

# The Skeptical Green Consumer Revisited: Testing the Relationship Between Green Consumerism and Skepticism Toward Advertising

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**This article revisits the widely believed notion of the skeptical green consumer, in other words, that green consumers tend to distrust green advertising. Study 1, a survey of U.S. consumers, found no positive relationship between green consumerism and general ad skepticism. However, green consumerism was negatively related to green advertising skepticism. Study 2, a survey of Austrian consumers, addressed the underlying mechanism of this negative relationship in a mediation analysis. It was shown that green consumers saw more informational utility in green ads than nongreen consumers did. This, in turn, decreased their green advertising skepticism. The emotional appeal of green ads, however, had no impact on green advertising skepticism. Findings suggest that the “dilemma for marketers who desire to target the green consumer” (Zinkhan and Carlson 1995, p. 5) is far less serious than previously thought.**

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In their introduction to a special issue on green advertising of the *Journal of Advertising*, Zinkhan and Carlson (1995) emphasized the dilemma of the skeptical green consumer. The authors observed a “serious dilemma for marketers who desire to target the green consumer, who is somewhat cynical about marketing activities and is likely to discount advertising messages” (p. 5). This idea of such a skeptical green consumer was derived from an article by Shrum, McCarty, and Lowrey (1995), published in the very same issue, which reported a correlation between green consumerism and advertising skepticism. The findings of Shrum, McCarty, and Lowrey (1995) as well as the statement

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by Zinkhan and Carlson (1995) have been repeatedly cited and used to back up the image of the green consumer as difficult to persuade because of a skepticism toward advertising and industry in general (Bhate and Lawler 1997; Chang 2011; Easterling, Kenworthy, and Nemzoff 1996; Hartmann and Apaolaza-Ibáñez 2009; Montoro-Rios et al. 2006).

More than 15 years later, in another special issue of the *Journal of Advertising* on green ads, a number of scholars repeated the notion of the skeptical green consumer (Bickart and Ruth 2012; Finisterra do Paço and Reis 2012; Fowler and Close 2012; Royne et al. 2012; Sheehan and Atkinson 2012). If we closely look at this literature, we find two facets of this claim. First, it is frequently stated that, quite generally, “consumers are indeed skeptical of green claims” (Sheehan and Atkinson 2012, p. 6); that “environmental claims are often viewed skeptically and are miscomprehended” (Bickart and Ruth 2012, p. 52); and that “consumers evaluate green advertising as vague or misleading” (Fowler and Close 2012, p. 121). As a second facet, it is also stated that green consumers in particular tend to be skeptical toward green ads (Bhate and Lawler 1997; Chang 2011; Hartmann and Apaolaza-Ibáñez 2009; Montoro-Rios et al. 2006). As Finisterra do Paço and Reis (2012) have put it, “Consumers who are more environmentally concerned do not consider green advertising convincing” (p. 159).

There is no doubt that the question of whether (green) consumers are skeptical toward green ads is a key issue for green marketing and advertising (Finisterra do Paço and Reis 2012; Royne et al. 2012). If the notion of the skeptical green consumer is true, then advertisers are indeed facing a serious dilemma (Zinkhan and Carlson 1995): They would need to rethink their green advertising campaigns in fundamental ways because green ads—combined with skeptical green consumers—may not lead to permanent market success. Surprisingly, many scholars have accepted the idea of the skeptical green consumer without systematically examining the factors that drive skepticism toward green ads (but see Royne et al. 2012).

This article challenges this prevailing notion in four steps. First, we argue the statement that green claims are viewed skeptically by consumers is highly misleading. Instead of generally saying that consumers tend to distrust green ads, we need to learn whether all consumers are skeptical toward green ads or green consumers in particular tend to distrust green campaigns. Second, based on this theorizing, we then challenge the argument that green consumers especially perceive green ads as misleading. We do so by revisiting the seminal study of Shrum, McCarty, and Lowrey (1995), arguing that there is a need to distinguish between green ad skepticism and general ad skepticism. Following this, we also take a critical look at other published studies that have examined the relationship between green consumer characteristics and green advertising skepticism. The conclusion that we draw from this literature is far less clear than the widely accepted notion of the skeptical green consumer may suggest. Third, and based on these insights, we argue that green consumers can be theorized to actually put *more* trust in green ads. The main reason for this is that the informational utility and emotional appeal of green ads may be higher for green compared to nongreen consumers. Fourth, we present two survey studies that were specifically designed to test the notion of the skeptical green consumer. The first study, using U.S. quota-based survey data, multi-item measures, and structural equation methodology, systematically examines the important relationships between green consumerism and general ad skepticism, as well as green ad skepticism. The second study employs mediation analysis to test whether informational utility and emotional appeal mediate the relationship between green consumerism and green ad skepticism. As a key contribution to research on green advertising, this article suggests that the crucial “dilemma for marketers who desire to target the green consumer” (Zinkhan and Carlson 1995, p. 5) is far less serious than previously thought.

## THE SKEPTICAL GREEN CONSUMER

### Green Advertising Skepticism

In a large body of work, it is generally stated that consumers are skeptical toward green ads (e.g., Bickart and Ruth 2012; Finisterra do Paço and Reis 2012; Fowler and Close 2012; Sheehan and Atkinson 2012, p. 6). The implicit or explicit argument made in this research is that consumers are cynical about ads because of the prevalence of misleading green claims (Vermeir and Verbeke 2006; also see Carlson et al. 1996; Easterling, Kenworthy, and Nemzoff 1996; Montoro-Rios et al. 2006), a tactic which has been generalized under the term *greenwashing* (Kangun, Carlson, and Grove 1991).

As Finisterra do Paço and Reis (2012) state, “In general terms, the credibility of green advertising is considered to be relatively low” (p. 148). As intuitive as such a statement may be, there is a risk that it overgeneralizes consumers’ reactions to green ads. In fact, we lack systematic empirical evidence that the majority of consumers—in different countries and across

time—tend to distrust green ads. Moreover, such a general statement is rather uninformative to marketers and advertisers. Advertisers target a special segment of a population, and therefore they need to learn how this specific segment reacts to green campaigns. The key variable that helps identify the target population is green consumerism, that is, the extent to which consumers prefer green and environmentally friendly products. Therefore, rather than generally saying that consumers do not trust green ads, the theoretically and empirically more relevant question is whether green consumers are especially skeptical toward green ads.

