Consumers’ green involvement and the persuasive effects of emotional versus functional ads

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ABSTRACT

This study compares the effects of four types of ads: a functional green ad promoting the environmental advantages of a product, an emotional green ad using a visual representation of pleasant natural scenery, a mixed type green ad using functional and emotional strategies, and a control group. Findings of an experimental study using a representative sample of U.S. consumers suggest that both the emotional and the mixed-type ads significantly affect brand attitude, mediated by attitude toward the ad. These effects do not depend on consumers’ green involvement. Functional ads, in contrast, only impact brand attitudes when involvement, measured as green purchase behavior or green product attitudes, is high.

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1. Introduction

A growing number of consumers are becoming concerned about environmental degradation, waning natural resources, or threats associated with climate change over the last decades (Dunlap & Scarse, 1991; Eurobarometer, 2011). Parallel to this trend, the use of environmental appeals in advertising is very popular among practitioners and marketers (Easterling, Kenworthy, & Nemzoff, 1996; Schmidt & Donsbach, 2012). Especially in the early days of green marketing, companies were quick to adopt green claims, sometimes using delusive or exaggerated environmental appeals resulting in “greenwashing” (Gaski & Etzel, 1986; Kangun, Carlson, & Grove, 1991). In recent years, however, green claims have become more substantial and less ambiguous, which “expresses a more responsible approach to green advertising” (Leonidou, Leonidou, Palihawadana, & Hultman, 2011, p. 24). Nonetheless, critics on green marketing are still cautious about various forms of greenwashing and their impact on growing confusion and cynicism among consumers (Dahl, 2010; Peattie & Crane, 2005). Given this ambivalent nature of green advertising, it is crucial to understand how consumers respond to it. In today’s green advertising, Hartmann, Ibáñez, and Sainz (2005) distinguish three major appeals:


Despite the practical relevance and widespread occurrence of functional, emotional and combined green ads, knowledge about their distinct effects remains scarce. The literature displays three research gaps. First, although the currently available body of knowledge suggests that all three types of green ads exert a significant impact on brand and advertising evaluations (Hartmann & Apaolaza-Ibáñez, 2009; Hartmann et al., 2005), no single study sufficiently tests their independent effects. Studies either compare a control group with an emotional (or functional) appeal (e.g., Davis, 1994; Grimmer & Woolley, 2012; Newman, Howlett, Burton, Kozup, & Heintz, 2012; Schuhwerk & Lefkoff-Hagius, 1995; Searles, 2010; Spack, Board, Crighton, Kostka, & Ivory, 2012), or they use a mix of emotional and functional appeals and check whether such an ad is more persuasive than a non-green ad (Hartmann & Apaolaza-Ibáñez, 2009; Hartmann et al., 2005). Second, based on dual-process models such as the Elaboration-Likelihood Model (ELM, Petty & Cacioppo, 1990), the effectiveness of emotional versus functional appeals should depend on consumers’ green involvement. However, previous research ignores the moderating role of green involvement. Third, a lion’s share of prior research relies on student or convenience samples (e.g., Grimmer & Woolley, 2012; Newman et al., 2012; Hartmann et al., 2005; Searles, 2010; Schuhwerk & Lefkoff-Hagius, 1995; Spack et al., 2012; but see Grimmer & Bingham, 2013; Hartmann & Apaolaza-Ibáñez, 2009). Since green consumerism significantly varies...
by age, education, and gender (Roberts, 1996), student samples lack population validity.

The present study attempts to fill these research gaps by investigating the distinct and combined effects of emotional versus functional green advertising appeals. Furthermore, this study systematically tests the moderating roles of several interrelated green involvement dimensions. These dimensions are environmental concern, green purchase intentions, and attitudes toward green products. The analysis also controls for the impact of key demographic characteristics by using a quota sample of U.S. consumers.

2. Functional versus emotional green ads

Although scholars and marketers agree that green positioning is an essential factor in the market success of products and services, still research devotes minimal attention to the question of how the design of green claims affects the processing of the message and its effectiveness (Hartmann & Apaolaza-Ibáñez, 2009). Positioning a brand as a “green brand” entails an active communication of its environmentally sound attributes (Hartmann et al., 2005). According to classification schemes of generic positioning strategies (Aaker, 1996), brand positioning uses functional attributes and/or by emotional benefits. A green positioning strategy based on functional attributes should communicate the relevant environmental advantages of the product compared to competing conventional products. Such advantages may include, for example, environmentally friendly production processes, product use, or product elimination. The aim of this positioning strategy is to build brand associations by delivering information on environmentally relevant utilitarian product attributes (Hartmann et al., 2005). Studies confirm that environmentally sound product arguments can affect purchase intentions (Hartmann & Apaolaza-Ibáñez, 2009; see also Roberts, 1996).

