Visual persuasion with physically attractive models in ads:

An examination of how the ad model influences product evaluations

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Abstract

This paper examines the prevalent advertising practice of visually juxtaposing an anonymous, physically attractive ad model and a product in terms of its effects on the attitude toward the product. In this appeal, in which there are no explicit verbal claims about how the two objects are connected, we argue that the physically attractive model sets in motion a process in which emotions and the attitude toward the ad model serve as mediating variables, and that this process ultimately results in an impact on the attitude toward the product. Three empirical studies were made, with stimulus images from the fashion industry, and the findings indicate that emotions and the attitude toward the ad model indeed contributed to the product attitudes. The findings also indicate that images comprising physically attractive ad models produced higher product attitudes compared to a visual display of only the product.

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In the early days of photography, the French poet Charles Baudrillard hoped that it should play the role of a humble servant to science and art, like typography and stenography (Bright, 2005). Yet many other applications were soon created—particularly commercial applications. Mail-order firms were among the early adopters of photographic images for promotion purposes in the later parts of the 19th century, and around 1900 four-color image ads began to appear in magazines (Goodrum and Dalrymple 1990). The result of the further proliferation is known to us all: advertising images are everywhere in contemporary society. Indeed, one salient aspect of advertising is that the pictorial content is becoming more dominant, while the text-based content is decreasing (Larsen et al 2004; Phillips and McQuarrie 2004; Pollay 1985).

A contemporary ad typically comprises a photograph of a human being who, in one way or another, is co-exposed with a product. Several types of human beings appear in such ads (e.g., celebrities, satisfied customers, and expert endorsers), but the type one is likely to encounter with the highest frequency is an anonymous person whose main characteristic is physical attractiveness. This model is anonymous in the sense that his/her name is not stated in the ad, s/he claims nothing in explicit verbal terms, and s/he has no explicit identity. In other words, s/he functions basically as a mute store dummy, and it is therefore not surprising that s/he is sometimes labeled a “decorative” model in literature on advertising effectiveness (cf. Chestnut, Lachance and Lubitz 1977; Joseph 1982; Reid and Soley 1981; Reid and Soley 1983; Saad 2004).

Given that many studies in psychology confirm that physical attractiveness has an impact on social perception (cf. Eagly et al 1991), and given also that *images* of attractive persons appear to evoke responses similar to those obtained with real stimulus persons, it seems likely that ad images with physically attractive models affect the ad receiver's responses in terms of several advertising effectiveness variables. Although the number of studies of ads with physically attractive models is surprisingly low (in relation to the popularity of this particular appeal), responses in a number of dimensions have indeed been documented (Belch et al 1987; Julander and Söderlund 2005).

Existing studies, however, appear to have failed to acknowledge a crucial aspect of the typical ad with a physically attractive model: the model and the advertised product are connected by means of visual juxtaposition—and explicit verbal statements about their connection is absent. Such ads, then, can be seen as indirect persuasion attempts from the advertiser (McQuarrie and Phillips 2005). The implicitness in this presentation form may incidentally explain why it is used so often in advertising, because many claims are likely to appear false or ridiculous if the are put in explicit words (Messaris 1992; Messaris 1997). Despite the fact that visual language has a much more implicit syntax compared to verbal messages (cf. Kress and van Leeuwen 2004; Lister and Wells 2002; Messaris 1997; Messaris 1998), however, the consumer appears to be fully able to form connections between juxtaposed visual elements. Indeed, consumers have been shown to spontaneously form multiple inferences when they are faced with image-based indirect advertising claims (McQuarrie and Phillips 2005). In any case, the advertiser may accomplish an implicit connection between a model and a product in several ways: (1) the model can be depicted as using the product (e.g., a male model wears an advertised shirt, a female model drives an advertised car, and a male model drinks an

advertised whiskey), (2) the model can be depicted in the vicinity of the product and both objects are in the same picture (e.g., a model is leaning on a car and a model is standing in the kitchen holding a box of cereals), and (3) the model is depicted with only a symbolic connection to the product (e.g., the model is taking a shower and a bottle of shampoo is shown in a separate image). It appears as if the first type is the least implicit with regard to the connection between the model and the product, and it is this type we deal with in the empirical parts of the paper.

We believe that indirect persuasion by visually juxtaposing an ad model and an advertised product is contingent on the existence, in the consumer's mind, of mental constructs regarding both the model and the product—and contingent on some mechanism that serves to accomplish the connection. In this paper, therefore, we attempt to contribute to the literature on the effectiveness of the physically attractive model by explicitly focusing on the connectivity aspect. We do so by integrating three mental constructs which to date have not appeared in the same study of the effects of physically attractive models: emotions evoked by the ad model, the attitude toward the ad model, and the attitude toward the product with which the model is juxtaposed.

The specific purpose of the paper, then, is to examine the process by which the exposure to a physically attractive model influences the attitude toward a visually juxtaposed product, and we do so with an assumption that positive and negative emotions evoked by the model, and the attitude toward the model, play important roles in the process. In addition, we examine the implications of the process in terms of a direct comparison of the effects on product attitudes of ad images with and without a physically attractive model. Three empirical studies were

carried out with image stimuli from the fashion industry in which the use of physically attractive models is particularly prevalent.

The Connectivity Elements in This Study and in Existing Research

The purpose of this paper involves three constructs: the attitude toward the product, the attitude toward the ad model, and emotions created by the ad model. More specifically, we believe that an approach in which the three constructs are integrated would be helpful in understanding how a link between the product and the ad model comes to be established in the mind of the receiver—despite the fact that they are merely visually juxtaposed.
In this section, we argue that they have received only limited attention in existing research on physically attractive models (indeed, no prior study has considered all of them together), and we also highlight some reasons why we think that they are useful for our purpose. Explicit arguments about their interrelatedness will follow in the subsequent sections.

Several studies indicate that the ad receiver's response becomes more favorable (from the marketer's point of view) when the product is co-exposed with a physically attractive model as opposed to when the product is shown without a physically attractive model (or with a relatively less attractive model). This result has been obtained for variables at various levels in a hierarchy-of-effects model. Examples are recognition (Chestnut et al 1977; Reid and Soley 1981), attention (Reid and Soley 1983), the attitude toward the ad (Baker and Churchill 1977; Chestnut et al 1977; Loken and Howard-Pitney 1988; Petroshius and Crocker 1989), product benefit beliefs (Smith and Engel 1968), product quality (Petroshius and Crocker 1989), intentions (Baker and Churchill 1977; Petroshius and Crocker 1989; Till and Busler 2000),

and purchase order (Caballero and Pride 1984). Such research, however, has rarely addressed global evaluations of the very product which is co-exposed with a physically attractive model. One exception is Till and Busler (2000) who found that an ad with an image of an attractive model produced a higher level of the attitude toward the co-exposed brand than did an ad with an image comprising a less attractive version of the same model. Another exception is Brumbaugh (1993) who concluded that a model's attractiveness has a positive impact on the attitude toward the model's clothing. This relative lack of attention toward the product with which the ad model is co-exposed is somewhat strange, because the purchase of one particular product is a fundamental aspect of consumer behavior—and we believe that the attitude toward the product is an important determinant of this behavior. Moreover, given that the product and the model are the juxtaposed visual elements in ads, we believe that an analysis of visual persuasion in the attractive model case needs to deal with the very object with which the model is co-exposed.

A second aspect of existing research on the effects of the physically attractive model is that it has hardly considered any other characteristics of the model than his/her level of attractiveness. The level of attractiveness, however, is unlikely to have a direct effect on outcomes such as the attitude toward the product. Several studies outside advertising research show that observers attribute a wide range of positive characteristics to attractive people (Eagly et al 1991; Dion et al 1972; Feingold 1992), so it is tempting to assume that beliefs about such attributes mediate the effects of attractiveness on other variables. Here, we assume that the attitude toward the model is a construct that captures such beliefs, and we assume that it will add to our understanding of effects on the attitude toward the product with which the model is juxtaposed. It can be noted that the attitude toward the ad model construct is not only absent in existing research on the effects of physically attractive models; it has been employed

very rarely in advertising research dealing with other models than the physically attractive model. Typically, when it does appear, it is in research on ethnic ad models (Martin et al 2004; Williams and Qualls 1989) and celebrity spokespersons (Cronley et al 1999; Till and Shimp 1998). Yet when it is used as an independent variable, it has been positively and significantly associated with more frequently used responses to advertising, such as the attitude toward the ad (Cronley et al 1999; Martin et al 2004) and the attitude toward the advertised brand (Cronley et al 1999).