In fact, the notion of the skeptical green consumer appears to be one of the truisms of green advertising. It is widely believed and often stated in the published literature that green consumers *especially* find green ads to be misleading and false. This idea of the skeptical green consumer who is hard to target with green ads goes back to the seminal study of Shrum, McCarty, and Lowrey (1995). The study described consumers of environmentally friendly products in terms of general consumption attitudes and behaviors. Based on a mail survey among a consumer panel in the United States, the authors found that “the green consumer is rather skeptical of advertising. The implications are that green consumers may be receptive to green marketing and advertising, but marketers should take care not to alienate them by using ambiguous or misleading messages” (Shrum, McCarty, and Lowrey 1995, p. 71). However, the findings could not be generalized, for instance, across gender. Accordingly, the authors presented a differentiated discussion of their results, concluding that green consumption behavior was related to ad skepticism for women while this was not true for men (Shrum, McCarty, and Lowrey 1995, p. 80). The notion that green consumers are more cynical about advertising in general compared to nongreen consumers was explained by general differences between green and nongreen consumers. For instance, green consumers have been found to be more liberal than nongreen consumers (see Straughan and Roberts 1999), and liberalism could arguably explain skepticism toward the industry and thus toward advertising in general.

### Empirical Evidence for the Skeptical Green Consumer

Despite the widespread prominence of this claim, there is not much empirical evidence for it. This is already evident in Shrum, McCarty, and Lowrey’s (1995) study. First of all, the authors did not operationalize skepticism toward *green advertising* but skepticism toward advertising *in general*. Although Shrum, McCarty, and Lowrey (1995) did not make that claim, the prevailing argument that has been picked up in the following years is that green consumers tend to be skeptical toward green ads (Bhate and Lawler 1997; Chang 2011; Hartmann and Apaolaza-Ibáñez 2009; Finisterra do Paço and Reis 2012; Fowler and Close 2012; Montoro-Rios et al. 2006; Sheehan and Atkinson 2012). However, general ad skepticism is something different than green ad skepticism. General ad skepticism has been defined “as the tendency toward disbelief of advertising

claims” (Obermiller and Spangenberg 1998, p. 160). The more specific construct of green claim skepticism was first introduced by Mohr, Eroğlu, and Ellen (1998). It refers to the tendency toward disbelief of environmental claims made in advertising. Some correlational evidence indicates that even though general ad skepticism and green ad skepticism are positively related, the two concepts are clearly distinct, both in their antecedents and in their effects (Mohr, Eroğlu, and Ellen 1998). Therefore, even if general ad skepticism and green consumerism are correlated, this does not necessarily mean that green ad skepticism and green consumerism are related.

Some studies, however, have also looked at the relationship between green ad skepticism and green consumerism. In a recent study, Finisterra do Paço and Reis (2012), using a sample ( $N = 301$ ) of Portuguese students, found that the most environmentally concerned consumers are “the most skeptical toward green communication” (p. 153). What is puzzling, however, is that the authors actually reported a regression model that suggests quite the opposite (see Finisterra do Paço and Reis 2012, Table 1, p. 152), suggesting that people high in environmental concern are less skeptical toward green ads. Due to the student sample and the puzzling interpretation, no clear statement can be derived from Finisterra do Paço and Reis (2012) as to whether environmental concern fosters green consumerism or dampens it.

Interestingly, some findings from other studies indicate that green consumers may not be more skeptical toward green ads compared to nongreen consumers (see Matthes, Wonneberger, and Schmuck, in press). Also based on a student sample, Mohr, Eroğlu, and Ellen (1998) reported that the environmentally concerned were *less* skeptical toward green advertising. Similarly, for a sample of 207 Australian consumers, D’Souza and Taghian (2005) found more positive attitudes toward green ads among those high in environmental involvement compared to those with a low involvement. From this discussion it should be clear that we do not a priori know, nor does the current body of literature unequivocally inform us, how green consumerism relates to skeptical attitudes toward green ads. The original study by Shrum, McCarty, and Lowrey (1995) did not measure green ad skepticism; other studies have used student samples or yielded inconclusive findings. Yet other studies haven even shown the opposite of what the notion of the skeptical green consumer may suggest. But again, these studies were based on small samples or student samples that cannot be generalized to the broad public. Furthermore, most studies operationalized only one facet of green consumerism, and a test of the skeptical green consumer was not a main purpose of these studies. This limited empirical evidence, however, stands in sharp contrast to the prominence of the belief that green consumers are especially skeptical toward green ads. In the following section, we outline a set of theoretical propositions that challenge the notion of the skeptical green consumer. More specifically, we argue that green consumerism may even be negatively related to green ad skepticism.

### Challenging the Notion of the Skeptical Green Consumer

As has been outlined, a few studies hint at a negative relationship between aspects of green consumerism and green ad skepticism (e.g., D’Souza and Taghian 2005; Mohr, Eroğlu, and Ellen 1998). We believe there are two theoretical reasons for why green consumerism may decrease skepticism. First, it can be argued that the informational utility of green ads is higher for green compared to nongreen consumers. According to Knobloch-Westerwick and Kleinman (2012), “Informational utility is the degree to which information can aid individuals in making future decisions” (p. 171). Thus, green consumers may rate ad claims as more important to their daily lives. That is, to satisfy their consumption wishes, green consumers may find themselves in a strong need for information on green products. As a consequence, people who perceive high informational utility may be less critical toward the advertised claims. As Knobloch-Westerwick and Kleinman (2012) have argued, “The more *useful* a person perceives information to be, the more likely he or she will be to engage with it” (p. 171, emphasis added). Green ads help them to come to sophisticated consumption decisions and, as a consequence, informational utility is high. Informational utility, in turn, has been found to foster the positive evaluations of information (Knobloch-Westerwick and Kleinman 2012). This may be a cognitive path.

The second theoretical argument centers around the positive emotional appeal of green ads. A good deal of evidence in the literature suggests that green ads exert feelings (Easterling, Kenworthy, and Nemzoff 1996; Hartmann and Apaolaza-Ibáñez 2009, 2012). Nature images can be theorized to evoke positive emotional reactions, such as the feeling of a warm glow that, in turn, leads to positive brand perceptions (Easterling, Kenworthy, and Nemzoff 1996; Hartmann and Apaolaza-Ibáñez 2009, 2012). A high congruency of green ads with self-concepts of green consumers may enhance positive reactions (Chang 2002). Such positive feelings can be generalized to the attitude toward the ad or they can distort a critical evaluation of ad arguments. We can call this an affective path.

To sum up, it can be theorized that green consumerism is negatively related to green ad skepticism because green consumerism is positively associated with the perceived informational utility and emotional appeal of green ads. These theoretical arguments clearly contradict the notion of the skeptical green consumer. In the remainder of this article, we present two empirical studies that were designed to specifically test the idea that green consumerism and green ad skepticism are negatively related. Study 1 examines the relationship between these two constructs using nonstudent survey data from the United States. To compare this study with the findings of Shrum, McCarty, and Lowrey (1995), this study also measured general ad skepticism. Study 2 validates and extends the findings of Study 1. This study was designed to model the mediators between green consumerism and green ad skepticism, that is, informational utility and emotional appeal.