Emotional brand advertising, in contrast, aims to transfer affective responses to the brand (Edell & Burke, 1987). Searles (2010) finds that verbal cues based on enthusiasm appeals reinforce an individual’s positive attitude toward efforts to protect the environment and positively influence participants’ pro-environmental views. Anxiety appeals induce anti-environmental attitudes. However, verbal cues are not the only way to evoke emotional responses. Chowdhury, Olsen, and Pracejus (2008) show that a single dominant positive image might be sufficient to engender significantly positive affective responses. In the case of green advertising, visual representation of pleasant nature scenery may have this effect, based on the principle that both contact with nature itself and exposure to nature images generate positive emotions (Kaplan & Kaplan, 1989; Stokols, 1990).

However, only a few studies deal with the question of whether functional attributes or emotional appeals exert a stronger effect on brand attitudes. Among the most notable of these studies is a series of experiments by Hartmann and colleagues. Hartmann et al. (2005) address this question in an experimental field study with 160 university students. The authors design a functional positioning strategy, an emotional positioning strategy, and a combined strategy for a hypothetical car brand. In the functional experimental condition, the ad gives detailed information on how emissions are reduced. The image is identical to the one of the control group and has no emotional connotations. The emotional positioning ad uses pleasant nature imagery without cues about functional product attributes. The third condition combines both strategies. This ad includes the same image as the second condition, but mentions only a reduced number of environmentally utilitarian attributes. A conventional ad serves as control condition.

The findings of this study suggest that “a combined strategy, which appeals to both environmental consciousness and emotional benefits, will yield a stronger attitudinal effect than either functional or emotional positioning strategies on their own” (p. 21).

In a later study, Hartmann and Apaolaza-Ibáñez (2009) find that nature imagery may also enhance the positive influence of informational appeals on consumers’ attitude towards a brand. A national survey with a representative sample of 360 participants employs three experimental conditions: a non-environmental ad, an environmental ad providing information on the environmental features of the brand, and a nature ad which combines the environmental features with a visual design to evoke nature experiences. Hartmann and Apaolaza-Ibáñez (2009) find that the association of a green brand with pleasant nature imagery in addition to the presentation of information on specific environmental product features leads to more positive brand attitudes, as compared to the effect of informational claims alone. According to the authors, pleasant nature imagery leads to the association of specific emotional experiences with the brand that are to some extent comparable to those consumers’ experience through contact with nature. Interestingly, depictions of landscapes with lush green vegetation and clear water elicit more favorable emotional responses than other landscapes or urban scenes, regardless of the natural environment in which individual live (Hartmann & Apaolaza-Ibáñez, 2012).

The evidence from these studies suggests that all three positioning strategies exert positive overall influences on brand attitude. So far however, no study compares the three positioning strategies simultaneously. In Hartmann et al.’s (2005) first study, the combined condition contains only a reduced number of informational appeals. As a consequence, the design does not allow to accurately separate the three appeals. Strictly speaking, the combined condition is not the sum of the functional and the emotional conditions. Also, the student sample warrants replication with a broader sample. Hartmann and Apaolaza-Ibáñez (2009), in contrast, do not use a student sample. In this study, one condition combines the information about the environmental features of the brand with pleasant nature scenery. However, the study does not include a condition to test the sole effect of pleasant nature scenery on brand attitude. Therefore, a study that simultaneously examines the impact of all three positioning strategies seems warranted. Furthermore, since the ads employ (functional) arguments versus (emotional) heuristic cues, environmental involvement may moderate the effect of these positioning strategies.

3. Environmental involvement

A wealth of research suggests that consumers differ in how they respond to persuasive appeals. One key variable to explain this response is consumers’ level of involvement. Involvement refers to the degree to which a person perceives an attitude object as personally relevant (Petty & Cacioppo, 1990). As the Elaboration-Likelihood Model (ELM, Petty & Cacioppo, 1990) suggests, highly involved individuals are motivated to process information that leads to message elaboration. For these people, arguments about the attitude object should exert more influence on their opinions than emotional appeals. In contrast, less involved consumers may rely on heuristic cues such as emotions or feelings to form their opinions.

