# Why do consumers negatively evaluate green advertising?

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#### Abstract:

This research seeks to examine the effect of the elements of advertising on the evaluation of environmental advertising and on the perception of the advertiser's ecological image. While the research done so far focus on the study of the effect of the content or the form of advertising, this paper underlines the effects of all elements of advertising. The results of the between-subjects experimental study (N=520) show that consumers are more positively evaluating environmental advertisements with no green color and no children as a character. They also emphasize that exaggeration in advertising and ambiguous visuals have negative effects on the evaluation of environmental advertising and the perception of the advertiser's ecological image. The results also indicate that low-environmental advertising mediums influence negatively the evaluation of environmental advertising and the perception of the advertiser's ecological image. In addition, this study shows that the evaluation and ecological perceptions of consumers are more positive when the source corresponds to non-governmental organizations than when it corresponds to a business.

**Keywords:** Green Advertising; Green Marketing; Sustainable Development; Brand's Ecological Image.

#### Introduction

Green advertising has boomed in recent years (Delmas and Burbano, 2011). This increase is mainly due to the growth of the environmental concern of consumers. Green advertising was initially integrated as a marketing communication strategy by large industry firms which are often accused as responsible for environmental degradation. These companies mainly launch green advertising in order to develop positive attitudes toward eco-friendly products and to improve the socially responsible corporate image of firms (Banerjee et al., 1995; D'Souza and Taghian, 2005; Pranee, 2010). Previous studies focused on one element of environmental advertising to examine its effect: the form of the advertising (e.g. Benoit-Moreau et al., 2009) or the message (e.g. Carlson et al., 1993; Monot and Renniou, 2013). But, there are still some elements not studied in the literature. According to the literature (Burton and Lichtenstein, 1988; Wells, 1997), the evaluation and the perception of an advertisement must focus on its entirety, not on elements taken separately. Thus, this research aims to analyze the impact of all the elements of environmental advertising on the evaluation of advertising and the perception of the advertiser's ecological image. In fact, the advertising's channel that takes into account the various means of communication that the advertiser uses to promote a product is an important element in the study of advertising (Tochtermann and Schmutz, 2003). In the particular case of environmental advertising, the channel must be adequate with the advertising message so that advertising is perceived responsibly by individuals (Audoin et al., 2010). The impact of advertising's channel on the evaluation and perception of environmental advertising has been ignored in the literature (Audoin et al., 2010). In addition, several academic articles have studied the cognitive evaluation of environmental advertising (Benoit-Moreau et al., 2009; Herault, 2012; Bailey et al., 2014), and much less examined the emotional dimension related to the evaluation of environmental advertising. In our research, we study both dimensions of evaluation: the cognitive and the emotional.

Moreover, we decided to measure the ecological perception of a brand or a product which is a decisive variable of the intention of the consumer's behavior (D'Souza and Taghian, 2005). For Benoit-Moreau and his colleagues (2009), the elements of environmental advertising should have an impact on the perceptions of the promoted ecological product. In view of these shortcomings in the literature, it appears necessary to contribute to the green advertising literature and to examine: 1) the impact of the elements of advertising (content, form, channel, and source) on the cognitive and emotional evaluation of environmental advertising; 2) the impact of the elements of advertising on the advertiser's ecological image.

Specifically, the first section of this paper will be devoted to the literature review on green advertising and research hypotheses. The second part details the design of the experimental plan chosen, the experimental protocol and the pre-test for the experimental manipulations. Finally, the third part is devoted to the results of the experiment.

#### 1. Theoretical framework

#### 1.1. Signaling theory approach to green advertising

Signaling theory is basically derived from the economics literature and has been widely used in marketing research to study brand equity (Erdem and Swait, 1998) and product pricing (Srivastava and Lurie, 2004). Researchers have also applied this theory to the field of advertising

(Kirmani, 1997; Thomas et al., 1998; Anand and Shachar, 2009). Actually, signaling theory is useful for describing the behavior of two parties: the sender and the receiver. The sender chooses whether and how to communicate information and the receiver decides on how to interpret the signal (Connelly et al., 2011).

Brands seek to send signals of compliance to their consumers in order to maintain or strengthen their reputation (Suchman, 1995). Thus, many companies invest considerable sums in activities that help to preserve the environment (Peattie and Crane, 2005). Environmental advertising is considered as a signal that a brand's behavior is socially acceptable and appropriate (Philppe and Durand, 2009). In fact, the organization's environmental performance is difficult to observe directly. Stakeholders can try to assess the quality of a firm's environmental management through its green communication. Findings from prior research suggest that if signals are consistent with expectations and are perceived positively by the receivers, they will improve the firm's ecological image (Heil and Robertson, 1991; Philippe and Durand, 2009) while, in contrast, negative reactions towards signals can damage the brand's image (Philippe and Durand, 2009). Heil and Robertson (1991) argue that signal interpretation and consumer reactions are determined by the signal's characteristics (form and message).