TABLE 1  
Items and Structural Equation Modeling Standardized Factor Loadings

Construct and Measurement Items	Factor Loadings	
	Study 1	Study 2
<b><i>Green consumerism</i></b>		
<i>Environmental concern</i>		
I am concerned about the environment.	.782	.707
The condition of the environment affects the quality of my life.	.830	.797
I am willing to make sacrifices to protect the environment.	.715	.593
<i>Attitudes toward green products</i>		
I like green products.	.829	.818
I feel positive toward green products.	.980	.893
Green products are good for the environment.	.888	.849
I feel proud when I buy/use green products.	.882	.825
<i>Green purchase behavior</i>		
I make a special effort to buy products in biodegradable packages.	.756	.669
I would switch from my usual brands and buy environmentally safe cleaning products, even if I had to give up some cleaning effectiveness.	.852	.682
I have switched products for ecological reasons.	.907	.955
When I have a choice between two equal products, I purchase the one less harmful to the environment.	.832	.615
<b><i>General advertising skepticism (Shrum, McCarty, and Lowrey 1995)</i></b>		
Information from advertising helps me make better buying decisions.	.744	.652
Advertising insults my intelligence.	.840	.731
When I watch television, I usually change the station during commercials.	.818	.687
<b><i>General advertising skepticism (Mohr, Eroğlu, and Ellen 1998)</i></b>		
Most advertising is very annoying.	-.405	—
Most advertising makes false claims.	.843	—
If most advertising were eliminated, consumers would be better off.	.448	—
Most advertising is intended to deceive rather than inform.	.660	—
<b><i>Green advertising skepticism</i></b>		
Most green claims in advertising are intended to mislead rather than to inform consumers.	.797	—
I do not believe most green claims made in advertising.	.639	—
Because green claims are exaggerated, consumers would be better off if such claims in advertising were eliminated.	.748	—
<b><i>Perceived consumer effectiveness</i></b>		
There is not much that any one individual can do about the environment. (revers.)	.828	.735
The conservation efforts of one person are useless as long as other people refuse to conserve. (revers.)	.803	.754
<b><i>Negative sentiment toward marketing</i></b>		
Most products I buy are overpriced.	.758	.672
Most products I buy wear out too quickly.	.764	—
<b><i>Informational utility</i></b>		
I find most of the information in green ads useful.	.660	1.00 <sup>a</sup>
Green ads are helpful for my buying decisions.	—	.751
Green ads deliver the information that I need for my buying decisions.	—	.788
<b><i>Emotional appeal</i></b>		
Green ads speak to my feelings.	—	.802
When I see green ads, I feel emotionally aroused.	—	.883
		.865

Note. Factor loadings of first-order factors on the second-order factor green consumerism are italicized. <sup>a</sup>Single item measure.

## HYPOTHESES AND RESEARCH QUESTIONS

If we are to systematically test how green consumerism and green ad skepticism are related, we need a sample of the general public that is representative in terms of age, gender, and education. Student samples are not appropriate and unable to address the question of the skeptical green consumer; the reason is that green consumerism is significantly related to these key sociodemographic variables (e.g., Roberts 1996).

In addition, because a profound measurement strategy is essential in the quest to find substantial, nonspurious relationships, it is recommended to use several items that can be modeled as latent variables in a structural equation model (Bollen 1989). That is, we need to provide evidence for the factorial and discriminant validity of the scales we use. Therefore, we use structural equation modeling, which allows us to model complex relations among latent variables. This is especially important for the independent variable, green consumerism. We argue that several facets of green consumerism need to be taken into account. More specifically, analyses of green consumers have repeatedly found that this group can be systematically described by using three closely related constructs: (1) environmental concern, (2) attitudes toward green products, and (3) (self-reported) green purchase behavior. First, a series of studies defines green consumers as those who are highly concerned about the environment (D'Souza and Taghian 2005; Ellen, Wiener, and Cobb-Walgren 1991; Finisterra do Paço and Reis 2012; Kinnear and Taylor 1973; Mohr, Eroğlu, and Ellen 1998; Schuhwerk and Lefkoff-Hagius 1995). Here, environmental concern is commonly related to a high involvement with environmental issues, awareness of environmental problems, and the necessity to sacrifice to protect the environment. Second, attitudes toward green products have also been considered a key dimension of green consumerism (Chan 2001; Roberts 1996). Such attitudes comprise cognitive as well as affective aspects: Attitudes toward green products may relate to advantages, favorability, or quality of green products, as well as to emotional benefits, such as feeling proud or less guilty when buying environmentally friendly products (Chang 2011). Because cognitive and affective attitude components are usually highly correlated, they are often combined to one green attitude index (see Chang 2011). Third and finally, actual (self-reported) purchase behavior is a crucial element of green consumerism (Chang 2011; Kinnear and Taylor 1973; Mohr, Eroğlu, and Ellen 1998; Schlegelmilch, Bohlen, and Diamantopoulos 1996). Also, Shrum, McCarty, and Lowrey (1995) characterized green consumers by their self-reported consumption patterns.<sup>1</sup>

Several studies have revealed a strong link between environmental concern, attitudes toward green products, and green consumption behaviors (Kim and Choi 2005; Kinnear and Taylor 1973; Schlegelmilch, Bohlen, and Diamantopoulos 1996; Schwepker and Cornwell 1991; Stone, Barnes, and Montgomery 1995). However, while the three constructs are related, they tap conceptually distinct dimensions of green consumerism. Based

on this theorizing, we propose a hierarchical model of green consumerism by treating these three constructs as highly related yet distinct signifiers of green consumerism. That is, all of them are needed to fully map the green consumer. One aspect alone may miss important characteristics of the green consumer.

In the language of structural equation modeling, these three dimensions of green consumerism can be regarded as lower-order factors that are explained by a higher-order factor. In other words, the three dimensions of green consumerism have a common cause that accounts for their intercorrelation (Bollen 1989). An empirical test of such a hierarchical factor structure seeks to provide evidence that the correlational structure of the measure is consistent with the hypothesized three-dimensional structure. The postulated factorial model should therefore be superior to an alternative, one-dimensional model. This leads to our first, basic hypothesis:

**H1:** Green consumerism is a hierarchical factor (of second order) that serves to explain the factors (of first order) of environmental concern, attitude toward green products, and green purchase behavior.