Another aspect of existing research on the effects of the physically attractive ad model is that it has been vague with regards to *why* this model type is able to produce this or that effect. Several authors, however, have suggested post hoc explanations in terms of, for example, credibility (Baker and Churchill 1977), liking (Joseph 1982), and reinforcement (Caballero and Pride 1984). In addition, some authors who apply a perspective from evolutionary psychology on marketing issues argue that the physically attractive female model in an ad is likely to be particularly effective when males are receivers; in this case, her looks is supposed to signal that she is a viable mating-partner (Colarelli and Dettmann 2003; Saad and Gill 2000). This particular perspective, however, seems incomplete, because attractive female models are often appearing in ads targeted at women, while attractive male models are beginning to be used with increasing frequency in ads targeted at males. It is unlikely that one single explanation exists in this area, but given that (a) advertising images are capable of evoking emotions (Messaris 1997), and that (b) emotions affect evaluations (Forgas 1995), it seems as if emotions may contribute to our understanding of how an image of a physically attractive model can affect product attitudes. Yet researchers have so far not incorporated emotions in studies of physically attractive models in ads. At the same time, however, research on advertising effectiveness not explicitly concerned with physically attractive

models has shown that emotions evoked by an ad are associated with many response variables (Brown et al 1998), so it seems as if emotions would indeed be useful for our present purposes. In contrast to much existing research on emotions in advertising, however, in which the ad is seen as the source of emotions, we argue in this paper argue that the presence of a physically attractive model in an ad is likely to be a specific source of emotions.

In the next sections, we develop argument about how emotions and the attitude toward the ad model are related to each other, and to the attitude toward the product, and in the empirical parts of the paper we assess these arguments, and what they imply, in terms of three studies.

The Attractive Model and the Impact on Product Evaluations

Given the receiver's exposure to an ad, or almost any other stimuli, we believe that the receiver initially and automatically makes an appraisal of the stimulus (cf. Lazarus, 1982). Several general dimensions of appraisal are discussed in the literature on emotions (cf. Smith and Ellsworth 1985; Roseman 1991), but when the stimulus is a person, and particularly when the person's face is visible, one important appraisal dimension is the physical attractiveness of the person (Hirschberg, Jones and Haggerty 1978). Indeed, Gulas and McKeage (2000) argue that there is a nearly automatic tendency to categorize a person as attractive or unattractive. Some authors claim that this appraisal dimension serve mating-selection purposes and is the heritage of millions of years of evolution (Saad 2004), but it is also possible to argue that its function is to aid information processing by providing a shortcut to a range of inferences (other than those related to mating) about the stimulus person (Hirschberg et al 1978). In any case, an attractiveness appraisal can be seen as providing a window into many attributes of the

stimulus person. Moreover, we view it as the point of departure for a process that can explain how a physically attractive model in an ad comes to affect the attitude toward the product juxtaposed with the model. Figure 1 provides an overview of the links in this process, and we discuss each link below.

– Figure 1 here –

Appraisals induce emotions

Stimuli appraisals evoke emotional responses in a valence-congruent way (cf. Bagozzi et al 1999; Roseman 1991; Smith and Ellsworth 1985) and, when the stimuli is a human face, it has even been argued that we recognize faces not so much by their simple physical features characteristics but rather by our own emotional responses to the faces (Hirschberg et al 1978). It should be noted that the stimulus we are interested here is a *photographic image* of a human being; we are thus assuming that a photograph depicting a person is fully capable of producing emotional reactions (cf. Messaris 1997). This assumption has been assessed in many settings outside an advertising context, and it is well established that a photograph of a stranger's face evokes emotional reactions (cf. Dimberg, Thunberg and Elmehed 2000; Hess, Philippot and Blairy 1998). More specifically, given an appraisal outcome of high rather than low physical attractiveness, we expect that positive emotions are enhanced and that negative emotions are diminished. Similarly, when the appraisal results in a relatively low level of perceived attractiveness, we expect that positive emotions are reduced and that negative emotions are enhanced.

Emotions color ad model evaluations

Then, in the following step, we assume that emotions contribute to the receiver's evaluation of the ad model in terms of the attitude toward the ad model (we assume here that emotions are antecedents to evaluations; cf. Machleit et al 1993 for this assumption). As already indicated, not much is known about the antecedents and consequences of this attitude construct in an advertising context, because it has been employed only rarely in existing research. Yet on conceptual grounds we expect that the receiver's emotions in relation to one particular object provide a biased access to material in memory, in the sense that they selectively facilitate the retrieval of valence-congruent memories (Bagozzi et al 1999; Bower 1981). Such memories, in turn, are likely to color the observer's beliefs about many of the object's characteristics. The net output is documented in copious studies of social perception: observers attribute more positive and favorable characteristics to physically attractive persons than to less attractive persons. This effect is sometimes referred to as "what is beautiful is good" (Eagly et al 1991; Dion et al 1972; Feingold 1992).

Next, we assume that beliefs regarding the stimulus person's attributes affect the receiver's overall evaluation of the stimulus person, so that a stimulus person who is believed to possess higher levels of positive attributes is also evaluated more positively in overall terms. Indeed, a meta-analysis by Eagly et al (1991) shows that attractiveness perceptions are positively associated with the general evaluation of a person. In this case, then, beliefs mediate the link between emotions and the overall evaluation (cf. Pham 2004). The belief-overall evaluation link appears to be consistent with the additive information integration model; each positively valenced belief contributes in an additive way to the increase of the favorableness of the overall response (Anderson 1973). Alternatively, emotions may have a direct and valence-

congruent impact on an overall evaluation, in terms of an affect-as-information mechanism (Forgas 1995). That is to say, individuals ask themselves how they feel about an object in emotional terms and use the answer for inferences regarding the evaluation (e.g., "if this object creates positive emotions, then I must like it"). Both these routes of impact on the overall evaluation are consistent with Forgas' (1995) affect infusion model, particularly when the evaluation is of little immediate personal relevance and when there is little time or detailed information available for substantive processing—which represent condition under which we believe that much advertising content is processed. In sum so far, and when emotions are produced by an ad model, we expect that positive emotions have a positive impact on the attitude toward the ad model, while negative emotions have a negative impact on the attitude toward the ad model.

The ad model, emotions, and the impact on product evaluations

It should be observed that Forgas' (1995) affect infusion model assumes that emotions evoked by one object are capable of informing the evaluations of both the same object and other objects. However, Pham (1998), in an attempt to offer an important moderating variable to this impact, argues that affect infusion is likely to be stronger when there is a relatively high level of relatedness between the emotions-evoking object and the object to be evaluated. In our case, and given that it is the human model who creates emotions in the first place, we thus expect a particularly high potential for affect infusion when it comes to the impact of emotions on evaluations of the model per se. If this is the only effect produced by emotions in an advertising context, however, it would hardly be interesting for advertisers. That is to say, few advertisers would find it useful to employ physically attractive models in order to promote the attitudes toward the models per se. An important but less well-researched issue,

then, is what emotions may do to evaluations of both the emotion-evoking object (here: the ad model) *and* other objects (here: a product co-exposed with the ad model).

One possibility is that emotions have a *direct* impact on evaluations of the product that is co-exposed with the ad model. If this happens, we again expect that it takes place in terms of valence congruency, so that positive emotions are positively associated with the attitude toward the product, while negative emotions are negatively associated with the attitude toward the product (cf. Pham 2004). Indirect support for this pattern of influence is provided by authors who show that emotions evoked by an ad are associated in a value-congruent way with brand attitudes (Brown et al 1998).

Another possibility is that the attitude toward the ad model has a direct impact on the attitude toward the product. In this case, then, emotions would have an *indirect* effect on the attitude toward the product, and here we expect a positive association between the attitude toward the model and the attitude toward the product. This outcome suggest that the attitude toward a stimulus person may inform evaluations of objects with which the stimulus person is related, and it appears to be consistent with the notion of a halo effect, in the sense that it is likely that the ad model becomes a salient feature of the ad for the receiver and is used for evaluations regarding related objects (cf. Cooper 1981). In empirical terms, but in the context of celebrity endorsers in ads, Cronley et al (1999) found a positive association between the attitude toward the endorser and the attitude toward the advertised brand.

Thus, there are two possible routes—one direct route and one indirect route—for emotions' influence on the attitude toward the product. We believe that an assessment of these two routes is called for, because it will address an important issue: how far away from the

emotion-evoking object do emotions reach when it comes to their influence on evaluations of other objects than the specific object that produced the emotions in the first place? For example, do emotions evoked by one particular object also affect evaluations of objects in the background of an advertising image? Will they affect the evaluation of the very medium through which the ad is exposed? Presumably, there is a limit to the influence of emotions on evaluations, but where this limit is to be drawn is not clear from existing research.

Additional non-emotional links

Furthermore, and in a nomological network comprising appraisals of attractiveness, the attitude toward the ad model, and the attitude toward the product (i.e., cognition-related constructs), two additional links, which do not involve emotions, may also be expected.

One possibility is that the attractiveness appraisal has an emotion-free impact on the attitude toward the ad model, because of the general human tendency to attribute many different positive characteristics to an attractive person (i.e., “what is beautiful is good”). It can be noted that such a non-emotional link between the attractiveness appraisal of a person and the attitude toward the person is implicitly assumed in much research on social perception, in the sense that very few studies of this link contain any emotion variables at all (cf. the meta-analyses by Eagly et al 1991 and Feingold 1992; no emotional variables are included).