In the context of environmental advertising, high involvement consumers process the arguments displayed in an advertisement. The evaluation of a brand thus depends on the functional green arguments. Low involvement consumers are not motivated to process those arguments. For these people, emotional appeals such as beautiful nature scenery should serve as a heuristic cue guiding attitude formation. However, involvement is a rather fuzzy concept with a myriad of different conceptualizations and operationalizations, not only in advertising research but also in the more general persuasion literature. Regarding green involvement, there are at least three relevant conceptualizations, (1) environmental concern, (2) attitudes toward green products, and (3) green purchase behavior. While these facets of environmental involvement are related, they can have different antecedents and outcomes. Therefore, research on the moderating effect of involvement on green advertising effectiveness should take all three facets into account.

A lion’s share of studies defines involved green consumers as those who are highly concerned about the environment (D’Souza & Taghian,
The concept of **environmental concern** involves an awareness of environmental problems combined with the perceived necessity of protecting the environment. Environmental concern plays an important role in green buying decisions (Schwartz & Miller, 1991). Furthermore, scholars treat consumers who maintain positive attitudes toward green products as highly involved (Chan, 2001; Roberts, 1996). Attitudes toward green products relate to the advantages, favorability, or the quality of green products (Chang, 2011). Finally, actual green purchase behavior is an indicator of environmental involvement (Chang, 2011; Mohr et al., 1998; Schlegelmilch, Bohlen, & Diamantopoulos, 1996). This can be actual behavior or behavioral intentions (Schwepker & Cornwell, 1991; Stone, Barnes, & Montgomery, 1995).

Knowledge about the moderating roles of several green involvement dimensions in the context of advertising effectiveness is scarce. Most studies reveal that environmental claims exert stronger effects for consumers high as opposed to low in environmental involvement. Grimmer and Bingham (2013), for instance, observe a relationship between the environmental performance of a company and consumers' purchase intentions, especially for consumers high in environmental concern. Similarly, Grimmer and Woolley (2012) compare the effects of a personal benefit green ad with those of an environmental benefit green ad, and a control group. Unlike prior research, the authors also operationalize environmental affect as an indicator of environmental involvement. As a result, “participants with low environmental affect showed higher purchase intentions for the personal benefit message over the pure environmental benefit message” (Chang, p. 13). Conversely, the effects of a pure environmental benefit message compared to the personal benefit message are stronger for consumers with high compared to low environmental affect. In contrast to these studies, findings by Schuhwerk and Lefkoff-Hagius (1995) suggest that less involved consumers react more positively to environmental claims compared to highly involved consumers.

Taken together, the available findings on the moderating role of environmental involvement are compatible with the ELM (see Grimmer and Woolley (2012) for an explanation of Schuhwerk and Lefkoff-Hagius’ findings). When effects of green ads are stronger for high involvement individuals, scholars apply environmental claims that contain some kind of argument (e.g., an environmental benefit). However, these designs do not include emotional appeals. It follows that previous research is not sensitive to the possible variety of green advertising appeals and green involvement dimensions. No research systematically compares the effects of functional versus emotional green claims depending on the distinct dimensions of consumers’ environmental involvement. Based on the ELM, the present study theorizes that all three types of green ads—functional, emotional, and combined appeals—may yield significant effects on brand attitudes. However, the pattern of effects may be completely different depending on the type of the green appeal and consumers’ green involvement.

To test these assumptions, this study further distinguishes two outcome variables, attitude toward the ad and attitude toward the brand. More specifically, attitude toward the ad may mediate the effects of ad claims on brand attitudes (see for this reasoning, Mitchell & Olson, 1981; for green ads, Schuhwerk & Lefkoff-Hagius, 1995). Rephrased, green appeals impact brand attitudes because they shape ad liking. Since previous studies find functional and emotional green appeals as well as combined forms to be effective generally (Hartmann & Apaolaza-Ibáñez, 2009; Hartmann et al., 2005), this mechanism may apply for all three types of green appeals. Also, all three types of green ads use green elements that should generally make them more persuasive compared to a control group. This leads to the following hypotheses:

**H1.** Functional ads have a positive impact on brand attitudes by shaping ad attitudes.

**H2.** Emotional ads have a positive impact on brand attitudes by shaping ad attitudes.

**H3.** Ads that combine functional and emotional appeals have a positive impact on brand attitudes by shaping ad attitudes.