A second important premise for our intended test is that we distinguish general ad skepticism from green ad skepticism. As should be apparent, general ad skepticism alone is not sufficient to prove that green consumers are cynical about green ads. Based on the theoretical arguments explained previously, we assume that the hierarchical dimension of green consumerism is negatively related to green skepticism. However, we cannot formulate such a claim for general ad skepticism. We argue that green consumers cherish the informational utility and emotional appeal of green ads, and that is why they are more appreciative of green ads compared to nongreen consumers. Clearly, this reasoning does not hold for general ad skepticism. This leads to our second hypothesis and first research question:

**H2:** The hierarchical factor of green consumerism is a negative predictor of green ad skepticism.

**RQ1:** Is there a positive relationship, a negative relationship, or no relationship between green consumerism and general ad skepticism?

When it comes to general ad skepticism, we suggest using two different scales: Shrum, McCarty, and Lowrey's (1995) original items, as well as a more established and more reliable scale for ad skepticism created by Mohr, Eroğlu, and Ellen (1998). The reason is that Shrum, McCarty, and Lowrey were unable to form a latent factor in their study. Therefore, we chose to add a general ad distrust scale that has proven to be valid and reliable. Such a twofold measurement strategy should lend more credence to the findings that are produced.

The next hypothesis aims at testing the relationship between general ad skepticism and green ad skepticism. Based on prior research (Mohr, Eroğlu, and Ellen 1998), it can be assumed that the two constructs are interrelated. People who are generally cynical about advertising will also react negatively to green ads. The reason is that people may use their general ad skepticism as

a cue or proxy to evaluate particular types of ads, such as green ads. In other words, if someone is generally skeptical toward ads, this person will also most likely be skeptical toward green ads, as well as other types of ads. Therefore, we model the effect from general skepticism to green skepticism and propose the following third hypothesis:

**H3:** General ad skepticism exerts a positive impact on green ad skepticism.

To avoid underspecified models, some statistical controls need to be included, which proved to be of substantial importance in prior research. Consumer sentiment toward marketing has been found to be a very strong predictor of ad skepticism (Mohr, Eroğlu, and Ellen 1998; Obermiller and Spangenberg 2000). In addition, perceived consumer effectiveness with respect to green products has been found to be a strong predictor of green consumption (Ellen, Wiener, and Cobb-Walgreen 1991; Kim and Choi 2005; McCarty and Shrum 2001; Schwepker and Cornwell 1991; Straughan and Roberts 1999). Perceived consumer effectiveness should, thus, reduce green ad skepticism. This leads to two additional hypotheses:<sup>2</sup>

**H4:** Negative consumer sentiment toward marketing is positively related to general ad skepticism.

**H5:** Perceived consumer effectiveness with respect to green products is negatively related to green ad skepticism.

All hypotheses are visualized in Figure 1.

## STUDY 1

### Method

**Data.** To test our hypotheses, we conducted an online survey among U.S. citizens ( $N = 1,015$ ) in August and September 2012. Respondents were recruited from the online access panel of Survey Sampling International (SSI) and were provided with an incentive by SSI for successful participation. Quota sampling was applied that assured conformance of the sample with the general U.S. population in terms of age ( $M = 44.6$ ,  $SD = 16.5$ ), gender (57% female), and education (7.6% completed some highschool, 65.6% high school graduate, 26.8% college degree). The survey took on average 10 minutes to complete (median = 8 minutes). SSI reported a response rate of 62%.

**Measures.** All items used composing the dependent and independent variables were measured on 7-point scales (1 = *Strongly disagree* to 7 = *Strongly agree*). Table 1 provides an overview of all items and factor loadings. Two alternative measures for the dependent variable *general ad skepticism* were employed. The first was based on the three items used by Shrum, McCarty, and Lowrey (1995), ( $\alpha = .55$ ;  $M = 4.00$ ,  $SD = 1.24$ ). The second, four-item measure of general ad skepticism was adopted from Mohr, Eroğlu, and Ellen (1998), ( $\alpha = .75$ ;  $M = 4.10$ ,  $SD = 1.22$ ).

The measure of Mohr, Eroğlu, and Ellen (1998) for general ad skepticism was chosen instead of other established, scales such

as the one developed by Obermiller and Spangenberg (1998), because it is a better—albeit not perfect—equivalent to our second dependent variable, *green ad skepticism*. Four items gauged green ad skepticism that were introduced and validated by Mohr, Eroğlu, and Ellen (1998). The wording of the four statements were adjusted so that they referred to green claims in advertising only and excluded package labels ( $\alpha = .83$ ;  $M = 3.63$ ,  $SD = 1.34$ ). The term *green ads* was explained. *Environmental concern* was measured by three items (Schuhwerk and Lefkoff-Hagius 1995), ( $\alpha = .83$ ;  $M = 5.13$ ,  $SD = 1.29$ ). Four items captured *attitudes toward green products* based on Chang (2011) ( $\alpha = .90$ ;  $M = 4.94$ ,  $SD = 1.17$ ). Two items for (self-reported) *green purchase behavior* were adopted from Shrum, McCarty, and Lowrey (1995). These two very specific items were complemented by two more general items of green purchase behavior used by Kim and Choi (2005), resulting in a reliable scale ( $\alpha = .88$ ;  $M = 4.41$ ,  $SD = 1.39$ ). Because ad skepticism has been found to be closely related to general attitudes toward market communications, a measure of consumer *negative sentiment toward marketing* was included, consisting of three items (Mohr, Eroğlu, and Ellen 1998), ( $\alpha = .67$ ;  $M = 3.67$ ,  $SD = 1.40$ ). Finally, *perceived consumer effectiveness* (PCE) was gauged by two items (Ellen, Wiener, and Cobb-Walgreen 1991). Because these items were formulated negatively, they were reversed ( $\alpha = .61$ ;  $M = 4.51$ ,  $SD = 1.48$ ).<sup>3</sup> Duration was automatically measured by SSI and included as a statistical control.

**Data analysis.** Although the share of missing values was less than 1%, we analyzed the data with full information maximum likelihood (FIML). In contrast to classic procedures such as listwise deletion, this method produces more reliable estimates (Enders and Bandalos 2001). To evaluate model fit, the following criteria were used: confirmatory fit index (CFI), root mean square error of approximation (RMSEA), and PCLOSE.