Green marketing initiatives are considered as a signal of a brand's environmental commitment. Actually, green marketing is the marketing of environmentally friendly products and services and includes a wide range of activities related to:product design, the manufacturing process, and recycling (Prakash, 2002). And while green marketing may take many forms, an important facet of an organization is its green advertising. Green advertising is a way to promote awareness of environmental products and stimulate demand for them. According to Banerjee et al. (1995), green advertising can be seen as any advertisement that may explicitly or implicitly address the relationship between a product and the biophysical environment. It should also have the characteristics of being able to promote a green lifestyle with or without highlighting a product in order to present a corporate image of environmental responsibility (Banerjee et al., 1995). Zinkhan and Carlson (1995) have elaborated another definition for green advertising and consider it as the appeals that try to fulfill consumers' needs and aspiration regarding environmental concern and health issues from different perspectives including ecology, sustainability, and pollution-free messages. However, a negative attitude towards green advertising among consumers has accompanied its evolution. Green advertising has been criticized as nothing more than a marketing strategy that fails to convey any real environmental benefits of an organization (Chan, 2004), and does not guarantee a green image underpinned by honesty and trust (Peattie and Crane, 2005). At present, the main problems confront green advertising are: poor credibility, consumer skepticism and consumer confusion (Winn and Angell, 2000). Based on previous studies, we attempt below to explain the variables that negatively impact the evaluation of green advertisement and the advertiser's ecological image.

#### 2. Hypotheses

Color in advertisements was considered to be an important explanatory variable of consumer behavior in the field of advertising (Lichtlé, 2002), packaging (Roullet and Droulers, 2005), or point-of-sale design (Pantin-Sohier et Brée, 2004). Lichtlé (1998) showed the influence of color in advertisements on consumer perceptions. In the ecological field, the use of green color has a negative impact on the perception of the ecological product (Benoit-Moreau et al., 2009; 2010). The advertisements that used the green color are perceived by consumers as more manipulative;

they degrade the ecological image and the perceived quality of the promoted product (Benoit-Moreau et al., 2009; 2010).

From the above, we suggest that the green color has a negative impact on the consumer's evaluation of environmental advertising and perception of the advertiser's ecological image. We, therefore, propose to test the following hypotheses:

**H1:** Green color in environmental advertisements negatively influences the evaluation of environmental advertising.

**H2:** Green color in environmental advertisements negatively influences the perception of the advertiser's ecological image.

Several environmental advertisements not intended for family consumption have used the child as a character (ex. Total, EDF, Areva, etc.). Scholars have studied the attitudes of children towards advertising (Kapeferer, 1985; Derbaix, 1982; Bruck et al., 1998; Pecheux et Derbaix, 1999; Guichard et Gregory, 2000). Bruck et al. (1998) showed that children positively perceive advertisements that use children as a character. Plus, no research has studied the effect of using children in advertisements on perceptions of older consumers. According to the literature (Holbrook and Lehman, 1980; Stewart and Furse, 1986; Petty and Cacioppo, 1986), the characters in advertising have an effect on the effectiveness of advertising.

From the above, we suggest that the use of children as a character in environmental advertisements has a negative impact on the consumer's evaluation of environmental advertising and perception of the advertiser's ecological image. We, therefore, propose to test the following hypotheses:

**H3:** The use of children as a character in environmental advertisements negatively influences the evaluation of environmental advertising.

**H4:** The use of children as a character in environmental advertisements negatively influences the perception of the advertiser's ecological image.

The elements of advertisement's form such as the images mobilized have an effect on the perceptions of the brand. According to Monot and Renniou (2013), in order for environmental advertisements to be viewed positively by consumers, the images used must illustrate the commercial discourse and not present any ambiguity. For Benoit-Moreau et al. (2009, 2010), the visual elements of the advertisement must be used in a proportional way to the responsible arguments in order to avoid greenwashing. For example, the use of natural elements could mislead the consumer and make it more doubtful about the environmental impact of the products.

From the above, we suggest that the non-coherent images with the message of environmental advertising have a negative impact on the consumer's evaluation of environmental advertising and perception of the advertiser's ecological image. We, therefore, propose to test the following hypotheses:

**H5:** Non-coherent images with the message of environmental advertising negatively influence the evaluation of environmental advertising.

**H6:** Non-coherent images with the message of environmental advertising negatively influence the perception of the advertiser's ecological image.

Haefner (1956) is the first researcher to have worked on the concept of guilt, and more precisely on his place in advertisements. In particular, he questioned changes of opinion after a mobilization of guilt in an advertisement and proposed the first scale of measurement of guilt.

