were expected to be influenced by the exposal to ads with different degrees of concreteness. The findings contradict this expectation, as construal levels appeared not to be affected in a particular pattern. Nonetheless, this does not imply that construal levels can be disregarded. The CLT has repeatedly been substantiated in previous research (e.g. Ding & Keh, 2017; Hernandez et al., 2015; Trope & Liberman, 2000) and could most likely also be applied to the current study. However, no statistical evidence was found for this, which is most likely to blame on the measurement scales. There was an issue in determining the construal level in between ads, since the available scales were all lengthy and therefore not suitable for this study. A solution was to repeatedly use five random items from the BIF (Vallacher & Wegner, 1989). Due to the fact that every construal level measurement consisted of only five rather than the full twenty-five items, the outcomes were perhaps not very precise measurements of the actual construal levels. Another complication that accompanied this method was that participants were sometimes exposed to the same item in two different measurements. This all lead to finding no effects of construal level in any way, which would more likely have occurred if entire measurement scales were used.

In terms of purchase intention, it appeared that only appreciation of the ad had an effect, while it was predicted that comprehension, attitude towards the offer and construal level would have had an effect as well. In case of comprehension, this is not a striking outcome. Previous research did show effects of comprehension on ad recall and interestingness (e.g. Sadoski et al., 2000; Van Mulken et al., 2014), but not on persuasiveness. Sopory and Dillard (2002) found an effect of enhanced comprehension of textual metaphors, as opposed to literal statements, on persuasiveness. Yet, only one textual metaphor was used in the present study, so their claim can neither be confirmed nor contradicted. Nevertheless, comprehending the message an ad tries to convey has been proved to be a boundary condition for persuasion to take place (RMH; Larsen et al., 2004; Van Mulken et al., 2014).

The most plausible reason that caused construal level to not have any effects has already been described. Hence, it should not be concluded that construal levels

do not have an effect on purchase intention, despite the fact that this study failed to find support for this.

The prediction that appreciation of the ad would have an effect on purchase intention was confirmed. This allows speculations of it being a mediator between the concreteness of the ad (both text and image) and purchase intention. It underscores the importance of focusing on adding elements to ads that increase the appreciation, such as creativity (Burgers et al., 2015; Van Mulken et al., 2014) and comprehensive content (Sadoski et al., 2000). Furthermore, with the findings of the current study in mind, concrete language may be preferred over abstract language. Yet, in case of service ads, it is slightly more sophisticated. While it appeared that abstract text in combination with a visual metaphor was more appreciated, consideration, or even future research, is required to determine whether this applies to other service types as well. One service is more tangible than the other (Flipo, 1988; Lovelock et al., 2004) and therefore may demand a different approach. Moreover, despite the lack of evidence in the current study, CLT should be kept in mind.

Finally, the expected moderation effect of offer type (product/service) between the degree of concreteness of the ad (both text and image) and comprehension, appreciation of the ad, attitude towards the offer and construal level was confirmed for all except construal level. Various differences were found between the results of products and services. For this reason, it can be concluded that designing ads for products and for services may require a disparate approach. This is in line with the recommendations of Ding and Keh (2017).

The results of this study suggest an indirect effect of the degree of concreteness of ads and persuasiveness through ad appreciation. The possible existence of a direct effect has not been examined, which means that it has yet to be discovered whether and, if so, how persuasion is directly affected by concreteness. Vividness may have played a role in this study, but since it was not very distinctive, the claims in the meta-analysis of Blondé and Girandola (2016) gained support. It remains difficult to find conclusive answers for the ongoing dispute about the relationship between concreteness and persuasion. For this reason, it appears of high importance to continue to deepen the knowledge about it in various research domains.

Limitations

It is important to consider the results in light of limitations. First of all, the visual metaphors that were used in this study were all one specific type: fusions, which are considered as moderately concrete (Burgers et al., 2015). In advertising, however, various other forms of visual metaphors appear. These have different characteristics that may influence complexity (comprehensibility) and appreciation, for instance (Van Mulken et al., 2014). Conclusions based upon the use of visual metaphors therefore mainly apply to fusions. It has yet to be discovered whether other types of metaphors elicit comparable outcomes. Moreover, the fact that metaphors, in some cases, can be perceived as more concrete than their literal counterparts (Burgers et al., 2015) implies that labelling them as 'abstract' is not necessarily rightful. However, it depends on how concreteness is operationalised, which is the next issue.