### Results

**Measurement model.** As stated in our first hypothesis, green consumerism can be conceptualized as a higher-order factor explaining three lower-order factors. The fit of this measurement model is good (CFI = .98, RMSEA = .06, PCLOSE = .12). The lower-order factors are perfectly explained by the higher-order factor (*environmental concern*:  $\lambda = .78$ , explained variance: 61%; *green attitudes*:  $\lambda = .97$ , explained variance: 95%; *green purchase behavior*:  $\lambda = .92$ , explained variance: 84%).<sup>4</sup> More important, we tested this model against a single-factor model that contains one factor explaining all 12 items. By means of nested-model comparison, we ran a test to determine which theoretical model had the best fit to the data. As a result, we found that the hierarchical model, as depicted in Figure 1, fits the data significantly better than a one-dimensional model ( $\Delta\chi^2 = 53.80$ ,  $p < .001$ ). This supports the discriminant validity of the factor model. We can conclude that environmental concern, green attitudes, and green purchase behavior are distinct dimensions of green consumerism.

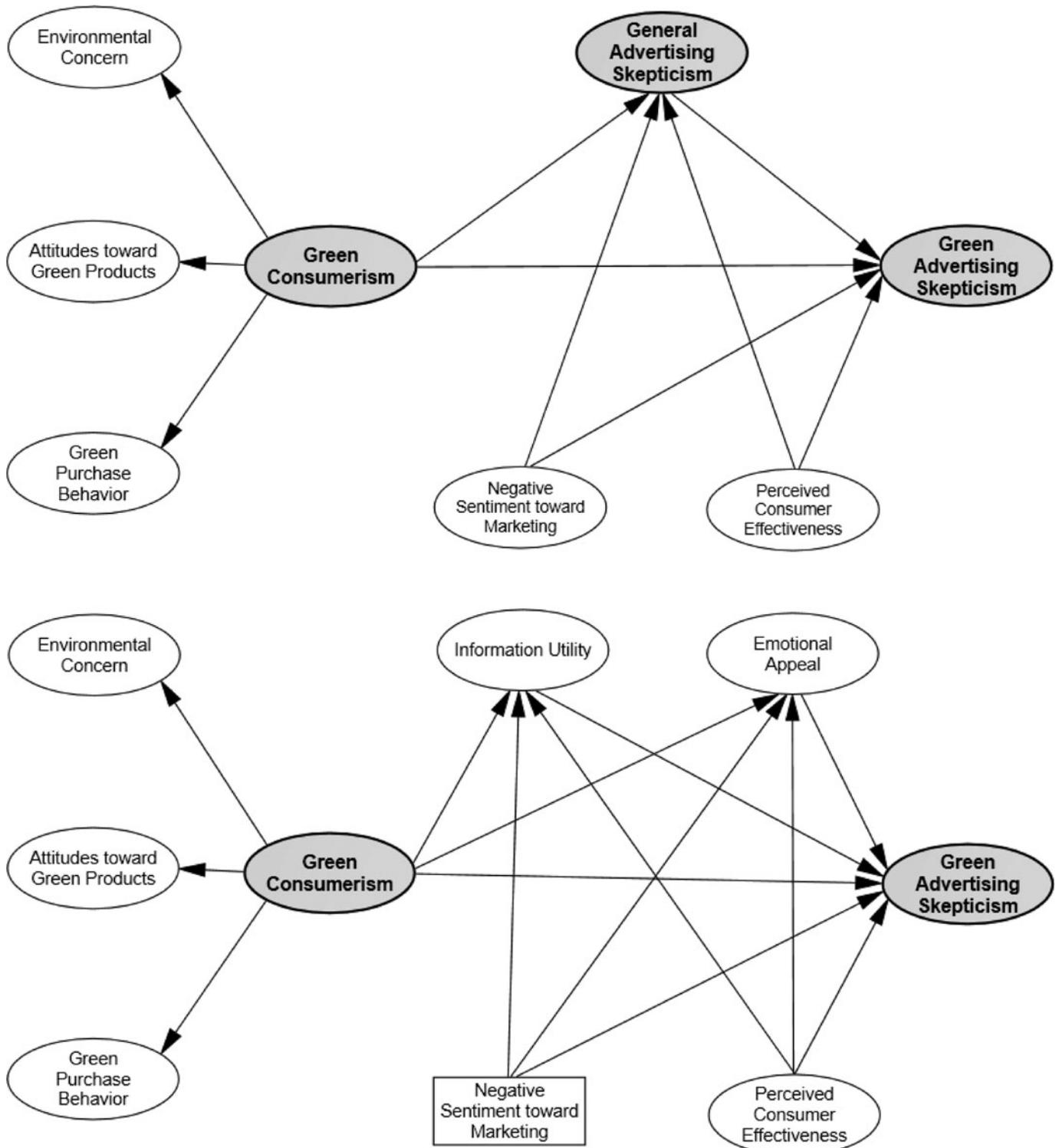


FIG. 1. Theoretical structural equation model: Study 1 (above) and Study 2 (below). Control variables (age, gender, education plus income, and survey mode in Study 2), items, measurement errors, and correlations between all exogenous variables were omitted from depiction for clarity.

In a next step, we tested the model fit of the full structural model as it is depicted in Figure 1. The fit is again good, both for the model that used the Shrum, McCarty, and Lowrey (1995) items (CFI = .95, RMSEA = .05, PCLOSE = .61) and the model that used the Mohr, Eroğlu, and Ellen (1998) items (CFI = .95, RMSEA = .05, PCLOSE = .63). As can be seen in Table 1, all factor loadings were sufficiently high. We can thus turn to the test of all structural relationships.

*Structural model tests.* The results of our full structural equation model are shown in Table 2. Duration of survey response had no effect on the dependent variables. We also checked whether common method bias affected the results. As described by Podsakoff and colleagues (2003), we have modeled an additional latent method factor that explains all items. As a result, the negative relationship between green consumerism and green ad skepticism remains stable ( $b = -.35$ ,  $p < .001$ ). This means that a common method bias did not affect our findings.

We observed significant effects of age, gender, and education on ad skepticism (see Table 2). Answering research question 1, we found a significant negative relationship between green consumerism and skepticism toward advertising for the skepticism items of Shrum, McCarty, and Lowrey (1995) ( $b = -.13$ ;  $p < .01$ ) but not for the skepticism items of Mohr, Eroğlu, and Ellen (1998) ( $b = -.02$ ; n.s.). In line with hypothesis 2, we observed a negative effect of green consumerism on green ad skepticism in both structural equation models (Shrum, McCarty, and Lowrey model:  $b = -.15$ ;  $p < .001$ ; Mohr, Eroğlu, and Ellen model:  $b = -.16$ ;  $p < .001$ ). The squared multiple correlations, signaling the amount of explained variance, for general and green ad skepticism suggest that both constructs are well explained by the independent variables we have measured in our study (see Table 2).