How far the direct impact of the attractiveness appraisal stretches is not known with regards to characteristics of objects that are visually related to a physically attractive model in an ad, but it possible that the attractiveness appraisal will have a direct impact also on the attitude toward the product. The results in Mitchell (1986) suggest a positive attractiveness appraisal-

product attitude link, in the sense that he found that attractive ad pictures unrelated to the focal product (but co-exposed with it) produced more positive brand attitudes than did unattractive ad pictures. Perhaps more relevant for our purposes, Brumbaugh (1993) found support for the hypothesis that the ad model's physical attractiveness positively influences the attitude toward the clothing that the model wears in the ad.

Our proposed model and the three empirical studies

In sum, we have assumed that a physically attractive human model who is visually co-exposed with a product will set in motion a process (cf. Figure 1) that positively impacts the attitude toward the product. We turn now to three empirical studies dealing with this issue. The first study served to assess the proposed links in our framework. If this proposed model holds, we argue, it would imply that an advertiser who wishes to produce positive product attitudes can accomplish this better by exposing the product together with a physically attractive model compared to exposing the product on its own, and this implication was assessed in the two subsequent studies.

Study 1

In Study 1 we examined if product evaluations are affected by the presence of a physically attractive human model according to the arguments in our theoretical framework. The participants were exposed to one image comprising an attractive model who was wearing a product. Moreover, a second part of Study 1 had the objective of assessing (a) the extent to which participants believed that an ad image with or without a physically attractive human

model will be the best option for boosting sales of a clothing product and (b) participants' personal preferences regarding ads with or without a human model in the case of clothing.

Method

Stimulus. The first part of Study 1 comprised the stimulus image in Figure 2 (a). We obtained the original image from a bona fide product catalogue developed by one clothes retailer, and we included it (in color) in a booklet in which we asked questions about the model's characteristics (in terms of perceived attractiveness), emotions, the attitude toward the model, and the attitude toward the product.

Measures. We measured the participants assessment of *the model's physical attractiveness* with four items on a scale ranging from 1 (do not agree at all) to 10 (agree completely), namely "This model is pretty", "The model is beautiful", "She looks good", and "This model is attractive". Similar items have been used by, for example, Ahearne et al (1999), Koernig and Page (2002), Langmeyer and Shank (1995), Mehrabian and Blum (1997), Morrow et al (1990), Reingen and Kernan (1993), and Sabatelli and Rubin (1986). Alpha for this scale was .90.

The emotional reactions of the participants were captured on a 10-point scale response format. As recommended by Bagozzi et al (1999), we used unipolar scales to capture the responses. *Positive emotions* were assessed with the statements "I feel joyful", "I am in a good mood", and "I feel in high spirits", "I feel elated", and "I feel glad". The responses were scored along a scale ranging from 1 (do not agree at all) to 10 (agree completely). Similar items appear in Richins' (1997) joy scale, and alpha was .90. We measured the level of *negative emotions*

with these three items: “I feel sad”, “I feel bad”, and “I am in a bad mood”. The responses were scored on scales ranging from 1 (do not agree at all) to 10 (agree completely). For this scale, alpha was .91. Söderlund and Rosengren (2004) used similar items. Moreover, we computed the zero-order correlation between our positive emotion variable and our negative emotion variable (r = -.26, p < .01). In our case, then, the two variables were related to each other in a less than perfect bipolar way, thus suggesting that the same marketing stimulus is capable of producing several reactions (cf. Williams and Aaker 2002). It can be noted that the negative association between positive emotions and negative emotions in our study was exactly the same as the attenuation-corrected correlation between positive and negative emotions in Brown et al’s (1998) meta-analysis. We also compared the mean levels of the two emotional reactions, and the results indicated that the image in Figure 2 (a) evoked a relatively higher level of positive emotions (M = 5.59) as opposed to negative emotions (M = 2.02). The difference between these two means was significant; t(161) = 15.25, p < .01 (two-tailed test).

To measure the participants’ *attitude toward the ad model*, we asked the participants to rate the model in terms of five adjective pairs scored on a 10-point scale (bad-good, dislike her-like her, unpleasant-pleasant, uninteresting-interesting, and negative impression-positive impression). This is basically the same item content as in Cronley et al’s (1999) measure of the attitude toward the endorser in an ad. Other attempts to measure the attitude toward the ad model do exist, but some of them include the item “attractive” (Martin et al 2004; Williams and Qualls 1989)—which in our case represent a characteristic which we regard as an independent construct, and we thus did not want to include it in our measure of the attitude toward the model. In any case, our selection of measurement items mirrors how other

attitudes are captured by marketing researchers (e.g., Holbrook and Batra 1987; MacKenzie and Lutz 1989), and alpha was .93 for this scale.

With regard to the *attitude toward the product*, we asked the participants to rate the depicted product in terms the same five adjective pairs we used to measure the attitude toward the ad model (but the liking item was phrased in terms of "it" rather than "her"). Alpha was .95. It may be argued that the same items, and the response format, for two attitudinal constructs can introduce common-method bias and inflate the correlation between them, yet Bergkvist & Rossiter (forthcoming) show that this does not appear to be the case in the context of assessing advertising responses.

We also asked the participants if they had seen the product prior to this study and if they had seen ads for the product (yes and no were the response alternatives for these two items). These questions were included to provide a context for our results, because previous research suggests that positive emotions may have a stronger effect on the attitude toward the product when the product is novel as opposed to familiar (Brown et al 1998).

In addition, as a second part of Study 1, we assessed the participants' "folk notion" of the effectiveness of ads for clothing with and without a human model. We also wanted to assess their personal preferences in this matter. In the final part of the booklet, then, we included the following statement: "When it comes to ads for clothing, marketers can choose between two options: (a) depict a product with a human model or (b) depict a product without a human model." Then, both images in Figure 2 were shown. The (b) image was created by us (we purchased the product and photographed against a neutral background). Next, we asked the participants to respond to the following two statements with regard to the two ways of

depicting the product: “I believe that this option produces the strongest sales effects” and “Personally, I prefer this option”. For both statements, we provided (a) and (b) as the two response alternatives.

Participants. The participants (N = 162) were recruited from a course in business administration and comprised undergraduate students.

Results

An alpha level of .10 was used in our tests. First, we examined if the ad model really was attractive in the minds of the participants; we computed the mean attractiveness score (M = 8.10) and tested if this score was significantly different from the scale midpoint (i.e., 5.5). The result indicated that the participants perceived the model as significantly more attractive than a midpoint score, $t(161) = 21.05$, $p < .01$ (two-tailed test), which we assume occupies a neutral position (i.e., the model is perceived as neither unattractive nor attractive). We also examined the extent to which the participants were familiar with the stimulus product; 10 percent claimed that they had seen the product prior to our study, while 9 percent claimed that they have seen ads for it.

Next, we used a structural equation modeling approach (with AMOS V) to simultaneously assess the nine proposed links between the attractiveness appraisal, positive and negative emotions, the attitude toward the model, and the attitude toward the product (cf. Figure 1). An acceptable level of fit was obtained for the proposed model ($\chi^2 = 349.26$, $df = 161$, $p < .01$, CFI = .93, NFI = .88, RMSEA = .08). Moreover, all path coefficients for the indicators in the

multi-item measures were significant ($p < .01$), thus indicating convergent validity. The outcome in terms of standardized path coefficients for the nine links is presented in Table 1.

– Table 1 here –

The results in Table 1 indicate that the attractiveness appraisal was indeed associated with negative emotions ($b = -.27$) and positive emotions ($b = .49$) in the expected directions. Both emotion types did also have the proposed associations with the attitude toward the model (i.e., $b = -.23$ for negative emotions and $b = .27$ for positive emotions), thus suggesting that affect infusion was taking place.

However, it appears as if there was a limit to how far from the attractive model this infusion stretched; the results in Table 1 suggest that both emotion types were non-significantly related to the attitude toward the product ($b = .13$ for negative emotions and $b = .10$ for positive emotions). These results should be seen in the light of Brown et al's (1998) meta-analysis; they found a symmetry in the effects of these two emotions on brand attitudes, but in their case both emotions has a significant impact on brand attitudes. The latter difference between our results and Brown et al's (1998) meta-analysis indicates that product attitudes and brand attitudes may reference different constructs. In any case, our results also indicated that the attitude toward the model was outperforming emotions in the impact on the attitude toward the product ($b = 0.50$).

Moreover, the attractiveness appraisal had a positive impact on the attitude toward the model ($b = .48$). This result is consistent with many empirical studies in which physically attractive

people are perceived as possessing more positive characteristics (e.g., seen as more sociable, mentally healthy, and socially skilled) than physically unattractive persons (cf. the meta-analysis by Feingold, 1992). The link between the attractiveness appraisal and the attitude toward the product, however, was non-significant (b = -.05), and it indicates that the effect of the attractiveness appraisal on the attitude toward the product is better conceived of as mediated.