Moreover, environmental involvement may moderate the effects of functional, emotional, and combined ads. According to the ELM, emotional appeals should yield the strongest effects for individuals low in involvement. Low involved consumers may simply base their opinions on the impression of the typical green nature scenery without asking for more substantial information such as functional arguments. People high in green involvement may find such an unmeaning ad deceptive which should hamper positive attitudinal effects. Functional appeals—that is, appeals that are based on substantive arguments rather than emotion-eliciting images—should have a stronger impact for people high in involvement, because low involvement individuals will not be motivated to process the functional arguments, rendering the arguments ineffective.

Since both substantive arguments and heuristic cues are present, consumers may use both of them, or only one of them, in forming their impressions. Therefore, a first research question asks whether the effects of combined ads are stronger for individuals with low or high green involvement. In addition, this study aims to examine the above assumptions for several distinct dimensions of green involvement. Since the correlation between these dimensions is usually high, a second research question asks which of these dimensions will yield the strongest moderating impact.

**H4.** The effects of functional green ads will be stronger for consumers high in green involvement.

**H5.** The effects of emotional green ads will be stronger for consumers low in green involvement.

**RQ1.** Are the effects of combined functional and emotional appeals stronger for individuals with low or high green involvement?

**RQ2.** Which dimension of green involvement—environmental concern, attitudes toward green products, or green purchase behavior—is the strongest moderator of green ad effects?

### 4. Method

#### 4.1. Design, sample, and procedure

U.S. citizens (n = 484) participated in a 1 × 4 (green appeal: emotional, functional, combined, none) between subjects experiment in August/September 2012. The online experiment was part of a larger survey (n = 1015) that also included a second experimental study. The company Survey Sampling International (SSI) recruited respondents from an online access panel. The company provided incentives for successful participation. The response rate for online data collection was RR1 = .62. Quota sampling yielded a high agreement with the general U.S. population in terms of age (M = 43.9, SD = 16.3), gender (57% female), and education (60.0% completed some high school, 69.2% high school graduate, 24.8% college degree). The completion time of the survey took 10 min on average (median = 8 min).

This study employs four versions of a print ad for an ecological laundry detergent (see Appendix B). The experimental conditions vary in their visual and textual layout. The emotional appeal condition (n = 133) depicts the product, brand name, and a slogan together with a scenic nature image in the background. Following the studies by Hartmann et al. (2005), the image shows a lake surrounded by mountains, forests, and a waterfall. Austrian students rated this picture as significantly positive in a pretest (n = 28). According to this pretest, the picture evokes positive emotions such as happiness and satisfaction. The functional condition (n = 116) shows product, brand, and slogan.
along with a list of six brief ecological advantages of the detergent in front of a neutral background. The arguments are arguments used in
real ads for laundry detergents (see Appendix B). A second pretest of
n = 256 Austrian students suggests that these arguments are signifi-
cantly perceived as “convincing”. The combined condition (n = 128)
unites the nature image and the arguments. The ad of the control condi-
tion presents a picture of the product and the slogan in front of a neutral
background (n = 107).

Before presentation of the stimulus, the experimenter asked partici-
pant to carefully examine the following ad. They could freely choose to
end exposure and continue with the survey via a mouse click. Plausibly,
 exposure time in seconds varies significantly between the conditions;
F (3, 480) = 7.103, p < .001, with M = 30.96, SD = 28.03 for the
functional group, M = 32.95, SD = 49.62 for the combined group,
M = 19.10, SD = 21.03 for the emotional group, and M = 18.21, SD
= 16.10 for the control group. Exposure time is controlled in all sta-
tistical analyses.

4.2. Measures

Five seven-point semantic differential scales measure the two
dependent variables (see Appendix A, attitude toward the ad: Cronbach’s α = .92; M = 5.28, SD = 1.31; attitude toward the
brand: Cronbach’s α = .96; M = 5.24, SD = 1.35). As for the inde-
pendent variables (1—“strongly disagree” and 7—“strongly
agree”), the study employs three forms of green involvement
prior to the experimental stimulus. Environmental concern consists
of four items based on Schuhwerk and Lefkoff-Hagiou (1995),
(Cronbach’s α = .85; M = 5.24, SD = 1.19). Attitude toward
green products entails four items based on Chang (2011)
(Cronbach’s α = .82; M = 4.96, SD = 1.13). Four items measure
green purchase behavior (Kim & Choi, 2005; Cronbach’s α = .89;
M = 4.43, SD = 1.41). The study adds two additional controls.
First, perceived consumer effectiveness (PCE) is as a key variable in
green advertising (Ellen, Wiener, & Cobb-Waligren, 1991; Kim &
Choi, 2005). PCE consists of two items (Ellen et al., 1991). These
are reverse coded to express consumer effectiveness (Cronbach’s
α = .61; M = 4.51, SD = 1.48). Second, consumer sentiment