In line with hypothesis 3, there was also a significant positive relationship between general and green ad skepticism (Shrum, McCarty, and Lowrey model:  $b = .32$ ;  $p < .001$ ; Mohr, Eroğlu, and Ellen model:  $b = .43$ ;  $p < .001$ ). The last two hypotheses dealt with consumer sentiment toward marketing and perceived consumer effectiveness. There was a significant effect of negative sentiment toward marketing on general ad skepticism (Shrum, McCarty, and Lowrey model:  $b = .32$ ;  $p < .001$ ; Mohr, Eroğlu, and Ellen model:  $b = .30$ ;  $p < .001$ ). This confirms hypothesis 4. The effect on green ad skepticism was not significant (Shrum, McCarty, and Lowrey model:  $b = .04$ ; n.s.; Mohr, Eroğlu, and Ellen model:  $b = .00$ ; n.s.). Finally, as predicted in hypothesis 5, we found a strong and significant negative effect of perceived consumer effectiveness on green ad skepticism (Shrum, McCarty, and Lowrey model:  $b = -.32$ ;  $p < .001$ ; Mohr, Eroğlu, and Ellen model:  $b = -.32$ ;  $p < .001$ ). There also was a significant negative effect of perceived consumer effectiveness on general ad skepticism (Shrum, McCarty, and Lowrey model:  $b = -.24$ ;  $p < .001$ ; Mohr, Eroğlu, and Ellen model:  $b = -.38$ ;  $p < .001$ ).

## Discussion

Findings suggest that green consumers are more positive about green advertising compared to nongreen consumers. There were even some hints that general ad skepticism is negatively related to green consumerism. Confirming our conjectures, these results stand in contrast to the idea of the skeptical green consumer. However, a number of questions remain unanswered. First, even if green consumerism is negatively related to green ad skepticism, we lack knowledge about the underlying mechanisms of such an effect. That is, we have argued that green consumers trust green ads because they may see high informational utility and emotional appeal in green ads. Thus, a study is needed that conceptualizes and measures such mediators between green consumerism and green ad skepticism. Second, Study 1 failed to measure one theoretically important predictor of green ad skepticism: income. Third, because findings of Study 1 contradict the widely believed notion of the skeptical green consumer, we need more evidence and data to validate findings from Study 1.

## STUDY 2

Study 2 was designed to replicate Study 1 examining potential mediators between green consumerism and green ad skepticism. Because the mediation effect was the main focus of Study 2, general ad skepticism was not taken into account. Ultimately, the notion of the skeptical green consumer refers to skepticism toward green ads, not skepticism toward ads in general. We have argued that green consumerism should have a positive effect on the perceived informational utility and emotional appeal of green ads. These two constructs, informational utility and emotional appeal, in turn, should have a negative impact on green ad skepticism. Therefore, we hypothesize the following:

**H6:** Green consumerism has a positive impact on (a) informational utility and (b) emotional appeal.

**H7:** The constructs (a) informational utility and (b) emotional appeal exert a negative impact on green ad skepticism.

## Method

*Data.* A quota survey of Austrian consumers ranging from the age of 16 to 88 was conducted from December 2012 to February 2013. The quota was based on the general public in terms of age ( $M = 45.1$ ,  $SD = 17.7$ ), gender (53% female), and education (18.5% compulsory schooling, 58.0% completed apprenticeship, 13.8% qualification for university entrance, and 9.7% college degree). The survey was conducted both online and in paper-and-pencil format. For the online survey, the quota was programmed in the survey software. For the paper-and-pencil survey, interviewers were given quota data to especially recruit older and less-educated respondents, because these groups were difficult to reach online. Survey mode was statistically controlled in all analyses. Consumers with lower

TABLE 2  
Estimates of Structural Equation Models of Green Consumerism on General Advertising Skepticism and Green Advertising Skepticism

Predictors	Study 1									
	Model 1: Shrum et al. 1995			Model 2: Mohr et al. 1998						
	General Advertising Skepticism		Green Advertising Skepticism	General Advertising Skepticism		Green Advertising Skepticism				
	<i>b</i> (SE)	$\beta$	<i>b</i> (SE)	$\beta$	<i>b</i> (SE)	$\beta$				
Age	0.02 (0.00)	.19 ***	-0.01 (0.00)	-.07 *	0.02 (0.00)	.19 ***	0.00 (0.00)	-.03	.001 (.004)	.02
Gender	0.31 (0.10)	.10 **	0.01 (0.08)	.00	0.66 (0.08)	.24 ***	-.06 (0.09)	-.02	.07 (.12)	.03
Education	0.65 (0.08)	.23 ***	0.00 (0.08)	.00	0.58 (0.06)	.24 ***	0.07 (0.07)	.03	.05 (.15)	.02
Income	—	—	—	—	—	—	—	—	-.01 (.09)	-.01
Survey mode	—	—	—	—	—	—	—	—	-.09 (.15)	-.04
Duration	0.00 (0.00)	.00	0.00 (0.00)	.01	0.00 (0.00)	.03	0.00 (0.00)	.01	—	—
Negative sentiment	0.32 (0.06)	.25 ***	0.04 (0.05)	.04	0.30 (0.05)	.27 ***	0.00 (0.04)	.00	.09 (.04)	.13 *
PCE	-0.24 (0.06)	-.22 ***	-0.32 (0.05)	-.35 ***	-0.38 (0.06)	-.36 ***	-0.32 (0.06)	-.32 ***	-.21 (.05)	-.31 ***
Green consumerism	-0.13 (0.05)	-.11 **	-0.15 (0.04)	-.15 ***	-0.02 (0.04)	-.02	-0.16 (0.04)	-.16	.12 (.10)	.11
Advertising skepticism	—	—	0.32 (0.04)	.38 ***	—	—	0.43 (0.04)	.45 ***	—	—
Informational utility	—	—	—	—	—	—	—	—	—	-.62 ***
Emotional appeal	—	—	—	—	—	—	—	—	-.17 (.14)	.21
SMC	—	.206	—	.404	—	.297	—	.456	—	.31

Note. PCE = perceived consumer effectiveness; SMC = squared multiple correlation; — = not included in the respective model.  
\*\*\**p* < .001; \*\**p* < .01; \**p* < .05.

education were slightly overrepresented. Response rate for the online data was 26%.