His work highlighted significant changes in the respondents' opinion following the presentation of a guilty advertisement. In the context of environmental advertising, Jimenez (2008) has shown that the guilty speech has a negative impact on the attitudes towards advertising and the brand. According to Monot and Renniou (2013), individuals reject the discourse of guilt as a type of message that overestimates their role in protecting the environment. For Chang (2015), guilt messages could negatively affect the perception of the ecological product presented in the advertisement, as well as the evaluation of the advertisement.

From the foregoing, we suggest that the advertising discourse of guilt could have a negative impact on the consumer's evaluation of environmental advertising and perception of the advertiser's ecological image. We, therefore, propose to test the following hypotheses:

**H7:** The guilt in advertising discourse negatively influences the evaluation of environmental advertising.

**H8:** The guilt in advertising discourse negatively influences the perception of the advertiser's ecological image.

Several studies have shown the negative reactions of consumers in the face of exaggerated advertising discourse (Wattenberg and Brians, 1999; Yingfang, 2007; Sanz and Luengo, 2012). For these researchers, advertisers often use an advertising discourse that exaggerates the benefits of a product or service. In the ecological field, Furlow (2010) says that several companies tend to exaggerate the environmental aspects of their approaches and to highlight qualities that are not really relevant. According to the literature (Chan, 2004; Monot and Reniou, 2013), some companies claim to be in favor of environmental protection while in fact, they are not. Ecological discourses are perceived by individuals as manipulators as they are part of a market logic supported by marketing and commercial techniques (Peñaloza and Price, 1993). Also, scholars explain that a negative evaluation of environmental advertising may be a result of some companies that do not hesitate to disseminate exaggerated environmental communication (Carlson et al., 1993; Delmas and Burbano, 2011; Leonidou et al., 2011).

From the foregoing, we suggest that exaggerated advertising discourse has a negative impact on the evaluation and perception of advertising.

**H9:** Exaggeration in advertising discourse negatively influences the evaluation of environmental advertising.

H10: Exaggeration in advertising discourse negatively influences the perception of the advertiser's ecological image.

The literature highlights the advertising's channel as a component of the communication process (Moser and Reed, 1998). According to Tochtermann and Schmutz (2003), the effect of advertising communication depends on the medium used by the advertiser. An advertisement that has a positive effect, it must send a good message through appropriate media (Tochtermann and Schmutz, 2003). In addition, the conclusions of studies carried out by Ademe (2007) and Poivre-Le lohé (2015) stressed the importance of integrating the environmental concerns into the design and implementation of communication actions. Some researchers have suggested that environmental advertising's channel must be consistent with the content of the message so that advertising is perceived responsibly and that its impact is strengthened (Chauveau and Rosé, 2003; Bernard, 2008).

From the above, we suggest that advertising' channel has an impact on the consumer's evaluation of environmental advertising and perception of the advertiser's ecological image. We, therefore, propose to test the following hypotheses:

**H11:** A non-ecological communication channel negatively influences the evaluation of environmental advertising.

**H12:** A non-ecological communication media negatively influences the perception of the advertiser's ecological image.

The source credibility models developed by Hovland and Weiss (1951) and Hovland et al. (1974) demonstrated that the effectiveness of an advertising message depends on the source. According to the literature (Banerjee et al., 1995; Delmas and Burbano, 2011), individuals perceive in a more positive way the environmental advertisements issued by non-governmental organizations than those issued by companies. The environmental advertisements of non-governmental organizations mobilize an emotional discourse aimed at changing the ecological behavior of the consumer and educating citizens about ecological issues (Ladwein, 1999). Whereas, companies prefer to promote the benefits of a product rather than to present environmental issues (Belkin, 2004). According to the literature, the most credible sources produce more attitudinal changes than less credible sources (Pornpitakpan, 2004). Also, the literature highlights that non-profit organizations have a better ecological image than businesses (Banerjee et al., 1995; Delmas and Burbano, 2011).

From the foregoing, we suggest that the source of advertising has an impact on the consumer's evaluation of environmental advertising and perception of the advertiser's ecological image.

**H13:** Environmental advertisements launched by non-governmental organizations are evaluated in a more positive way than those launched by companies.