toward marketing is a key predictor of advertising effectiveness
(Mohr et al., 1998). Negative sentiment toward marketing consists
of two items (Mohr et al., 1998), (Cronbach’s α = .67; M = 3.67,
SD = 1.40). Fig. 1 shows the full model.

4.3. Data analysis

The analysis employs the Full Information Maximum Likeli-
hood (FIML) method (Enders & Bandalos, 2001), Comparative Fit
Index (CFI), Root Mean Square Error of Approximation (RMSEA),
and PCLOSE serve as the criteria to evaluate model fit. The experi-
mental groups are dummy coded and control group serves as the
reference group (see Fig. 1). The model treats ad evaluation and
brand evaluation as latent variables, and the other variables as
manifest. The model includes the interactive effects as multiplica-
tive terms of condition and moderator in moderated path regres-
sion analysis. This study uses continuous variable interactions as
opposed to multiple group analyses (see Irwin & McClelland,
2002).

5. Results

The first three hypotheses aim at the main effects of functional,
emotional and combined appeals. The corresponding model is a
structural equation model without the interactive effects as depicted in
Fig. 1. All standardized factor loadings on the latent
variables are above λ = .80. The fit is very good (Chi-square =
290.97, df = 130, CFI = .98, RMSEA = .05, PCLOSE = .44). The
emotional green ad (b = .58; p < .001) and the combined green
ad (b = .63; p < .001) significantly affect attitude toward the ad
(see Table 1). The functional ad exerts a marginally significant
effect on ad attitudes (b = .28; p = .07). Following expectations,
the attitude toward the ad has a highly significant impact on the
attitude toward the brand (b = .73; p < .001). This finding sug-
gests that the emotional and the combined green ads have an
influence on brand attitudes through their effects on ad evalua-
tions. This reasoning is supported by a mediation analysis.
The indirect effects of emotional (b = .43; p < .001) as well as

![Fig. 1. Theoretical structural equation model.](Image)

Note: Control variables (age, gender, education, view time, perceived consumer effectiveness and negative sentiment), measurement errors, and correlations between all exogenous var-
iables were omitted from depiction for clarity reasons.
mental concern, attitudes toward green products, and green brand. Separate path analyses test the moderating roles of environmental concern, attitudes toward the ad and 71% of the variance of attitude toward the total, the independent variables explain 31% of the variance of attitude, and high levels of green attitudes, the effects of functional ad exposure are significant (b = .25; p < .05; product attitude: b = .21; p < .01). Hypotheses 4 and 5 assume that the effects of functional versus emotional green ads would depend on consumers’ green involvement. Separate path analyses test the moderating roles of environmental concern, attitudes toward green products, and green purchase behavior. Contrary to expectations, neither emotional ads nor combined ads exhibit moderated effects (see Table 1). In other words, the effects of emotional and combined ads are completely independent from environmental concern, attitudes toward green products, and green purchase behavior. This also answers research question 1.

However, the analysis reveals a marginally significant interaction between functional ad exposure and green purchase behavior (b = .15; p = .06). The positive sign of this interaction signals that the effect of functional ad exposure increases with rising levels of green purchase behavior. To interpret this interaction, an additional analysis probes the effect of functional appeals at low (one SD below the mean), moderate (at the mean) and high (one SD above the mean) levels of green purchase behavior using manifest variables (i.e., not by splitting the sample, see Hayes & Matthes, 2009). Fig. 2 visualizes the results. Functional green ads (compared to the control group) have a significant effect for moderate (b = .25; p < .05) and high (b = .39; p < .01) levels of green purchase behavior. However, individuals who score low on green purchase behavior do not react with more favorable ad evaluations in response to the functional ad. A similar interaction pattern appears for attitudes toward green products. The interaction effect is below the conventional level of statistical significance (b = .17; p = .08) but the pattern is precisely the same. When probed at low, moderate, and high levels of green attitudes, the effects of functional ad exposure are significant for respondents who report moderately positive (b = .25; p < .05) or highly positive (b = .41; p < .01) green product attitudes. The overall indirect effect of functional ad exposure on brand liking, moderated by purchase behavior (or product attitudes) and mediated by ad liking, is also significant (purchase behavior: b = .11; p < .05; product attitude: b = .21; p < .05).