Concreteness is often considered as the semantic counterpart of abstractness. However, Connell and Lynott (2010) ponder about this being correct, based upon their findings that indicate a possible misperception. More recently, Hustinx and Spooren (2019) also questioned this semantic opposition. It has, at this time, not been proven neither wrong nor correct, but if more support is to be found for this possible misperception, it will have a severe impact on the interpretation of the results of various major studies (e.g. Brysbaert et al., 2014) and to the present one.

Furthermore, since Brysbaert scores per individual word were used to determine the concreteness score of the entire ad texts, one could argue that the semantic relationship between these words is neglected, implying that the actual scores most likely differ from the calculated scores. In order to illustrate, in the concrete text condition of the MacBook ad the textual metaphor ''*als een vis in het water*'' [like a fish in the water] was used. This expression was given a high concreteness rating based upon its literal meaning, while readers were expected to understand the implicit meaning, which can be considered more abstract. Moreover, in the list of Brysbaert et al. (2014) it was not taken into account that one word could bear different semantic meanings, of which one could be more concrete than the other.

Lastly, as Blondé and Girandola (2016) already pointed out, there are always moderators that are, or cannot be, taken into account in every study. For instance, in the current study, 48% (*n* = 30) claimed to have planned or purchased a large trip recently, which may have reduced their purchase intention for offers in the travel-

related ads. Also 25% (*n* = 16) stated to have purchased a laptop recently, which could also have affected purchase intention.

Suggestions for future research

This study failed to find support for the prediction that construal level would be influenced by the concreteness of the ad and that, in turn, it would affect the persuasiveness of the ad. As this lack of support can most likely be attributed to the means of measurement, future research could attempt to find the predicted relationship in the current study by establishing a design in which construal level can be fully measured.

Future focus could also lay on one of the most striking developments in recent studies with regard to the semantic opposition of concreteness versus abstractness, which is being challenged. Across the literature, various operationalisations of these concepts make their appearance (Brysbaert et al., 2014; Connell & Lynott, 2012; Hustinx & Spooren, 2019). This implies that the claims studies make about these concepts are based upon heterogeneous definitions and therefore it is not very sudden that results often disagree. It is desirable to have a universal characterisation of the concepts abstractness and concreteness and also a definitive answer on whether these two are semantic counterparts or not.

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Appendix A. Composed stimuli
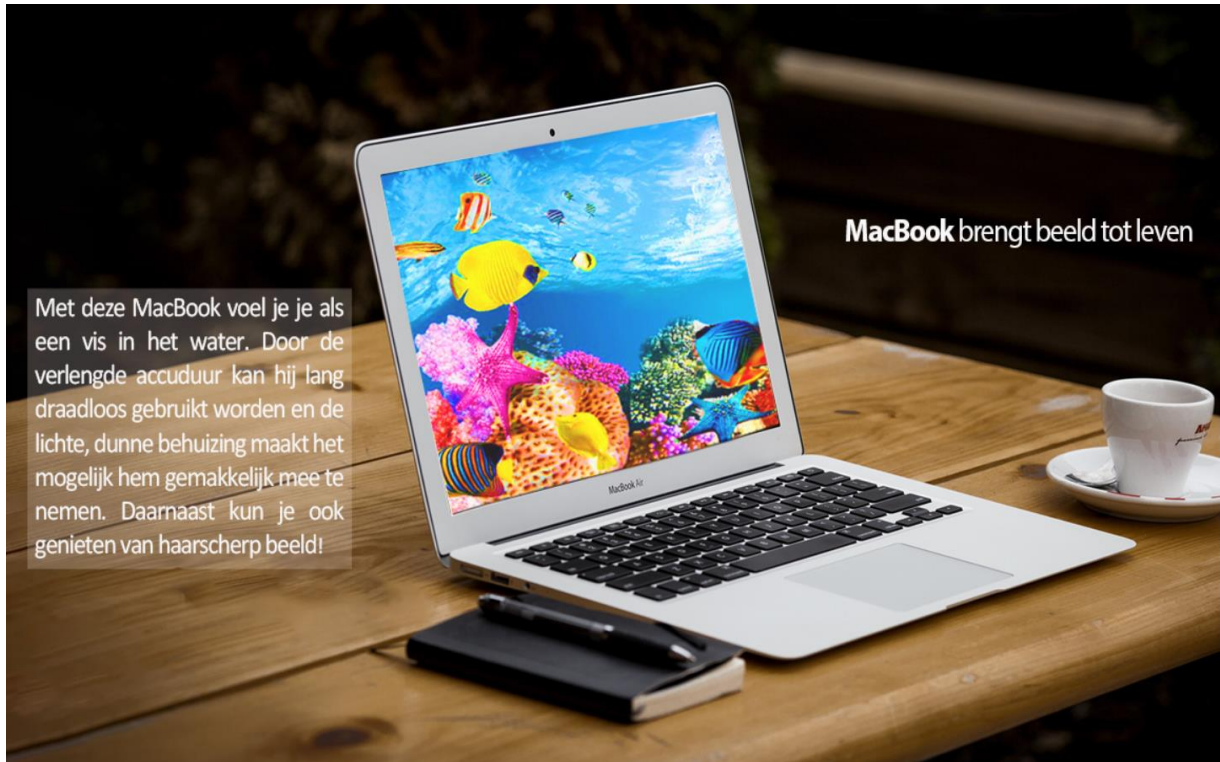
TUI