Hence, the results suggest that emotions contributed directly to the attitude toward the model and indirectly toward the attitude toward the product. To examine the role of emotions more in detail, we compared the proposed model (i.e., a model with all the nine links in Figure 1) with an alternative model in which all links to and from emotions were constrained to be zero. This alternative model, then, represents a case in which no emotions are involved. The alternative model, however, produced a significantly lower level of fit than did the proposed model (delta χ^2 = 84.62, delta df = 6, $p < .01$), so it can be contended that emotions contributed to the evaluations. Indeed, this particular finding mirrors the assumption that emotions add valuable signals to decision making—signals without which we could hardly function (Pham 2004).

It should be noted that our study was based on the premise that there is an almost automatic tendency to classify *a human being* as attractive or unattractive (Gulas and McKeage 2000). Presumably, however, this tendency is not restricted to human beings (cf. Park and Kim 2005). It is likely to exist also when the stimulus is a non-human object—and particularly in the case of fashion items. That is to say, a fashion item per se is likely to be subject to attractiveness appraisals. Moreover, some authors have stressed that almost any object has an emotion-evoking potential (Damasio 1999). It is thus possible that an advertised product may

generate attractiveness appraisals and have an emotion-evoking potential on its own. To examine this aspect in our case, we assessed another alternative SEM model in which there was no human model attractiveness variable and no attitude toward the human model variable (i.e., the links to and from these two variables were set to zero). The alternative model thus contained only negative emotions and positive emotions, and both emotion variables were modelled as antecedents to the attitude toward the product. This alternative model (χ^2 = 526.07, *df* = 168, CFI = .87, NFI = .82, RMSEA = .11), however, produced a significantly lower fit with the data (delta χ^2 = 176.81, delta *df* = 7, $p < .01$) than the proposed nine-links model. Our interpretation of this difference is that the specific reactions to the attractive model (in terms of the attractiveness appraisal and the attitude toward the model) contribute to our understanding of the link between ad-evoked emotions and product evaluations.

Finally, and with respect to the "folk notion" of advertising effectiveness, it can be noted that only 3 percent of the participants (i.e., 5 persons) selected the image without the human model as the best option for boosting sales. Only 6 percent (10 persons) indicated that they personally preferred the ad image without the human model.

Discussion

Study 1 indicated that an attractiveness appraisal of a human model in an ad produced the expected effects on negative and positive emotions and that these two emotion variables were associated with the attitude toward the model in a valence-congruent way. This part of the result is consistent with the notion of affect infusion (cf. Forgas 1995). The attractiveness appraisal, however, also had an independent effect on the attitude toward the model, thus indicating that evaluations are only partly shaped by emotions. Moreover, emotions did not

have a direct effect on the attitude toward the product; their effects were mediated by the attitude toward the model. Taken together, then, the results suggest that the presence of an attractive model does have a positive impact on the evaluation of a product with which the model is co-exposed—and that emotions contribute to this evaluation by boosting the impression of the model per se. The findings imply that advertising with images including this type of juxtaposition may produce more favorable product attitudes than images with only the product, and we examined this issue in Study 2 and Study 3.

Study 2

In this study, the goal was examine if an image with a physically attractive model who is wearing a product would produce a more favorable product attitude than an image depicting only the product. We used an experimental approach in which participants were exposed to one of two images, and they were asked about their attitude toward the product. We also included question regarding the perceived price of the product, product beliefs, and intentions.

Method

Stimuli. We used the two bikini images from Study 1 (cf. Figure 2). Two booklets were produced; one with Figure 2 (a) and the other with Figure 2 (b). Both booklets contained this instruction: “On the next page you will find a picture of a bathing suit. Please examine this picture and answer the questions following the picture”. Both booklets contained the same questions to the participants.

– Figure 2 here –

Measures. We used the same five-item measure as in Study 1 to assess the attitude toward the product (alpha = .93). We also included an open-ended question about the perceived price of the product, framed as follows: “I believe it costs roughly _____ euro.” Moreover, we included the following intentions items: “I would like to buy this product” and “I would like to give it away as a gift”. They were scored on a scale ranging from 1 (do not agree at all) to 10 (agree completely). We also included the following items about benefit beliefs: “I believe it is nice to use when swimming”, “I believe it is nice to wear when sun bathing”, and “I believe it is durable”; they were scored along a scale from 1 (do not agree at all) to 10 (agree completely). In addition, as in Study 1, we asked the participants if they had seen the product prior to this study and if they had seen ads for the product (yes and no were the response alternatives for these two items).

Participants. The participants (N = 189), who we recruited from four different courses (undergraduates from a business administration course, undergraduates from a course on research methodology, doctoral students from a course in philosophy of science, and adult participants in an executive program), were randomly allocated to one of the two booklets. Ninety-six participants received the Figure 2 (a) treatment, while ninety-three participants received the Figure 2 (b) treatment. There were no differences between the four course groups, so we pooled them into two main treatment groups for the subsequent analyses.

Results

An alpha level of .10 was used in our tests. First, we compared the mean level reached by the attitude toward the product in the two groups by a *t* test, and the result indicated that the attitude was more favorable in the group exposed to the product and the attractive model (M = 5.80) compared to the group exposed to only the product (M = 4.32). The difference was significant; $t(187) = -4.85$, $p < .01$ (two-tailed test). Second, and because some authors have suggested that an opposite-sex effect may occur when a stimulus person is exposed to observers of different sex, we performed a two-way ANOVA with treatment group membership and the sex of the participants as the independent variables and the attitude toward the product as the dependent variable. This resulted in a significant main effect for the treatment group membership (F (1,187) = 21.01, $p < .01$, $\eta^2 = .10$) and a significant main effect of participant sex ($F(1,187) = 8.73$, $p < .01$, $\eta^2 = .05$). The product attitude was higher for males (M = 5.65) than for females (M = 4.57). The interaction, however, was not significant ($p = .97$). Thus, in addition to the expected effect on product attitudes of being exposed to the product with a physically attractive model versus only the product, the participants' sex appeared to have contributed in an independent way to the variation in the attitude toward the product.

The two images also produced significant differences in responses to the price question; the product's price was perceived to be higher when it was displayed with the human model (M = 66 euro vs. M = 46 euro); $t(186) = -2.35$, $p = .02$ (two-tailed test). This result is consistent with the price perception part of Smith and Engel's (1968) study in which a car was visually co-exposed with a physically attractive model in one condition and displayed on its own in another condition.

Moreover, the image with the ad model produced a higher level of purchase intentions (M = 2.74 vs. M = 2.15; $t(186) = -1.64$, $p = 0.1$ (two-tailed test)) and a higher level of gift-giving intentions (M = 3.06 vs. M = 2.40; $t(186) = -1.82$, $p = .07$ (two-tailed test)). A similar pattern of differences in intention variables were obtained in the studies by Petroshius and Crocker (1989) and Till and Busler (2000). In our study, the attitude toward the product variable was significantly associated with each of these the two intentions variables ($r = .44$, $p < .01$, for purchases; $r = .51$, $p < .01$, for gift-giving), thus indicating some level of nomological validity in the product attitude variable (given that attitudes are expected to be positively associated with intentions).

In addition, the benefit beliefs were significantly different between the two groups and higher for each benefit in the group who received the image with the ad model; that is, "nice to use when swimming" ($t(187) = -2.163$, $p = .03$ (two-tailed test)), "nice to use when sun-bathing" ($t(187) = -3.46$, $p = .001$ (two-tailed test)), and "it is durable" ($t(187) = -1.97$, $p = .05$ (two-tailed test)). Smith and Engel (1968) obtained similar benefit results.

Finally, only 10 percent of the participants claimed to have seen the product before, while 8 percent claimed that they have seen ads for the product. There were no significant differences between the two treatment groups with regard to these proportions.

Discussion

The results indicated that an image comprising a physically attractive model who is wearing a fashion product produces a higher level of attitude toward the product as opposed to an image

in which only the product is displayed. In addition, the presence of the model produced effects on the perceived price of the product, benefit beliefs, and intentions. The part of the result relating to these three non-attitudinal variables is consistent with the findings of previous authors who have examined the impact of physically attractive models in ads.

The findings from Study 1 and Study 2 are thus consistent with what we expected, given our theoretically derived propositions about the variables that mediate the effects of the physically attractive model on product attitudes. So far, however, one single stimulus, a bikini, has been employed. In Study 3, we attempted to replicate the findings from Study 2 with regard to several products.