### Table 1

<table>
<thead>
<tr>
<th>Independent variables</th>
<th>Attitude toward the ad</th>
<th>Attitude toward the brand</th>
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<td>Attitudes toward green products</td>
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<td>Green purchase behavior</td>
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<td>Functional green ad</td>
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<td>Emotional green ad</td>
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<td>Combined green ad</td>
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<td>Attitude toward the ad</td>
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<td>Functional green ad + environmental concern</td>
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<td>Functional green ad + attitudes toward green products</td>
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<td>Combined green ad + green purchase behavior</td>
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Note. PCE = perceived consumer effectiveness. NSM = negative sentiment toward marketing.

*** p < .001.
** p < .01.
* p < .05.
+++ p = .06.
++ p = .07.
+ p = .08.

combined (b = .46; p < .01) green ads on brand attitudes, mediated by ad attitudes, are significant. The indirect effect of functional ads is also significant (b = .20; p < .05). These findings clearly support Hypotheses 2 and 3, and lend some support for Hypothesis 1.

The next step is to check whether the size of the effects differs between conditions by a nested model comparison: This analysis compares a model without any constraints to a model that restricts the effects of the experimental groups to be equal. The effect of the argument condition on ad evaluation is significantly different (i.e., lower) from the effects of the emotional (Δχ² = 4.52, p < .05) and the combined (Δχ² = 5.83, p < .05) conditions. The latter two, however, do not significantly differ (Δχ² = .09, n.s.). This finding suggests that the emotional and the combined conditions yield stronger persuasive effects. However, only the combined condition shows a direct effect on brand attitudes (b = .24; p < .05).

Regarding the three dimensions of green consumer involvement, only attitudes toward green products (b = .41; p < .001) significantly relate to the attitude toward the ad. Attitudes toward green products also have a direct effect on brand attitudes (b = .21; p < .01), and male respondents are marginally more negative in their brand evaluations than females (b = −.09; p = .06). In total, the independent variables explain 31% of the variance of attitude toward the ad and 71% of the variance of attitude toward the brand.

Hypotheses 4 and 5 assume that the effects of functional versus emotional green ads would depend on consumers’ green involvement. Separate path analyses test the moderating roles of environmental concern, attitudes toward green products, and green purchase behavior. Contrary to expectations, neither emotional ads nor combined ads exhibit moderated effects (see Table 1). In other words, the effects of emotional and combined ads are completely independent from environmental concern, attitudes toward green products, and green purchase behavior. This also answers research question 1.

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Environmental concern does not significantly interact with functional ad exposure, although the effect points in the expected direction (b = .15; p = .18). These findings lend some support to Hypothesis 4. The conclusion regarding research question 2 is that green purchase behavior and green product attitudes exert the strongest moderating effects on the outcome variables. Those effects are non-existent for environmental concern. However, this conclusion only refers to the impact of functional green ads. For the other two types of green ads, involvement does not matter at all. An additional analysis checks whether the effects of (functional) green ads on the attitude toward the ad increase with rising viewing time. The idea is that effects may grow stronger with exposure time to an advertisement. The test finds no evidence for such an interaction (functional ads × viewing time: b = .01, n.s.; emotional ads × viewing time: b = .00, n.s.; combined ads × viewing time: b = .00, n.s.). The same is true for the outcome variable attitude toward the brand (functional ads × viewing time: b = .01, n.s.; emotional ads × viewing time: b = .00, n.s.; combined ads × viewing time: b = .00, n.s.).

6. Discussion

This article advances the literature by focusing on the interaction of three types of green ads with several dimensions of green consumer involvement. Findings suggest that emotional appeals play a key role in shaping consumers’ brand attitudes. An experiment reveals significant main effects of the emotional green ad and the combined green ad. However, only a barely significant main effect appears for the functional ad. According to the ELM, combining emotional and functional cues should appeal to a greater range of consumers—the ones low as well as high in involvement. Yet somehow surprisingly, concerning the effects on ad evaluation, the combined green ad is not superior compared to the emotional green ad. However, the combined green ad also exerts a direct effect on brand attitudes, not mediated by ad evaluation. So in total, the combined ad has the greatest impact on brand attitudes.