**H14:** The ecological image of non-governmental organizations is perceived more favorably than that of companies.

According to the literature, there are some important moderator variables on the study of the environmental advertising. For example, the consumer's environmental concern was widely studied in marketing literature, based on the works of Kassarjian (1971), Kinnear and Taylor (1973), Kinnear et al. (1974) and Henion (1976). Kinnear and his colleagues (1974) define the consumer concerned about ecology as an individual to adopt a purchasing and consumption behavior consistent with the conservation of ecosystems. Zaiem (2005) proposed a definition of environmental concern with three dimensions: knowledge of environmental issues, sensitivity to environmental issues and behavior towards the environment. Zaiem (2005) was able to verify the existence of a significant link between the knowledge gained in the field of sustainable development, sensitivity, and ecological behavior. Maresca and Hebel (1999) and Sylvander (2000) have shown that environmental concerns vary according to the consumer's environmental beliefs. The results of other research point out that the less-concerned consumers of the environment turn out to be those that are generally the least dubious of environmental advertising messages (Mars and Menivelle, 2012; Do Paço and Reis, 2012). To test the moderating effect of the environmental concern we suggest the following hypotheses:

**H15:** The environmental concern of the consumer has a moderating effect on the relationship between the elements of advertising and the evaluation of environmental advertising.

**H16:** The environmental concern of the consumer has a moderating effect on the relationship between the elements of advertising and the perception of the advertiser's ecological image.

Also, according to the literature, the age of the individual has a significant impact on the attitude towards advertising (Shavitt et al., 1998). Generally speaking, younger respondents tend to have a more positive attitude than the older ones. Younger people feel less embarrassed and less targeted by advertisements (Shavitt et al., 1998). In this sense, Alwitt and Prabhakar (1992) have shown that older individuals have a more negative attitude towards advertising than young people. Previous research (Diamantopoulos, 2003; Bereni, 2004) indicate that age is an important variable to consider in research on environmental advertising because young and old consumers may have different perceptions and attitudes regarding environmental protection and actions to

undertake natural resources. To test the moderating effect of the age, we suggest the following hypotheses:

**H17:** Age has a moderating effect on the relationship between the elements of advertising and the evaluation of environmental advertising.

**H18:** Age has a moderating effect on the relationship between the elements of advertising and the perception of the advertiser's ecological image.

Several research focused on the gender of consumers as a moderator of the effect of advertisements (Meyers-Levy and Maheswaran, 1991). According to Meyers-Levy and Maheswaran (1991), men and women differ in their reactions toward advertising. On an ecological level, according to a survey conducted by Harris Agency (2014), women appear to be more motivated, concerned and committed than men to the environment. For Bereni (2004), women are more concerned about ecological issues and more receptive to environmental consumption than men. Sheelan and Atkinson (2016) have shown that women's and men's attitudes towards environmental advertising are different. Indeed, women perceive environmental advertising in a more positive way than men (Haytko and Maltulich 2008). To test the moderating effect of the gender, we suggest the following hypotheses:

**H19:** Gender has a moderating effect on the relationship between the elements of advertising and the evaluation of environmental advertising.

**H20:** The gender has a moderating effect on the relationship between the elements of advertising and the perception of the advertiser's ecological image.

The resistance to advertising had a particular interest in previous research (Roux, 2006; Cottet et al., 2009) showing that advertising-resistant individuals reject any advertisement. The resistance behaviors of these individuals can go as far as a complete rejection of the brands, the market and the consumer system (Hermann, 1993; Ritson and Dobscha, 1999). According to Roux (2007), resistance to advertising has two components: a negative attitude towards advertising and behavior adopted with the aim of limiting the effect of advertising. The resistance could have a moderating effect on the relationship between the advertising and the reactions of individuals to it because resistance is usually at the origin of the change of attitude and encompasses mechanisms allowing individuals to protect themselves from advertising messages (Briñol et al., 2004). To test the moderating effect of resistance to advertising, we suggest the following hypotheses:

**H21:** Resistance to advertising has a moderating effect on the relationship between the elements of advertising and the evaluation of environmental advertising.

**H22:** Resistance to advertising has a moderating effect on the relationship between the elements of advertising and the perception of the advertiser's ecological image.

Figure 1 illustrates the hypotheses and presents the research model.

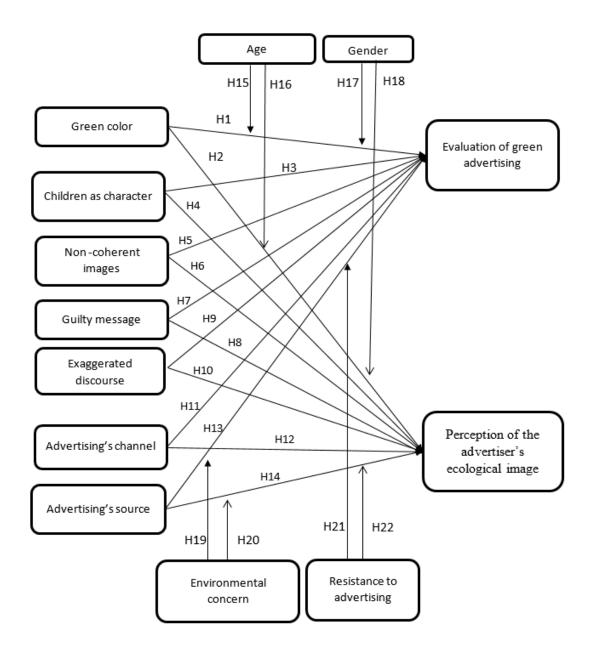


Figure 1: The research Model

### 3. Research methodology

The proposed hypotheses are mainly part of a causal approach. Causal-type research is used to study cause-and-effect relationships between variables affecting a situation (Churchill and Lacobuccci, 2006). The implementation of a causal approach uses an experimental method (Churchill and Lacobuccci, 2006). To test the assumptions about the impact of the elements of environmental advertising, we, therefore, chose an experimental approach. The experiment will