Study 3

The goal of Study 3 was again to determine if images comprising physically attractive models who are wearing fashion products would produce a higher level of the attitude toward the product as opposed to images in which only the product is displayed. To examine this issue, we used an experimental approach in which participants were exposed to images of a set of products with or without a physically attractive model. The design with several images was also an attempt to (a) simulate the cluttered context in which such images normally occur, and to (b) examine products for both female and male target groups.

Method

Stimuli. Our very first step was to collect a large pool of advertising images depicting human models who were wearing fashion items in way that was similar to the image in Figure 2 (a).

This pool consisted of ads in magazines and pictures in product catalogues, and we selected seven images from this pool. All images shared the following attributes: there was no copy or any other text and no logotypes which could be used to identify the origin of the products, and the products were worn by a physically attractive model. Next, we showed these pictures, and the image in Figure 2 (a), to a panel of judges, and we asked them to assess the attractiveness of the models. All models were perceived as physically attractive. We then acquired five of the products (we already had the bikini since Study 1) and produced five new images by photographing each product individually against a neutral background. Our intent was to produce images of clothing of the type that often appear in mail order catalogues and on the web sites of firms who sell fashion items; that is, images in which the product per se is in focus.

In the next step, we produced two booklets in which six products appeared either with or without a human model. For two of the original images, we did not produce a corresponding image without the model (we used these two images to assess the possibility of systematic differences between the two groups of participants involved in the study). The image content of the two booklets is presented in Table 2.

- Table 2 here -

Both booklets included identical instructions (“On the following pages, there are pictures of various items to wear. Please examine the items and answer the questions that follow after each item”), both contained color images on high-quality and glossy paper, and in each booklet identical questions followed after each depicted item. Our use of color images should

be seen in the light of the findings of Eagly et al (1991) who concluded that color stimuli produced stronger effect sizes than did black and white stimuli in studies of the effects of attractive persons in photographic images.

Measures. Each image was followed by a measure of the attitude toward the product; we asked the participants to rate each product in terms of the same adjective pairs we used in Study 1 and Study 2 (i.e., bad-good, dislike it-like it, unpleasant-pleasant, uninteresting-interesting, and negative impression-positive impression). Again, we provided a 10-point format for the responses. Cronbach's alpha exceeded .70 for each of the 16 image exposures, and we used the average of the responses to the five items as a measure of the attitude toward the product.

Participants. The participants (N = 70), who we allocated randomly to one of the two booklets, were undergraduates in a business administration course. Thirty-five participants received the first booklet, while thirty-five received the second booklet. As an incentive for participation, we used a lottery in which the completed questionnaires served as tickets, and the prizes consisted of a selection of clothing items depicted in the images.

Results

An alpha level of .10 was used in our tests. We expected no differences in product attitude between the two groups of participants with respect to the two images that were identical for both groups (Sweater A with male model and Shirt with female model). Two separate t tests indicated that no such differences were at hand; for the sweater, $t(68) = -0.475$ and $p = .64$ (two-tailed test), while $t(68) = -0.73$ and $p = .47$ (two-tailed test) for the shirt.

For the remaining six items, however, we did expect differences: we expected higher product attitude scores when the products were depicted with a physically attractive model as opposed to depicted without such a model. Given the outcome of Study 2, in which the sex of the participant had an independent effect on the attitude toward the product, we used a two-way MANOVA (treatment group membership and participant sex were the independent variables) on the six product attitudes to assess the general response pattern. This analysis revealed, as expected, a main effect of treatment group membership (*Wilk's lambda* = .59, $F(6, 60) = 6.99$, $p < .01$, $\eta^2 = .41$). With respect to all six products, the product attitude was higher for the group who was exposed to the product with a physically attractive model. For example, and for the bikini images, which we also used in Study 2, the mean product attitude among the participants who were exposed to the bikini with the attractive model was higher ($M = 5.34$) than among the participants who were exposed to only the bikini ($M = 3.18$). Moreover, as in Study 2, the sex of the participant produced a significant main effect (*Wilk's lambda* = .77, $F(6, 60) = 2.99$, $p = .01$, $\eta^2 = .23$) which was weaker than the main effect of the treatments. For three of the products, the male mean was higher than the female mean. In contrast to Study 2, however, we also obtained a significant interaction effect (*Wilk's lambda* = .83, $F(6, 60) = 2.00$, $p = .08$, $\eta^2 = .17$). The three product for which the male scores were higher than the female scores were all products for females, while two of the three products for which females scored higher than males were product for males.

Discussion

The results from Study 3 again indicated that images comprising a physically attractive model who is wearing a product produced a higher level of attitude toward the product as opposed to

images in which only the product is displayed. Study 3, then, indicates that the effect on the product attitude obtained in Study 2 appears to be consistent for different products in the same category.

General Discussion

Summary of main results

Our results indicate that the visual juxtaposition of a physically attractive model and a product set in motion a process in which an attractiveness appraisal produces emotions—and these emotions affect the attitude toward the ad model. Moreover, the attractiveness appraisal also has a direct effect on the attitude toward the ad model, and this attitude has a positive impact on the attitude toward the product (Study 1). These results suggest that (a) the visual co-exposure of a physically attractive model and a product may produce higher product attitudes compared to (b) a visual display of only the product. A pattern of this type was indeed found in Study 2 and Study 3. In addition, the perceived price of the product, behavioral intentions, and benefits beliefs reached higher levels when the ad model was present (Study 2). Thus, the presence of the physically attractive model created several advantages from the marketer's point of view. And these advantages seem to be in accord with our participants' "folk notion" of the use of physically attractive models in clothing ads: an overwhelming majority of the participants believed that the co-exposure version was more effective, and they also indicated higher preferences for this version (Study 1).

Implications for research and practice

It appears as if an explicit emotion perspective indeed contributes to our understanding of why this or that advertising appeal may be effective. Indeed, it is possible that this perspective offers some cohesiveness to research on advertising effectiveness, in the sense that it may explain how various responses in a hierarchy-of-effects framework are interlinked. This should be seen in the light of scholars who argue that research on advertising effectiveness needs to (a) improve its efforts to explain the psychological processes that underlie specific reactions to stimuli by the use of theoretically derived hypotheses (Belch et al 1987), (b) incorporate emotions, which have emerged only relatively recently on the effectiveness agenda, and (c) integrate emotional responses with cognitive responses (cf. Vakratsas and Ambler 1999). An integration of emotional components with cognitive components appears to be particularly vital, given that ad skepticism is prevalent among contemporary consumers and given that the use of emotional appeals is one way of producing effective responses in such an environment (Obermiller et al 2005). It can also be noted that many studies of the effects of physical attractiveness—made outside an advertising context—do not explicitly take account of emotions in evaluation processes. The meta-analyses by Eagly et al (1991) and Feingold (1992), for example, contain no emotion variables. Allowing for emotions to exist may therefore enrich also our knowledge about social perception in more general terms.

Thus, we believe that our results call for more serious attempts than to date to explicitly consider the impact of emotions on evaluations. However, in our case, in which we included the attitude toward the ad model, positive and negative emotions had no significant direct impact on the attitude toward the product. Yet they did have a significant impact on the attitude toward the model. The main reason, we believe, is that *human* stimuli are particularly

likely to evoke emotions. This implies that a richer understanding of emotions in an ad context calls for the explicit incorporation of constructs capturing ad model-related aspects (such as the attitude toward the ad model). As already indicated, however, this attitude construct has rarely been used in advertising effectiveness research (cf. Brown et al 1998; MacKenzie and Lutz 1989). Our findings regarding this particular attitude should also be seen in the light of the fact that ads may include other specific ad elements (e.g., geographical places, animals, cartoon characters, and artifacts). Such elements are indeed integral to ad perception and ad comprehension; therefore, they must be evaluated and selected rigorously. Thus, we believe that our findings indicate that marketing theory and marketing practice may improve by increased attention to reactions to specific ad elements, and it appears as if the specific attitudes toward such elements offer more precision than aggregated constructs such the attitude toward the ad.

As far as practical implications are concerned, ad designs with attractive human models who are depicted as using the advertised product or brand have some drawbacks. First, they are relatively expensive, in the sense that they comprise the cost of models and stylists—and frequently also all sorts of other costs related to the creation of a suitable photographic environment ("lifestyle" images, shot on location, seem to be increasing in the fashion industry). Second, the use of some model types, such as very skinny and unrealistically beautiful females, have become subject to debate and have the potential of creating negative effects on women (cf. Fay and Price 1994; Peck and Loken 2004) and on men (Gulas and McKeage 2000). Incidentally, literature on this topic deals mainly with the unrealistic portrayals of women in advertising. Yet physically attractive men appear in ads with increasing frequency—and they tend to be strong, tough, and equipped for strenuous physical activity (Kolbe and Albanese 1996). The potential for negative effects on male (and female)

receivers of such portrayals, however, is an issue on which existing literature is overwhelmingly silent (Gulas and McKeage 2000 is an exception). Third, the use of human models may introduce uncontrollable elements in the communication process; some models have become celebritities and they share the potential for harmful behavior with this category of people (cf. Erdogan et al 2001; Till and Shimp 1998). One such case indeed surfaced at the time of the writing of this paper—the fashion retailer H&M was just about to launch a large campaign in which H&M's products were worn by the celebrity model Kate Moss when certain aspects of her private behavior (i.e., using cocaine) became public. H&M's decision makers felt that this would interfere with the H&M image and the campaign had to be redesigned at substantial costs. In other words, there are several reasons why attractive models should *not* be used in ads. Yet our result imply that images comprising physically attractive models who are depicted as using an advertising product are more effective for boosting product attitudes compared to images in which only the product is appearing. In fact, the results are in accord with what appears to be the received view in advertising practice, at least for clothing, in the sense that clothing ads with human models dominate today. Our results are not surprising in the light of this received view, yet they offer a more detailed understanding of a practice that (a) appears to exist without much explicit conceptualizing and (b) is subject to critique from various interest groups.