Although future studies on green advertising should further test the differential effects of various forms of green appeals, the findings provide evidence for the universality and strength of emotional appeals (either alone or combined with attributes). As Hartmann and Apaolaza-Ibáñez (2009) state, most advertising scholars recommend cognitive persuasion strategies in green advertising, “assuming the consumer’s high involvement regarding environmental issues” (p. 719). Our findings as well as the evidence presented by Hartmann and Apaolaza-Ibáñez (2009) suggest that emotional green ads are more powerful than functional ones. The emotional experience based on an exposure to a green ad comes close to the emotions experienced in contact with real nature (Hartmann & Apaolaza-Ibáñez, 2009). Based on evolutionary processes, beautiful nature sceneries have a positive marker in the human information processing system. Due to such overall affinity toward nature, ad exposures may automatically activate virtual nature experiences. These positively marked virtual nature experiences then associate with the green ad. The main point is that, whether you are a green consumer or not, emotional green ads seem to automatically activate virtual nature experiences, which transfer to the green ad. As a consequence, the attitude toward the brand becomes positive.

But why does green involvement not matter in this process? An ELM account would suggest that emotional images are especially powerful for individuals that are low in green involvement (Petty & Cacioppo, 1990). In pondering this paradox, one should reconsider how the present study conceptualizes and measures green involvement. As in almost all prior research, the constructs build on explicit statements about green consumerism. Such explicit statements, however, do not tap the positive affect that is automatically activated when people are confronted with nature images. In fact, psychological research suggests that there are two types of attitudes, explicit and implicit attitudes. Explicit attitudes are those that people are consciously aware of, they are deliberative, and people can control them. Implicit attitudes, in contrast, are “automatic affective reactions resulting from the particular associations that are activated automatically when one encounters a relevant stimulus” (Gawronski & Bodenhausen, 2006, p. 693). Translated to green advertising, people may vary in their implicit positive attitudes toward nature. However, measures of explicit attitudes—such as environmental concern, attitudes toward green products, or green purchase behavior—do not take these implicit gut reactions into account. Consequently, (explicit) green involvement fails to qualify the effects of emotional green ads. By contrast, one could speculate that implicit measures may moderate the effects of emotional appeals.

Functional green appeals do not equally affect all consumers. More specifically, the results seem to suggest that green ads using functional arguments are more powerful when consumers score high on green purchase behavior or green product attitudes. The ELM may explain this finding. People that like or frequently buy green products are more motivated to process the arguments that are displayed in the ad. A careful processing of ad arguments, in turn, increases the liking of the ad, which in turn, influences brand attitudes. Surprisingly however, environmental concern is not relevant in explaining how consumers react to functional green ads. Environmental concern is a more general type of green involvement that does not necessarily translate to the appreciation of green products and green buying behavior. Attitudes toward green products and green purchase behavior signal a higher
degree of green involvement compared to environmental concern. Ironically, while a large segment of the public claims to be sympathetic to the environment, the market success of green products remains at a comparatively low level in many Western countries. Scholars often refer to the attitude–behavior gap of green consumerism (Kalafatis, Pollard, East, & Tsogas, 1999; Vermeir & Verbeke, 2006). Expressing environmental concern is one thing; buying green is another (Kalafatis et al., 1999; Vermeir & Verbeke, 2006). Thus, it makes sense that environmental concern cannot explain consumers’ susceptibility to green ad appeals.

6.1. Alternative explanations
One might argue that functional ads yield no strong main effect because respondents do not read the arguments that are conveyed in the ad. This explanation does not hold because viewing time is significantly higher in the argument conditions compared to the two conditions in which no arguments are present. Importantly, this also concerns the combined condition. Because the ads only differ in the presence of arguments, and the argument conditions have a longer viewing time than the non-argument conditions, people must have read those arguments. Alternatively, critics might say that the functional arguments are too weak. However, the study employs existing arguments for laundry detergents drawn from real green campaigns. The development of strong arguments is based on content analytical research on green ads. In fact, the ads do not contain vague or ambiguous claims but precise, causal statements (Leonidou et al., 2011). Pretesting also suggests that these arguments are strong. Another related criticism might be that ad evaluation serves as a mediator. In line with Mitchell and Olson (1981) and many others, this is a theoretically sound way of modeling advertising effects. That is, consumers form judgments about a brand based on their evaluation of the ad. In fact, without the mediator in the model, the basic effects of emotional (b = .57, p < .001) and combined appeals (b = .68, p < .001) remain constant. Furthermore, the model explains a total of 71% of the variance of brand evaluations and is, thus, superior to a model that explains less variance.