**Measures.** Measures and data analyses were identical to Study 1 (green ad skepticism:  $\alpha = .77$ ,  $M = 3.13$ ,  $SD = 1.28$ ; environmental concern:  $\alpha = .76$ ,  $M = 5.22$ ,  $SD = 1.33$ ; attitudes toward green products:  $\alpha = .84$ ,  $M = 5.01$ ,  $SD = 1.36$ ; green purchase behavior:  $\alpha = .77$ ,  $M = 4.64$ ,  $SD = 1.35$ ; perceived consumer effectiveness:  $\alpha = .70$ ,  $M = 3.13$ ,  $SD = 1.84$ ). The two items for negative sentiment toward marketing did not scale reliably. Thus, only one item was used (“wear out too quickly,”  $M = 4.36$ ,  $SD = 1.75$ ). As for the mediators, we formulated three items on informational utility (see Table 1;  $\alpha = .83$ ,  $M = 3.75$ ,  $SD = 1.40$ ) and two items on emotional appeal ( $\alpha = .87$ ,  $M = 3.58$ ,  $SD = 1.58$ ) based on Hartmann and Apaolaza-Ibáñez (2009, 2012). Besides gender, age, education, and survey mode (72% online), income was controlled as well (39.3% lower than €2,000; 44.7% lower than €4,000; and 16.0% higher than €4,000 per month).

## Results

**Measurement model.** As in Study 1, the fit of the measurement model for green consumerism is good (CFI = .97, RMSEA = .06, PCLOSE = .06). The model fits the data better than a one-factor model ( $\Delta\chi^2 = 17.13$ ,  $p < .001$ ).

**Structural model tests.** The model fit of the model as it is depicted in the lower part of Figure 1 was acceptable (CFI = .93, RMSEA = .05, PCLOSE = .59; see Table 1 for factor loadings). We asked if informational utility and emotional appeal mediate the relationship between green consumerism and green ad skepticism. As predicted in hypotheses 6a and 6b, we found a strong and highly significant effect of the hierarchical factor green consumerism on both informational utility ( $b = .64$ ,  $p < .001$ ) and emotional appeal ( $b = .84$ ,  $p < .001$ ). Informational utility, in turn, exerted a significant negative effect on green ad skepticism (hypothesis 6a;  $b = -.64$ ,  $p < .001$ ). However, there was no such effect for emotional appeal (hypothesis 6b;  $b = .17$ , n.s.). This mediation could also be confirmed by a bootstrapping test involving 5,000 samples. The indirect effect of green consumerism on green ad skepticism, mediated by informational appeal, was highly significant ( $b = -.41$ ). There was no direct effect of green consumerism on green ad skepticism ( $b = .13$ , n.s.). However, when the mediators were excluded from the model, we found a negative effect of green consumerism on green ad skepticism that was close to statistical significance ( $b = -.13$ ,  $p = .07$ ).

Also, as could be expected, perceived consumer effectiveness had a negative effect on green ad skepticism ( $b = -.21$ ,  $p < .001$ ), but it was unrelated to informational utility ( $b = -.02$ , n.s.) and emotional appeal ( $b = .01$ , n.s.). Marketing sentiment had a positive effect ( $b = .09$ ,  $p < .05$ ) on green ad skepticism and negative effects on informational utility ( $b = -.08$ ,  $p < .01$ ) and emotional appeal ( $b = -.08$ ,  $p < .05$ ). No effects of age, gender, and education on green ad skepticism were observed (see Table 2). In total, 31% of the variance of

green ad skepticism was explained. Again, when modeling a method factor to account for common method bias, the effect of green consumerism on informational utility ( $b = .64$ ,  $p < .001$ ) and the effect of informational utility on green ad skepticism ( $b = -.75$ ,  $p < .001$ ) remained constant.

## Discussion

The findings of Study 2 suggest that green advertising seems to fulfill an informational need of green consumers: It enables consumers to make better buying decisions and it informs them about important product characteristics. Therefore, people who perceive high informational utility are less critical toward the advertised claims. However, and contrary to our expectations, emotional appeal did not serve as a mediator between green consumerism and green ad skepticism.

## GENERAL DISCUSSION

The current work aimed at revisiting the prevailing assumption that green consumers are skeptical toward ads. We conducted surveys among U.S. and European consumers using extensive and reliable measures for all constructs plus a number of important control variables. In fact, this was the first study examining how green consumerism relates to general ad skepticism and green ad skepticism. The distinction between these two types of skepticism is important because many scholars have argued that green consumers are especially cynical about green claims—based, however, on Shrum, McCarty, and Lowrey’s (1995) findings regarding general ad skepticism of green consumers.

The findings of these two studies challenge the notion of the skeptical green consumer. In contrast, we found that green consumers put more trust in green ads compared to nongreen consumers due to the perceived informational utility of green ads. Interestingly, although green consumers are highly aroused by the emotional green images that are commonly used in green ad campaigns, they do not use their emotions as indicators for the trustworthiness of green ads. This indicates that “the green consumer . . . seeks information on products, including information from advertising” (Shrum, McCarty, and Lowrey 1995, p. 71). In evaluating the trustworthiness of green ads, consumers judge the arguments conveyed by green ads rather than listening to their feelings.

This insight is in line with dual-process models such as the elaboration-likelihood model (Petty and Cacioppo 1990). Green consumers—that is, people with high involvement—follow a systematic route of information processing when judging green ads. They elaborate on the arguments that are provided in an advertisement. If the provided arguments are convincing, they are likely to positively evaluate the ad. However, while green consumers may be aroused by the emotive appeal of green ads, they do not use their emotional arousal (i.e., heuristic cues) when judging the quality of a persuasive attempt. That is why emotional appeal has no significant effect on green ad skepticism.

When considering the broader theoretical implications of this finding, we believe there is a need to distinguish ad elaboration from ad skepticism. Ad elaboration refers to the extent to which a person carefully thinks about an ad (Cacioppo, Petty, and Morris 1983). Based on the elaboration-likelihood model, green consumerism should be positively related to ad elaboration. Ad elaboration, however, does not necessarily lead to distrust in green ads. If the arguments provided by the ads are strong, trustworthy, and high in informational utility, a positive evaluation of argument quality will follow. This leads to less ad skepticism. However, in case the arguments are perceived as misleading and biased, consumers will judge informational utility as low, leading to ad distrust. Therefore, the relationship between green consumerism and ad elaboration can be theorized to be strong. The relationship between ad elaboration and ad skepticism, however, depends on the perceived informational utility of green ads. In Study 2, green consumerism was positively related to informational utility. This is in line with recent research showing that green ads have improved in their informational value (Ahern, Bortree, and Smith 2013; Leonidou, Leonidou, and Kvasova 2010).

It is worth stressing that we have modeled several facets of green consumerism that were proposed in previous research. We believe our modeling strategy is superior to merely operationalizing single facets of green consumerism. All three dimensions of green consumerism were highly correlated and therefore well explained by the higher-order factor. Modeling them as separate predictors would lead to spurious findings due to problems of multicollinearity. However, additional analyses revealed that each dimension alone was also negatively related to green ad skepticism. This lends additional support to our findings.