Limitations and suggestions for further research

Some design limitations exist with respect to (1) the stimuli, (2) the receiver's relationship to the stimuli, and (3) the receiver's responses. We discuss these limitations in this section.

With regard to the visual stimuli one limitation is that we examined only one type of connection between the human model and the product (i.e., the model was depicted as using the product, which we conceive of as a strong connection). We attempted to make this connection constant across the three studies. Yet many other—and weaker—connections are possible between visual objects (cf. Messaris 1997; Phillips and McQuarrie 2004), and this appears to have been neglected in existing research on the effectiveness of physically attractive ad models. That is to say, the typical study provides no specific information about *how* the model was co-exposed with the product (e.g., Caballero and Solomon 1984; Caballero, Lumpkin and Madden 1989; Chestnut et al 1977; Loken and Howard-Pitney 1988; Petroshius and Crocker 1989; Reid and Soley 1981; Till and Busler 2000). Some authors, however, do provide such information in passing—and thereby illustrate that variation is at hand. In the case of Baker and Churchill (1977), for example, the model is "holding the product box", and in Smith and Engel's (1968) study the model is "standing in the right foreground with the car behind her". It should be relatively easy, however, to systematically vary the level and type of connectiveness in further studies. To fully explore this issue, it may also be interesting to conduct interpretive research in which participants are encouraged to verbalize their own views of how objects in ads are connected; such research can assess the participants' visual literacy. Given that the image content in ads is increasing, and given that our culture in general is becoming increasingly visual, we thus believe that future research needs to be explicit about what connections exist in the stimuli that are used. Our call for explicit examinations of this issue should be seen in the light of the increasing growth of the stock image industry; an enormous amount of photographs of human beings to be employed in ads exist today already before the content of specific ads is determined. Such photos can be used in a cost-efficient way for whatever products or purposes the advertiser may have in

mind (Frosh, 2003). By definition, however, they establish only a relatively weak—and symbolic—connection with a particular product or brand.

Moreover, another limitation is that our stimuli consisted of only visual information—no text at all was present. Even though the image content in ads is increasing, many ads contain also text, and it seems reasonable to expect that attractiveness effects are diminished when more copy-based information is provided. Indeed, Eagly et al (1991) claim that the "beauty-is-good-effect" should become smaller when more information is offered. It is tempting to assume that physically attractiveness effects are predicated precisely on the fact that little other information is provided, so the interplay between images and text is clearly an issue that merits attention in future research on the effects of physical attractiveness in ads. In addition, physical attractiveness is one among several characteristics that a model in an ad may have; the model may also, among other things, be perceived as happy, healthy, and suggestive. Appraisals regarding such characteristics are presumably made in a well-nigh automatic way —as in the case of physical attractiveness—and these characteristics are very likely to have an emotion-evoking potential, too. Yet the combined influence of such bundles of attributes has received little attention.

It should again be noted that our study has been founded on the premise that there is an almost automatic tendency to classify a human stimulus as attractive or unattractive (Gulas and McKeage 2000). A similar tendency, however, may exist also in the case of a non-human stimulus. This, then, leads to another limitation of our approach: we were not able to control for the role of the product per se in the evaluation process. Yet a product may be perceived in attractiveness terms, too (Langmeyer and Shank 1995). Given that the characteristics of the product (i.e., attractive vs. non-attractive product) may interact with the characteristics of the

human model, this aspect clearly needs attention in further research. The same reasoning can be applied to visual elements in the background of the ad model; they can vary in terms of attractiveness and may also induce emotions. Moreover, all ad models in our studies were juxtaposed with fashion items—that is to say, products affecting the customer's appearance and thereby also his/her attractiveness. Some authors have argued that the attractiveness "match-up" between a celebrity model and an advertised product represents a special condition under which the model is particularly likely to have positive effects on advertising effectiveness variables (Kamins 1990). Our knowledge about the effects of the (anonymous) physically attractive model may therefore be enhanced if additional studies examine also what happens in situations in which this type of model appears with products unrelated to physical attractiveness.

Turning to the receiver's relationship to the stimulus, our data in Study 1 and Study 2 indicate that the specific product in those two studies (a bikini) was unfamiliar for the majority of the participants. We believe that this stimulus thereby represents one of the situations (i.e., a novel stimulus situation) in which affect infusion is particularly likely to take place according to Forgas' (1995) model. Forgas' prediction is also consistent with the results in Brown et al's (1998) meta-analysis, at least for positive emotions; they found that positive emotions have a stronger effect on brand attitudes when the product is new. However, before the final word is said about the impact of the physically attractive model on the receiver's emotions and evaluations, the full gamut of situations in which affect infusion is expected to take place—and not to take place—must be examined (cf. Machleit et al 1993). Existing research has also indicated that the receiver's view of his/her own physical attractiveness (e.g., in terms of vanity) is likely to affect the impact of ads with physically attractive models (Watson et al 1999), so such personality-related variables merit attention in further research.

Finally, with respect to the response variables, it is possible to argue that categories such as "positive emotions" and "negative emotions" are too broad. That is to say, they may conceal the existence of discrete emotion types within these categories—and discrete emotion types with the same valence may differ in their antecedents, autonomic physiology, central nervous system physiology, evolutionary history, and in their effects on judgment and choice (cf. Söderlund and Rosengren 2004). Future research of the impact of emotions on the receiver's processing activities may therefore benefit from a less amalgamated approach to measuring emotions than the one we used here. Moreover, other pre-purchase evaluation constructs exist (i.e., other constructs than the attitude toward the product), and their absence in our study represents another limitation. A case could be made for perceived value, which is beginning to attract attention in marketing literature (cf. Woodruff 1997). Value-related constructs may be particularly relevant in assessing the impact of advertising in a pre-purchase stage, because value perceptions can be generated before a product is purchased and used (Sweeney and Soutar 2001). Yet very few advertising effectiveness researchers have included value constructs as response variables. This should be seen in relation to one of our findings, in Study 2, namely that the price of the product was perceived to be higher by the participants who were exposed to the image version with the physically attractive model. Given that perceived value is a function of what the customer perceives that s/he receives in relation to what s/he gives (Parasuraman and Grewal 2000), one should not automatically conclude that a higher price indicates higher value. Indeed, it is possible that perceptions of a relatively higher price have adverse effects compared to those that the advertiser aims for. We suggest, therefore, that value-related variables should be examined in future research on the effectiveness of physically attractive models in ads.

References

Ahearne M, Gruen TW and Jarvis CB, 1999, If Looks Could Sell: Moderation and Mediation of the Attractiveness Effect on Salesperson Performance, *International Journal of Research in Marketing*, Vol. 16, No 4, 269-284.

Anderson NH, 1973, Information Integration Theory Applied to Attitudes About U.S. Presidents, *Journal of Educational Psychology*, Vol. 64, No. 1, 1-8.

Bagozzi RP, Gopinath M and Nyer PU, 1999, The Role of Emotions in Marketing, *Journal of the Academy of Marketing Science*, Vol. 27, No. 2, 184-206.

Baker MJ and Churchill GA, 1977, The Impact of Physically Attractive Models on Advertising Evaluations, *Journal of Marketing Research*, Vol. XIV, November, 538-555.

Belch GE, Belch MA and Villareal A, 1987, Effects of Advertising Communications: Review of Research, *Research in Marketing*, Vol. 9, 59-117.

Bergkvist L And Rossiter JR, forthcoming, The Predictive Validity of Multiple-Item vs. Single Item Measures of the Same Constructs, *Journal of Marketing Research.*

Bower GH, 1981, Mood and Memory, *American Psychologist*, Vol. 36, No. 2, February, 129-148.

Bright S, 2005, *Art Photography Now*, Thames and Hudson, London.

Brown SP, Homer PM and Inman JJ, 1998, A Meta-Analysis of Relationships Between Ad Evoked Feelings and Advertising Responses, *Journal of Marketing Research*, Vol. XXX, February, 114-126.