Literal portrayal with concrete language
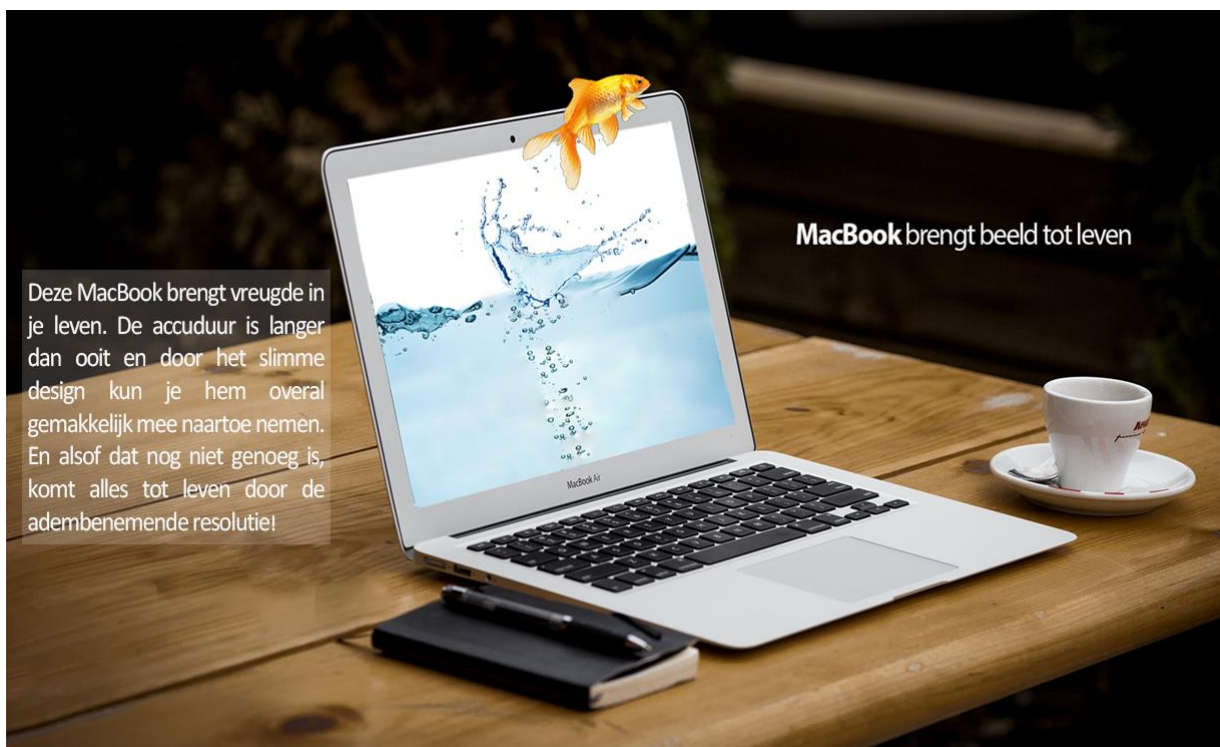

Visual metaphor with abstract language

Appendix A. Composed stimuli

MacBook

Literal portrayal with concrete language

Visual metaphor with abstract language

Appendix A. Composed stimuli

Kras

Literal portrayal with abstract language

Visual metaphor with concrete language

Appendix A. Composed stimuli

Dell

Literal portrayal with abstract language

Visual metaphor with concrete language

Appendix B. Translated Behavioural Index Form (Vallacher & Wegner, 1989)