Also, some other interesting patterns emerged from our studies. Findings revealed that it is not green consumerism but other consumer attitudes that enhance skepticism toward green ads and ads in general. In line with prior research, we found perceived consumer effectiveness to be strongly related to green ad skepticism and even to general ad skepticism. Consumers with a higher locus of control may be less cynical about advertising. Moreover, belief in being able to help the environment may also encourage a more positive view of marketers' promises. Also confirming previous studies, general (and green) skepticism toward advertising appeared to relate to general sentiment toward marketing (Mohr, Eroğlu, and Ellen 1998). Plausibly, consumers with a more negative sentiment toward marketing also respond more skeptically to (green) claims made in ads. Finally, older people, women, and those with a higher level of education were more skeptical toward advertising in general. This is in line with prior research (e.g., Obermiller and Spangenberg 2000). For green ad skepticism, in contrast, such relationships could not be observed. These findings underline the importance of separating green ad skepticism from general ad skepticism.

## Limitations

A first limitation is that we could not—like all survey research—control the actual content of the ads that the respondents were referring to. This would necessitate an experimental approach, which was beyond the scope of our study. Our study did not analyze respondents' reactions to actual green ads but their skepticism of green ads in general. However, although the type of green ads that the respondents were referring to is unknown, we have clearly defined in the survey what we mean by a green ad. Although our approach is unable to prove causal claims, there is one key advantage compared to experimental designs. In experiments, we would typically expose subjects to a limited number of green ads, on some selected products, and with some varying green elements. Although such data can be interpreted causally, they cannot be generalized to the universe of green ads. Our approach, in contrast, rests on individuals' general perceptions of green ads. Because different people were exposed to different green ads, we can generalize our findings to the universe of green ads to which quota samples of respondents in the United States and in Austria were exposed. However, we cannot draw conclusions about single green ads. It follows that future research should validate our findings with experimental designs.

It is also important to stress that—although using the same measures—our findings cannot be compared to the original study by Shrum, McCarty, and Lowrey (1995), because green ads have changed to the positive over the past 20 years (Ahern, Bortree, and Smith 2013; Leonidou, Leonidou, and Kvasova 2010). One possible explanation for the lack of evidence for a skeptical green consumer is the improvement of the information quality of green ads. But this cannot be clarified with the present data.

Another drawback is the use of only two or three items for some constructs. However, all these items have been validated in a large body of work and are regarded as valid and reliable. The present investigation also employed reliable indices in structural equation models. We do not believe using more items would change the strong relationships we have observed. It is worth noting that including more items would not necessarily lead to more reliable and more valid models. On the contrary, because prior research has mainly relied on exploratory factor analyses, one could argue that some scales would not work when tested with structural equation models. We are therefore confident that our measures are sufficient. Of course, including more control variables could additionally back up our claims. However, we were able to explain substantial amounts of variance for both outcome variables, leaving little for additional controls to explain.

The fit of our structural equation models was acceptable to good. We could improve model fit by skipping additional items, but we decided not to do so as to maintain the validity of our measures. In fact, as additional analyses revealed, skipping single items to improve model fit would not change our substantial

relationships and conclusions. Furthermore, one could argue that we found a negative relationship between green consumerism and green ad skepticism because the constructs were scaled in the opposite direction (i.e., green consumerism was poled positively, green ad skepticism negatively). However, when using the excluded item “Most green claims made in advertising are true” of Study 1 as a single-item measure of green ad skepticism, we found the same, very strong positive connection between green consumerism and the inverse of green ad skepticism ( $b = .64$ ,  $p < .001$ ).

### Practical Implications

Our findings have considerable practical implications for marketers and advertisers. They suggest that green advertisements are generally perceived positively by the green public. This sheds new light on Zinkhan and Carlson's (1995) classic statement that “green consumers are the very segment most likely to distrust advertisers” (p. 2). On the contrary, green consumers may be in need of detailed information to satisfy their consumption needs. It follows that green ads should be designed to meet these audience expectations. However, advertisers will not gain the trust of green consumers by using emotional advertising strategies. Green consumers are in need of accurate and detailed information, and they value this information by their trust in advertising messages. Therefore, we argue that advertisers are well advised to use green claims as long as they are detailed, specific, unambiguous, and of course truthful. At the same time, it is important to stress that emotional green ads are not likely to increase consumers' ad skepticism. This insight is in line with studies by Hartmann and Apaolaza-Ibáñez (2008, 2009, 2012), which suggest that emotional green appeals can improve attitude toward the ad and the brand. At the very best, ads can provide both specific green arguments and emotion-evoking positive images. This may decrease ad skepticism on one hand and foster positive brand attitudes on the other.

### Future Research

Future research should test our conclusions in an experimental setting. It may also be worthwhile to systematically address the question of how green versus nongreen consumers react to several kinds of green ads. Ads high in emotional appeal but low in informational value might prompt individuals with a strong informational need to react cynically in response to those ads. The opposite may be true for consumers who have a low informational need. Also, future research should empirically separate ad elaboration from ad skepticism. Finally, the question of how green consumers react to green ads of different product types remains a relatively unexplored but potentially fertile topic for future research.

### NOTES

1. It should be noted that knowledge about environmental problems or environmentally friendly products has been also related to green consumption (Schlegelmilch, Bohlen, and Diamantopoulos 1996;

Stone, Barnes, and Montgomery 1995). However, inconsistent findings regarding the effects of consumer knowledge may result from highly heterogeneous measures as well as the context dependency and changing nature of the relevant facts in this area (e.g., Chan 2001). This is why knowledge is not considered as one of the core aspects of green consumerism here.

2. For explorative purposes, we also modeled the effects of effectiveness on general skepticism as well as the effect of sentiment on green skepticism in Figure 1. However, based on prior research, we did not formulate hypotheses.
3. It is important to note that Cronbach's alpha is rather uninformative for structural equation models, especially when there are only two items. Reliability, in terms of structural equation modeling, refers to the amount of variance of an item that is explained by the latent variable. The following items were included in the survey but omitted from the analysis because of low consistencies with their respective constructs, or low model fit: “I refuse to buy a brand whose advertising I dislike” (general ad skepticism; Shrum, McCarty, and Lowrey 1995); “I enjoy most ads” (general ad skepticism; Mohr, Eroğlu, and Ellen 1998); “Most green claims made in advertising are true” (green ad skepticism); “Green products cannot help slow the deterioration of the environment” (attitudes toward green products); “I am satisfied with most of the products I buy” (sentiment toward marketing); and “My actions impact the environment” (environmental concern).
4. Strong first-order correlations among the three constructs also suggested a second-order structure (environmental concern and green attitudes:  $r = .74$ ; environmental concern and green purchase behavior:  $r = .68$ ; green attitudes and green purchase behavior:  $r = .87$ ).

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