Brumbaugh AM, 1993, Physical Attractiveness and Personality in Advertising: More Than Just a Pretty Face?, *Advances in Consumer Research*, Vol. 20, 159-164.

Caballero MJ and Pride WM, 1984, Selected Effects of Salesperson Sex and Attractiveness in Direct Mail Advertisements, *Journal of Marketing*, Vol. 48, Winter, 94-100.

Cabellero MJ and Solomon PJ, 1984, Effects of Model Attractiveness on Sales Response, *Journal of Advertising*, Vol. 13, No. 1, 17-23.

Caballero MJ, Lumpkin JR and Madden CS, 1989, Using Physical Attractiveness as an Advertising Tool: An Empirical Test of the Attraction Phenomenon, *Journal of Advertising Research*, August/September, 16-22.

Chestnut R, LaChance C and Lubitz A, 1977, The "Decorative" Female Model: Sexual Stimuli and the Recognition of Advertisements, *Journal of Advertising*, Vol. 6, Fall, 11-14.

Colarelli SM and Dettmann JR, 2003, Intuitive Evolutionary Perspectives in Marketing Practices, Psychology and Marketing, Vol. 20, No.9, September, 837-865.

Cooper WH, 1981, Ubiquitous Halo, *Psychological Bulletin*, Vol. 90, 218-244.

Cronley ML, Kardes FR, Goddard P and Houghton DC, 1999, Endorsing Products For The Money: The Role of the Correspondence Bias in Celebrity Advertising, Advances in Consumer Research, Vol. 26, 627-631.

Damasio A, 1999, *The Feelings of What Happens: Body, Emotion and the Making of Consciousness*, Vintage, London.

Dimberg U, Thunberg M and Elmehed K, 2000, Unconscious Facial Reactions to Emotional Facial Expressions, *Psychological Science*, Vol. 11, No. 1, January, 86-89.

Dion K, Berscheid E and Walster E, 1972, What is Beautiful is Good, *Journal of Personality and Social Psychology*, Vol. 24, No. 3, 285-290.

Eagly AH, Ashmore RD, Makhijani MG and Longo LC, 1991, What Is Beautiful Is Good, But…: A Meta-Analytic Review of Research on the Physical Attractiveness Stereotype, *Psychological Bulletin*, Vol. 110, No. 1, 109-128.

Erdogan BZ, Baker MJ and Tagg S, 2001, Selecting Celebrity Endorsers: The Practitioners' Perspective, *Journal of Advertising Research*, May/June, 39-48.

Fay M and Price C, 1994, Female Body-shape in Print Advertisements and the Increase in Anorexia Nervosa, *European Journal of Marketing*, Vol. 28, No. 12, 5-18.

Feingold A, 1992, Good-Looking People Are Not What We Think, *Psychological Bulletin*, Vol. 111, No. 2, 304-341.

Forgas JP, 1995, Mood and Judgment: The Affect Infusion Model (AIM), Psychological Bulletin, Vol. 117, No. 1, 39-66.

Frosh P, 2003, *The Image Factory*, Oxford: Berg.

Goodrum C and Dalrymple H, 1990, *Advertising in America: The First 200 Years*, Henry N Abrams, Inc., New York.

Gulas CS and McKeage K, 2000, Extending Social Comparison: An Examination of the Unintended Consequences of Idealized Advertising Imagery, *Journal of Advertising*, Vol. XXIX, No. 2, Summer, 17-28.

Hess U, Philippot P and Blairy S, 1998, Facial Reactions to Emotional Facial Expressions: Affect or Cognition?, *Cognition and Emotion*, Vol. 1, No. 4, 509-531.

Hirschberg N, Jones LE and Haggerty M, 1978, What's in a Face: Individual Differences in Face Perception, *Journal of Research in Personality*, Vol. 12, 488-499.

Holbrook MB and Batra R, 1987, Assessing the Role of Emotions as Mediators of Consumer Responses to Advertising, *Journal of Consumer Research*, Vol. 14, December, 404-420.

Joseph WB, 1982, The credibility of physically attractive communicators: A review, *Journal of Advertising*, Vol. 11, No. 3, 15-24.

Julander C-R and Söderlund M, 2005, Peripheral cues in advertising and consumer policy. In: Grunert KG and Thörgersen J (Eds.), *Consumers, Policy and the Environment: A Tribute to Folke Öhlander*, Springer, New York.

Kamins MA, 1990, An Investigation into the "Match-Up" Hypothesis in Celebrity Advertising: When Beauty May be Only Skin Deep, *Journal of Advertising*, Vol. 19, No. 1, 4-13.

Koernig, SK and Page, AL, 2002, What If Your Dentist Looked Like Tom Cruise? Applying the Match-Up Hypothesis to a Service Encounter, *Psychology & Marketing*, Vol. 19, No 1, 91-110

Kolbe RH and Albanese PJ, 1996, Man to Man: A Content Analysis of Sole-Male Images in Male-Audience Magazines, *Journal of Advertising*, Vol. XXV, No. 4, Winter, 1-20.

Kress G and Van Leeuwen Y, 2004, *Reading Images: The Grammar of Visual Design*, Routledge, London.

Langmeyer L and Shank MD, 1995, Body and Soul: Beyond Physical Attractiveness—Implications for Consumer Behavior, *Advances in Consumer Research*, Vol. 22, 746-752.

Larsen V, Luna D and Peracchio LA, 2004, Points of View and Pieces of Time: A Taxonomy of Image Attributes, *Journal of Consumer Research*, Vol. 31, June, 102-111.

Lazarus RS, 1982, Thoughts on the Relations Between Emotion and Cognition, *American Psychologist*, Vol. 37, No. 9, September, 1019-1024.

Lister M and Wells L, 2002, Seeing Beyond Belief: Cultural Studies as an Approach to Analysing the Visual. In: van Leeuwen T and Jewitt C (Eds.), *Handbook of Visual Analysis*, SAGE Publications, London.

Loken B and Howard-Pitney B, 1988, Effectiveness of Cigarette Advertisements on Women: An Experimental Study, *Journal of Applied Psychology*, Vol. 73, No. 3, 378-382.

Machleit KA, Allen CT and Madden TJ, 1993, The Mature Brand and Brand Interest: An Alternative Consequence of Ad-Evoked Affect, *Journal of Marketing*, Vol. 57, October, 72-82.

MacKenzie SB and Lutz RJ, 1989, An Empirical Examination of the Structural Antecedents of Attitude Toward the Ad in an Advertising Pretesting Context, *Journal of Marketing*, Vol. 53, April, 48-65.

Martin BAS, Lee CK-W and Yang F, 2004, The Influence of Ad Model Ethnicity and Self-Referencing on Attitudes, *Journal of Advertising*, Vol. 33, No. 4, Winter, 27-37.

McQuarrie EF and Phillips BJ, 2005, Indirect Persuasion in Advertising: How Consumers Process Metaphors Presented in Pictures and Words, *Journal of Advertising*, Vol. 34, No. 2, Summer, 7-20.

Mehrabian, A and Blum, JS, 1997, Physical Appearance, Attractiveness, and the Mediating Role of Emotions, *Current Psychology*, Vol. 16, No 1, 20-42

Messaris P, 1992, Visual "Manipulation": Visual Means of Affecting Responses to Images, *Communication*, Vol. 13, 181-195.

Messaris P, 1997, *Visual Persuasion: The Role of Images in Advertising*, SAGE Publications, Thousand Oaks.

Messaris P, 1998, Visual Aspects of Media Literacy, *Journal of Communication*, Vol. 48, No.1, 70-80.

Mitchell AA, 1986, Some Issues Surrounding Research Effects of "Feeling Advertisements", *Advances in Consumer Research*, Vol. 13, 623-628.

Morrow, PC, McElroy, JC, Stamper, BC and Wilson, MA, 1990, The Effects of Physical Attractiveness and Other Demographic Characteristics on Promotional Decisions, *Journal of Management*, Vol. 16, No 4, 723-736

Obermiller C, Spangenberg E and MacLachlan DL, 2005, Ad Skepticism, *Journal of Advertising*, Vol. 34, No. 3, Fall, 7-17.

Parasuraman A and Grewal D, 2000, The Impact of Technology on the Quality-Value-Loyalty Chain: A Research Agenda, *Journal of the Academy of Marketing Science*, Vol. 28, No. 1, 168-174.

Park J and Kim J-K, 2005, The Effects of Decoys on Preference Shifts: The Role of Attractiveness and Providing Justification, *Journal of Consumer Psychology*, Vol. 15, No. 2, 94-107.

Peck J and Loken B, 2004, When Will Larger-Sized Female Models in Advertisements Be Viewed Positively? The Moderating Effects of Instructional Frame, Gender, and Need for Cognition, *Psychology and Marketing*, Vol. 21, No. 6, June, 425-442.

Petroshius SM and Crocker KE, 1989, An Empirical Analysis of Spokespersons Characteristics on Advertisement and Product Evaluations, *Journal of the Academy of Marketing Science*, Vol. 17, No. 3, 217-225.