lead us to manipulate several explanatory variables (green color, child as a character, ambiguous image, guilty discourse, exaggerated discourse, communication medium and source of advertising) in order to understand the effect of these elements on the evaluation of advertising and on the advertiser's ecological image. We decided to manipulate the independent variables at two levels: present treatment and absent treatment. According to Gavard-Perret et al. (2012), the most useful and simple manipulation in experimentation is where the explanatory variable has only two levels: present/absent treatment. The subjects exposed to the experimental treatment represent the test group and the subjects not exposed to this treatment make up the control group (Churchill and Lacobuccci, 2006).

We handle in the case of this study 7 variables to two modalities each. Thus the experiment has 7 (independent variables) \* 2 (experimental conditions) = 14 experimental conditions. In order to avoid the fatigue and boredom effect of being exposed to this high number of experimental conditions, we decided to submit each subject group to an experimental condition. In this way, respondents were randomly assigned to one of the fourteen experimental conditions. Thus, the experimental design chosen in this study is between-subject.

The 14 versions correspond to the manipulation of the 7 elements studied each in the form of two modalities:

- Without/with the domination of the green color.
- Without/with the child as a character in the advertisement.
- Without/with the image without concordance with the speech.
- Without/with guilt in the speech.
- Without/with exaggeration in the speech.
- Ecological support/non-ecological support.
- Advertising launched by a non-governmental organization (NGO) versus advertising issued by a company.

The implementation of the experimental plan requires the development of advertising stimuli. We decided to create a relatively simple advertisement to limit the halo effect (Boyer et al., 2006; Wells, 1964). The performance characteristics (e.g. the size of the images, the colors and the structure of the pages) are also controlled from one stimulus to another and therefore cannot be inferred from any differences (Pieters et al., 2007).

We observed about 100 environmental advertisements to analyze how they were designed. These advertisements have been identified on specialized websites of advertising archive. The ads chosen promote different products and services (agriculture, industry, energy, etc.) The objective of this analysis is twofold; to have on the one hand an idea of the message on which the environmental communication is to be used and to identify on the other hand the advantages that allow an advertiser to position itself as a brand responsible. Also, the use of a common consumer commodity that is likely to interest a broad audience is the car. Indeed, most car manufacturers have integrated environmental issues into their communication. Familiarity with the brand facilitates the encoding and restitution of information (Grunert, 1996). But in order to invite respondents to judge advertising on the basis of the elements of advertising and to avoid any effect of knowledge or familiarity with the brand (Anderson and Jolson, 1980), we used a fictitious brand as used by Brown and Dacin, (1997), and Bickart and Ruth (2012). We selected the name "Petra" for the car presented in order to respond to the realities of the market. Currently,

several manufacturers use people's names for their new cars. For example, Renault chose Megane or Zoe.

The advertisement designed includes:

- •A title specifying the name of the car: Petra,
- •Information about the product. More specifically, we have mobilized information on the environmental performance,
- •Two images: The car and an eco-label. In fact, car manufacturers use various communication tools in the field of ecology. Among these tools, we have ecological auto-labels. These auto-labels certify that cars have a lesser impact on the environment and an aptitude for use at least equivalent to that of other conventional models.

This advertisement is then declined depending on whether or not the experimental condition is present. An example is displayed in figure 2.



Figure 2: Ad with green color vs. Ad without green color

#### 3.1.Pretest

In order to ensure on the one hand that the designed advertisements are understandable and on the other hand that the factors manipulated were well mobilized, we carried out a pre-test with consumers and professionals in the field of advertising. The characteristics of the manipulated message require checking whether it is: 1) guilty; 2) exaggerated; and 3) consistent with the visual. For the survey with consumers, the collection of consumer data was carried out in Paris during the month of August 2015. We have targeted people who may be interested in

environmental issues. For this reason, the chosen place was in front of the store HACEA, a specialized shop of ecological products. A total of six questionnaires were administered as part of the pre-test: "questionnaire with the non-guilty message", "questionnaire with the guilty message ", "questionnaire with unexaggerated advertising", "questionnaire with exaggerated advertising", "questionnaire with ambiguous advertising". The six questionnaires have the same architecture in terms of instructions and questions with an exception that the experimental announcement presented to the subject differs from one questionnaire to another. The results of the pre-test confirm that our designed advertisements respond to the research's objectives. The interviews with 63 consumers were carried out face-to-face and their duration was about fifteen minutes.