6.2. Practical implications
Our findings have considerable practical implications. As Hartmann and Apaolaza-Ibáñez (2009) argue, time is ripe to go beyond the classic dictum to approach green consumers with substantive arguments only. In fact, emotional ads can be a powerful marketing weapon to reach out to both, green and non-green consumers. Especially the marketers often neglect non-green consumers in their hunt for green advertising effectiveness. Our study shows that emotional appeals can serve to target people with no explicit attachment to environmental issues. This may help to sustain and foster environmentally friendly consumption habits. Of course, a risk remains that some consumers may react with skepticism when they are confronted with emotional, non-functional appeals. Previous research has yielded ambiguous results about the role of consumer skepticism for green advertising (Mohr et al., 1998; Shrum, McCarty, & Lowrey, 1995). In the present study, highly involved green consumers do not devalue emotional green ads. In fact, the opposite is the case: those consumers are equally persuaded by green ads than their less involved counterparts. Still, to be on the safe side, a combined strategy using both functional and emotional appeals may be recommendable because, according to the present findings, combined appeals are at least equally effective than emotional appeals.

A downside of the effectiveness of emotional appeals is its potential to serve greenwashing campaigns. Findings of this study imply that the use of emotions for greenwashing may appeal to low as well as highly involved consumers. As a consequence, emotional appeals may create “greenwashed” consumers who believe they buy green and feel good about it when, in fact, their consumption behavior is not environmentally friendly. The misuse of functional positioning strategies, in contrast, might be less effective. Since mainly highly involved consumers are reached, these might also be more likely to recognize vague or false claims that are made.

6.3. Limitations and future research
Several notable research limitations qualify these practical implications. This study compares the effects of emotional and functional claims by contrasting a visual representation of nature and the presentation of elaborated product attributes. Generalizability of the findings should be tested by including variations of these claim types, such as verbal emotional claims or lower levels of information. In particular, future research needs to test whether the moderated effects of green consumer involvement are still present for smaller amounts of green product information. Also the validity of green appeals should be considered. The specific effectiveness of functional and emotional claims and underlying processes for greenwashing campaigns still remain understudied. Related to this, scholars often regard consumer skepticism as an obstacle for green advertising and green consumption. Future research should examine more closely how and for whom emotional and functional claims may trigger or prevent skeptical reactions to green ads. Although this study observes the effects of emotional ads, it does not measure emotional reactions such as virtual nature experiences (as do Hartmann & Apaolaza-Ibáñez, 2009). As a consequence, this study cannot model the processes behind the observed effects, it can only infer them. Looking at short-term effects does not enable to determine the longevity or ultimate power of green ads. Future work should therefore expand this research design by including measures of emotional reactions and implicit green attitudes. Finally, research designs should incorporate intended and actual purchase behavior to assess to what extent emotional claims can help to overcome the attitude–behavior gap. Such a research program could help to corroborate the claim that emotional green appeals are universal and powerful tools to shape brand attitudes.

Appendix A. Items

\textbf{Attitude toward the ad:} bad–good; unpleasant–pleasant; unfavorable–favorable; unconvincing–convincing; incredible–credible.

\textbf{Attitude toward the brand:} bad–good; unattractive–attractive; negative–positive; not likable–likable; not recommendable–recommendable.

\textbf{Environmental concern:} I am concerned about the environment; The condition of the environment affects the quality of my life; I am willing to make sacrifices to protect the environment; My actions impact the environment.

\textbf{Attitudes toward green products:} I like green products; I feel positive toward green products; Green products are good for the environment; I feel proud when I buy/use green products.

\textbf{Green purchase behavior:} I make a special effort to buy products in biodegradable packages; I would switch from my usual brands and buy environmentally safe cleaning products, even if I have to give up some cleaning effectiveness; I have switched products for ecological reasons; When I have a choice between two equal products, I purchase the one less harmful to the environment.

\textbf{Perceived consumer effectiveness:} There is not much that any one individual can do about the environment (revers.); The conservation efforts of one person are useless as long as other people refuse to conserve (revers.)

\textbf{Negative sentiment toward marketing:} Most products I buy are overpriced; Most products I buy wear out too quickly.
Appendix B. Stimuli

The stimuli can be obtained from the first author upon request.

References