Pham MT, 1998, Representativeness, Relevance, and the Use of Feelings in Decision Making, *Journal of Consumer Research*, Vol. 25, September, 144-159.

Pham MT, 2004, The Logic of Feeling, *Journal of Consumer Psychology*, Vol. 14, No. 4, 360-369.

Phillips BJ and McQuarrie EF, 2004, Beyond visual metaphor: A new typology of visual rhetoric in advertising, *Marketing Theory*, Vol. 4 No. 1-2, 113-136.

Pollay RW, 1985, The Subsiding Sizzle: A Descriptive History of Print Advertising, 1990-1980, *Journal of Marketing*, Vol. 49, Summer, 24-37.

Reid LN and Soley LC, 1981, Another Look at the "Decorative Female Model: The Recognition of Visual and Verbal Ad Components, *Current Issues and Research in Advertising*, 123-133.

Reid LN and Soley LC, 1983, Decorative Models and the Readership of Magazine Ads, *Journal of Advertising Research*, Vol. 23, No. 2, April/May, 27-32.

Reingen, PH and Kernan, JB, 1993, Social Perception and Interpersonal Influence: Some Consequences of the Physical Attractiveness Stereotype in a Personal Selling Setting, *Journal of Consumer Psychology*, Vol. 2, No 1, 25-38

Richins, ML, 1997, Measuring Emotions in the Consumption Experience, *Journal of Consumer Research*, Vol. 24, September, 127-146.

Roseman IJ, 1991, Appraisal Dimensions of Discrete Emotions, *Cognition and Emotion*, Vol. 5, No. 3, 161-200.

Saad G and Gill T, 2000, Applications of Evolutionary Psychology in Marketing, *Psychology and Marketing*, Vol. 17, No. 12, December, 1005-1034.

Saad G, 2004, Applying Evolutionary Psychology in Understanding the Representation of Women in Advertisements, *Psychology and Marketing*, Vol. 21, No. 3, August, 593-612.

Sabatelli RM and Rubin M, 1986, Nonverbal expressiveness and Physical Attractiveness as mediators of interpersonal perceptions, *Journal of Nonverbal Behavior*, Vol. 10, No. 2, Summer, 120-133.

Smith CA and Ellsworth PC, 1985, Patterns of Cognitive Appraisal in Emotion, *Journal of Personality and Social Psychology*, Vol. 48, No. 5, 813-838.

Smith GH and Engel R, 1968, Influence of a Female Model on Perceived Characteristics of an Automobile, Proceedings from the 76th APA Annual Convention, 681-682.

Sweeney JC and Soutar GN, 2001, Consumer perceived value: The development of a multiple item scale, *Journal of Retailing*, Vol. 77, 203-220.

Söderlund M and Rosengren S, 2004, Dismantling "positive affect" and its effects on customer satisfaction: An empirical examination of customer joy in a service encounter, *Journal of Consumer Satisfaction, Dissatisfaction and Complaining Behavior*, Vol. 17, 27-41.

Till BD and Shimp TA, 1998, Endorsers in Advertising: The Case of Negative Celebrity Information, *Journal of Advertising*, Vol. XXVII, No. 1, Spring, 67-82.

Till BD and Busler M, 2000, The Match-up Hypothesis: Physical Attractiveness, Expertise, and the Role of Fit on Brand Attitude, Purchase Intent and Brand Beliefs, *Journal of Advertising*, Vol. XXIX, No. 3, Fall, 1-13.

Vakratsas D and Ambler T, 1999, How Advertising Works: What Do We Really Know?, *Journal of Marketing*, Vol. 63, January, 26-43.

Watson JJ, Rayner RS, Lysonki S and Durvasula S, 1999, Vanity and Advertising: A Study of the Impact of Appearance-Related, Sex, and Achievement Appeals, *Advances in Consumer Research*, Vol. 26, 445-450.

Williams JD and Qualls WJ, 1989, Middle-Class Black Consumers and Intensity of Ethnic Identification, *Psychology & Marketing*, Vol. 6, No. 4, Winter, 263-286.

Williams P and Aaker J, 2002, Can Mixed Emotions Peacefully Coexist?, *Journal of Consumer Research*, Vol. 28, No. 4, March, 636-650.

Woodruff RB, 1997, Customer Value: The Next Source for Competitive Advantage, *Journal of the Academy of Marketing Science*, Vol. 25, No. 2, 139-153.

Figure 1:

Components of the evaluation process

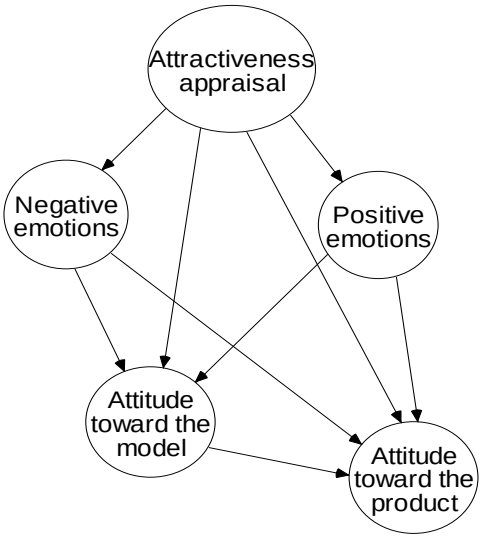


Table 1:

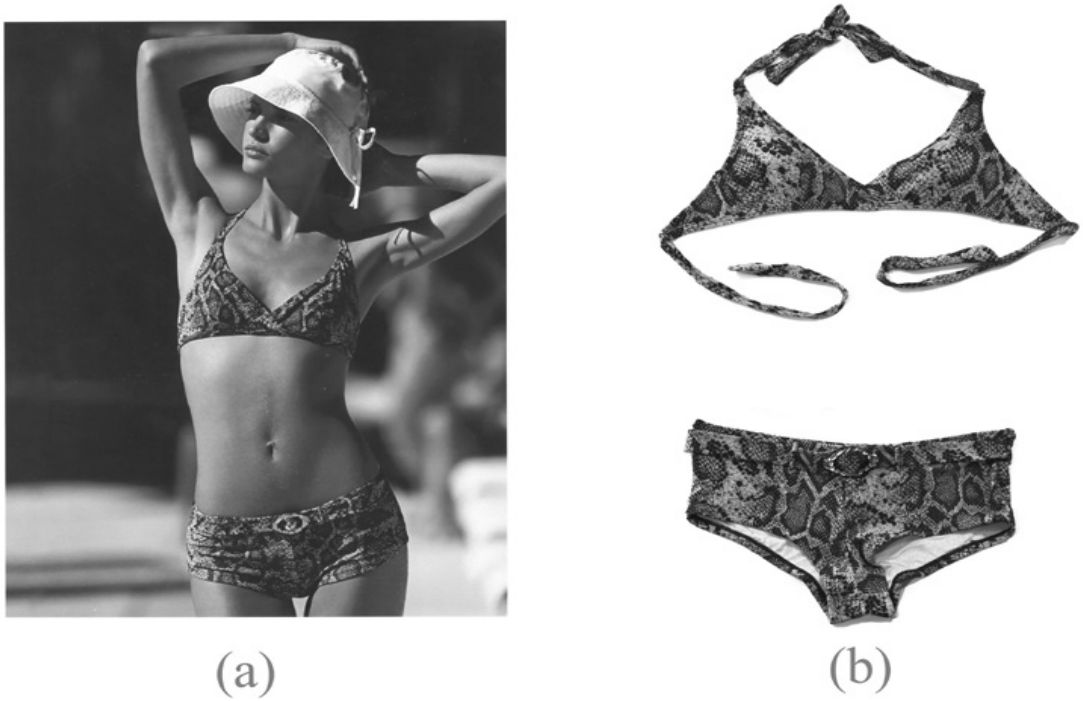
Standardized effects

Attractiveness → Negative emotions	-.27 *
Attractiveness → Positive emotions	.49 *
Negative emotions → Attitude toward the model	-.23 *
Positive emotions → Attitude toward the model	.27 *
Negative emotions → Attitude toward the product	.13
Positive emotions → Attitude toward the product	.10
Attitude toward the model → Attitude toward the product	.50 *
Attractiveness → Attitude toward the model	.48 *
Attractiveness → Attitude toward the product	-.05

* $p < .01$, all other links were non-significant at $p = .10$.

Figure 2:

Two stimulus images depicting the same bikini



(a) (b)

Table 2:

The image content of the two booklets

Booklet 1	Booklet 2
Sweater A with male model	Sweater A with male model
Scarf without male model	Scarf with male model
Top A with female model	Top A without female model
Necklace without female model	Necklace with female model
Sweater B with male model	Sweater B without male model
Bikini without female model	Bikini with female model
Shirt with female model	Shirt with female model
Top B with female model	Top B without female model