The collection of data from the experts was carried out in the same month. A questionnaire was sent by email to 25 professionals in the field of environmental communication and 11 of them accepted to answer to our survey.

### **3.2.**Sample

In order to have a diversified sample of consumers in terms of degrees of environmental concern, we decided to follow the approach of McDonald and Adam (2003): 1) to spread the survey throughout the day; (2) changing neighborhoods every day; (3) interrogate every day of the week and 4) change the street every two hours. The principle implies that all individuals (concerned and not concerned with the environment) must have, at best, the same likelihood of being part of our sample. To ensure this diversity in sampling, we also respect quotas in terms of sex (Burton et al., 1999), age (Burton et al., 1999) and CSP (Darpy and Volle, 2003). The survey was conducted in Strasbourg, France between September and December 2015 and allowed 520 consumers to be interviewed face-to-face.

The subjects were invited at the beginning of the experiment to answer a series of general questions, on the resistance to advertising and on the degree of their environmental concern. Secondly, the following questions concern the evaluation of environmental advertising in general and the perception of the advertiser's ecological image. The third set of questions is more specific and concerns the evaluation of the environmental advertising tested in the questionnaire as well as the perception of the ecological image of the product presented in the advertisements created. Finally, we asked questions about the sociodemographic characteristics of consumers: age, gender, level of education and profession.

#### 4. Results

The measuring scales used are all from the existing literature. All measuring scales used had good reliability with an alpha of Cronbach greater than or equal to 0.8 Comparisons show that subjects who visualized ad green-colored advertisement are more positively evaluating environmental advertising (F=1,676; p<0.001) and perceive more favorably the ecological image of the promoted product (F=2,748; p<0.001) than those who visualized an advertisement with green color. Thus, environmental advertising without green color is evaluated and perceived more positively by consumers than advertising with green color. These results allow us to validate the hypotheses H1 and H2;

The comparison of averages highlights positive perceptions and evaluations for environmental advertisements without children as a character. Comparisons show that subjects exposed to an advertisement without child evaluate more positively environmental advertising (F=43.212; p<0.001) and perceive more favorably the ecological image of the promoted product (F=3.767;

p<0.001) than those exposed to an advertisement that portrays a child as a character. These results lead us to validate the assumptions H3 and H4.

The between groups t-test indicate significant differences in advertising evaluation (F=10.776; p<0.004) and perception of the advertiser's ecological image (F=1.765; p<0.009). These results show that the subjects are negatively evaluating and perceiving environmental advertisements that use ambiguous visuals. On the other hand, they are positively evaluating and perceiving advertisements using a coherent visual with the advertising discourse. These results lead to the validation of the hypotheses H5 and H6.

A t-test was performed to compare the results between the two groups of subjects -subjects exposed to a guilty message and subjects exposed to a non-guilty message. We note that there are no significant differences in the evaluation of environmental advertising (F=2,942; p<0.1) and the perception of the advertiser's ecological image (F=4,214; p<0.09). Thus, we can reject the hypotheses H7 and H8.

The comparisons of averages show that subjects exposed to exaggerated advertisement more negatively evaluate environmental advertisement (F=1.72; p<0.001) and perceive more adversely the ecological image of the promoted product (F=1.104; p<0.001) than those exposed to an advertisement engaging a non-exaggerated discourse. These results, therefore, allow for the validation of the assumptions H9 and H10.

In order to test hypotheses about the use of the non-ecological channel by advertisers of environmental advertising, we performed the T-test to evaluate the differences in averages between two groups of subjects, a control group, and a test group. The comparison of averages highlights evaluations (F=3,884; p<0.001) and perceptions (F=1.092; p<0.001) more positive for environmental advertisements displayed on an environmentally friendly medium. These results lead to the validation of the assumptions H11 and H12.

The comparisons of results between the groups indicate significant differences in relation to the evaluation of advertising (F=2.82; p<0.001) and the perception of the ecological image of the advertiser (F=1.007; p<0.001). These results allow us the validation of the hypothesis H13 and H14.

Other tests have been also conducted to examine the indirect effects of the moderated variables. To test the effect of nominal variables (gender and age) on the evaluation of environmental advertising and the perception of the advertiser's ecological image, ANOVA taking as the "age" factor and the dependent variable "environmental advertising evaluation" and another one taking the "perception of the advertiser's ecological image" as dependent variable, show that there is no significant relationship between age classes and dependent variables (F=1.72; p>0.05; F= 1.315;p<0.249). These results allow us to validate the assumptions H15 and H16.