Original BIF	Translated BIF (Dutch)
1. Making a list	Een lijstje maken
a. Getting organized*	a. Dingen op een rijtje krijgen*
b. Writing things down	b. Dingen opschrijven
2. Reading	Lezen
a. Following lines of print	a. De lijnen van het papier volgen
b. Gaining knowledge*	b. Kennis vergaren*
3. Joining the Army	Bij het leger gaan
a. Helping the Nation's defense*	a. Nationale defensie versterken*
b. Signing up	b. Je inschrijven
4. Washing clothes	Kleding wassen
a. Removing odors from clothes*	a. Geuren van kleding verwijderen*
b. Putting clothes into the machine	b. Kleding in de wasmachine doen
5. Picking an apple	Een appel plukken
a. Getting something to eat*	a. Iets pakken om te eten*
b. Pulling an apple off a branch	b. Een appel van een tak trekken
6 Chopping down a tree	Een boom omhakken
a. Wielding an axe	a. Een bijl dragen
b. Getting firewood*	b. Brandhout sprokkelen*
7. Measuring a room for carpeting	Een kamer opmeten voor vloerbedekking
a. Getting ready to remodel*	a. Klaarmaken voor een verandering*
b. Using a yard stick	b. Een rolmaat gebruiken
8. Cleaning the house	Het huis schoonmaken
a. Showing one's cleanliness*	a. Laten zien hoe schoon je bent*
b. Vacuuming the floor	b. De vloer stofzuigen
9. Painting a room	Een kamer verven
a. Applying brush strokes	a. Verf aanbrengen met een kwast
b. Making the room look fresh*	b. De kamer er fris uit laten zien*
10. Paying the rent	De huur betalen
a. Maintaining a place to live*	a. Een plek om te leven behouden*
b. Writing a check	b. Een rekening overmaken
11. Caring for houseplants	Kamerplanten verzorgen
a. Watering plants	a. Planten water geven
b. Making the room look nice*	b. De kamer er mooi uit laten zien*
12. Locking a door	De deur op slot doen
a. Putting a key in the lock	a. Een sleutel in de deur doen
b. Securing the house*	b. Het huis beveiligen*
13. Voting	Stemmen
a. Influencing the election*	a. De verkiezingen beïnvloeden*
b. Marking a ballot	b. Een vinkje zetten

14. Climbing a tree   In een boom klimmen
  a. Getting a good view*   a. Een mooi uitzicht krijgen*
  b. Holding on to branches   b. Takken vasthouden
15. Filling out a personality test Een persoonlijkheidstest invullen
  a. Answering questions   a. Vragen beantwoorden
  b. Revealing what you're like* b. Ontdekken hoe je in elkaar zit*
16. Toothbrushing   Lezen
  a. Preventing tooth decay*   a. Verslechtering van de tanden voorkomen*
  b. Moving a brush around in one's mouth b. Een borstel door je mond halen
17. Taking a test   Een toets maken
  a. Answering questions   a. Vragen beantwoorden
  b. Showing one's knowledge* b. Je kennis laten zien*
18. Greeting someone   Iemand begroeten
  a. Saying hello   a. Hallo zeggen
  b. Showing friendliness*   b. Vriendelijk zijn*
19. Resisting temptation   Een verleiding weerstaan
  a. Saying "no"   a. "Nee" zeggen
  b. Showing moral courage*   b. Morele moed tonen*
20. Eating   Eten
  a. Getting nutrition*   a. Voeding binnenkrijgen*
  b. Chewing and swallowing   b. Kauwen en slikken
21. Growing a garden   Een tuin onderhouden
  a. Planting seeds   a. Zaadjes planten
  b. Getting fresh vegetables*   b. Verse groente krijgen*
22. Traveling by car   Met de auto reizen
  a. Following a map   a. Een kaart volgen
  b. Seeing countryside*   b. Het platteland zien*
23. Having a cavity filled   Een gaatje laten vullen
  a. Protecting your teeth*   a. Je tanden beschermen*
  b. Going to the dentist   b. Naar de tandarts gaan
24. Talking to a child   Met een kind praten
  a. Teaching a child something* a. Het kind iets leren*
  b. Using simple words   b. Makkelijke woorden gebruiken
25. Pushing a doorbell   Een deurbel indrukken
  a. Moving a finger   a. Een vinger bewegen
  b. Seeing if someone's home* b. Kijken of iemand thuis is*

* Higher construal level alternative

Appendix C. declaration of no fraud and plagiarism

Aan het einde van het traject inleveren bij de studentenadministratie tegelijk met de digitale versie van de scriptie.

_____

Ondergetekende
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verklaart dat deze scriptie volledig oorspronkelijk is en uitsluitend door hem/haarzelf geschreven is. Bij alle informatie en ideeën ontleend aan andere bronnen, heeft ondergetekende expliciet en in detail verwezen naar de vindplaatsen. De erin gepresenteerde onderzoeksgegevens zijn door ondergetekende zelf verzameld op de in de scriptie beschreven wijze.

Plaats + datum... Nijmegen 14/06/2019 Handtekening...