More ANOVA have been carried out. The analysis of variance shows no significant relationship between gender and the evaluation of environmental advertising (F=2.6; p<0.27), and the advertising's ecological image (F=3.851; p<0.36). These results allow us to validate the assumptions H17 and H18.

Also, correlation analysis show that there is no significant relationship between environmental concern and environmental advertising evaluation (r=-0.032; p=0.34) and the perception of the

advertiser's ecological image (r=0.033; p>0.05). These results allow us to validate the assumptions H19 and H20.

The correlation between the two variables resistance to advertising and the evaluation of advertising is estimated by the correlation of Pearson. Both constructed are significantly correlated (r =-0.217; p<0.001). Also, the tests of indirect effects based on a bootstrap analysis show that resistance to advertising has a significant moderating effect on the link between each independent variable and the evaluation of environmental advertising. The "Spotlight" analyses conducted at the level of resistance to advertising indicate significant differences so that the more individuals are resistant to advertising in general, the more they evaluate negatively the different experimental advertising stimuli. Also, the Pearson correlation coefficient between resistance to advertising and the perception of the advertiser's ecological image is r = 0.268 (p < 0.001). The two constructed are thus significantly correlated. These results allow us to validate the assumptions H21 and H22.

#### 5. Discussion

The results highlight the negative effect of the use of green color in environmental advertising. We found out that environmental advertisements with the dominance of green color are evaluated negatively by individuals. Previous work has shown the effect of color in general on consumer perceptions (Holbrook and Hermna, 1980; Lichtlé, 1998; 2002; Kacha, 2009). In the case of green color, this influence is all the more notable, as it reflects a unanimous, non-culturally-dependent representation (Benoit-Moreau et al., 2010), by analogy with the green dominant nature, the "green" products and the "green" consumers. The green color is an almost universal symbol of ecological character but it is today associated with the phenomenon of greenwashing (Benoit-Moreau et al., 2010). For consumers, brands use green color to mislead consumers about the real ecological quality of the product (Benoit-Moreau et al., 2010).

Our results are in the same direction as the previous literature (Burke, 1978; Holbrook and Lehman, 1980; Stewart and Furse, 1986; Petty and Cacioppo, 1986) that emphasized the important effect of characters in advertisements on consumer attitudes, perceptions, and behaviors in the face of advertising. These studies have shown that the characters in the advertisement reflect the product and the brand and that they have an impact on the image of the brand and on the message that it wants to send to consumers. Our results show that consumers are negatively evaluating the use of children in environmental advertisements.

Since the advent of advertising in the nineteenth century, the advertising discourse was the subject of criticism. The same criticisms (lack of sincerity, ambiguity, etc.) have been made to the environmental advertising discourse. Some advertising messages have led the consumer to be wary of environmental advertising and the company (Alniacik and Yilmaz, 2012). The results of our research indicate that exaggerated environmental claims are assessed and perceived negatively by consumers. 100% ecological, 100% natural, CO2-free, and other hard-hitting expressions are put forward to attract the attention of consumers. But these exaggerated proenvironmental slogans are perceived negatively by individuals. The ecological image of the product also suffers and ends up feeding a less favorable attitude towards it. According to Jacques (2006), consumers reject certain environmental advertising messages because they see in these speeches false elements that exaggerate the values of the company. Many brands are trying to exaggerate the ecological interest of a product or even create a responsible image of all parts

(Chan, 2004). However, these brands at the origin of exaggerated communication expose themselves to a significant risk in terms of reputation (Delmas and Burbano, (2011) and also contribute to eco-confusion and eco-skepticism in the minds of consumers (Bourg, 2010), who have trouble distinguishing the sincere advertising message from the fake. Thus, our results support the research that have mobilized the signaling theory as they emphasize the importance of launching a credible environmental discourse in order to provide evidence to believe an advertisement.

Guilty environmental advertisements were evaluated and viewed positively by the subjects. Guilt according to Haidt (2003) is part of self-conscious emotions, those that allow individuals to regulate their actions. According to Ademe's reports (2013, 2014), consumers are increasingly aware of the importance of the environment and have an ecological sensitivity to the dangers that threaten it. This has led individuals not only to take ownership of their environment and act as responsible consumers but also to blame themselves for rehabilitating the natural environment (Rodhain and Fallery, 2010). Also, our results do not reinforce those of Monot and Renniou (2013) which suggest that consumers are indignant about the stigma of their behavior towards the environment and the guilt of speech.

The results confirm the importance of using an ecological communication medium so that the advertising message is positively evaluated by consumers. Our results show that consumers perceive the environmentally friendly communication medium more positively than non-ecological medium. It seems obvious that the use of non-ecological communication medium degrades the different perceptions of the consumer and taints the company's environmental image. Tochtermann and Schmutz (2003) state that the used medium by the advertiser must be compatible with the content of the advertisement. The compatibility between the channel and the environmental discourse encourages companies communicating about the environmental qualities of their products to question the environmental impacts of the chosen media. These conclusions are in line with studies carried out by Ademe (2007) and Poivre-Lohé (2015), which stressed the importance of integrating environmental concerns into the design and implementation of communication actions.

According to the results obtained, it appears that the environmental advertisements launched by associations are perceived in a more positive way than those issued by the companies. The consumer is in fact increasingly wary of the environmental practices of companies (Do Paço and Reis, 2012). In fact, these results are in the same direction as the findings of several previous research (Baddache, 2004; Commenne, 2006) which underline the importance of forging a partnership between companies and associations. This partnership makes it possible to launch a more credible and legitimate environmental advertisement. The brands have a vested interest in integrating the associations into their policies to establish the legitimacy of the decisions taken and avoid the challenge. Associations can provide their expertise in addition to their lobbying and pressure. Our results do not reinforce those of Montoro-Rios et al. (2008) which have shown that environmental advertisements issued by environmental associations do not improve the attitudes and environmental behavior of the consumer. It should be noted that non-governmental organizations are criticized today, particularly because of dubious alliances with oil and mining groups that are among the generous donors of these organizations. For example, American journalist Christine MacDonald criticized several advertisements by partner companies of nongovernmental organizations. The latter would make it possible to green the image of companies at a low cost by associating the logo of the association.

We also note the lack of a moderating role of personal characteristics on the influence of the relationship between the elements of environmental advertising and the evaluation and perception

of individuals. This joins the results of Do Paço and Reis (2012) which indicate that there is no significant difference between women and men in the responses to environmental advertising. Our results are consistent also with those of Boyer (2006) that show that age does not have a significant effect on the negative evaluation of advertising. According to our studies, evaluation and perception of environmental advertising do not vary with the level of environmental concern of individuals. To date, there is no explanation for such a phenomenon, especially that previous works had revealed the influence of environmental concern on consumer reactions to environmental advertising (Mars and Menivelle, 2012; Do Paço and Reis, 2012; Richards, 2013).

#### Conclusion

Our research contributes to a better understanding of the reasons for the negative evaluation of en vironmental advertising and the negative perception of the advertiser's ecological image. The res ults provide insight into new elements in advertisements that can be criticized by consumers, suc h as the use of non-ecological communication medium, the use of children's images and ambiguo us images in environmental advertisements. Our research aims to examine the effects of all eleme nts of environmental advertising on consumer evaluation and perception. Although the studies ha ve done so far focus on the study of the effect of the content or the form of advertising, we wante d to underline the effects of all elements of advertising. This confronts the recommendations of se veral authors (Burton and Lichtenstein, 1988; Wells, 1997) suggesting that the evaluation of an a dvertising campaign should focus on its entirety, not on elements taken separately. In addition, it was shown several times in academic works (Batra and Ray, 1986; Burton and Lichtenstein; 198 8; Droulers and Amar, 2014) that the different elements of advertising have an influence on cogni tive evaluation (informative, convincing, persuasive, etc.) and on the emotional evaluations arous ed by advertising. However, to our knowledge, no work has been done on the emotional evaluatio ns of environmental advertising. In our research, we measured the evaluations elicited by experim ental advertising stimuli using the Burton and Lichtenstein scale (1988), to measure cognitive and emotional evaluation of advertising.

In addition, we have been able to establish findings of the effects of a child used as a character in advertisements on consumer attitudes and perceptions. According to the literature, previous acade mic works did not seem to be sufficiently strong to find out about these effects. Our empirical stu dies have shown that consumers are negatively evaluating advertisements featuring children as a character.

Our results also offer new insights into the exploration of the impact of guilty discourse on consumer's evaluation. Indeed, previous research analyzing guilt has shown that it is unnecessary to stimulate the guilt of the consumer, as this would not achieve the desired behavior (De Peyrelongue, 2011; Monot and Reniou, 2013). In contrast, our results have highlighted a positive effect of guilt on consumer perceptions of advertising and the ecological image of the product. Thus, this work brings a new contribution to the fields of research on guilt and advertising.

In addition, although literature highlights the effect of age on consumer's evaluation and percepti on towards advertising, our results indicate the absence of negative effects on the perceptions of i ndividuals. The fact that we are not the first to challenge these effects (Boush et al., 1994; Oberm iller and Spangenberg, 1998) leads to seriously questioning the postulates of literature.

According to the results of our experimental study, the positive evaluation of a green advertiseme nt is linked to the medium used by the company. The company must use an ecological communic ation medium to consolidate the image of a responsible brand. The communication campaign must, therefore, be totally eco-designed. The Biocoop campaign in France is one of the fully eco-designed campaigns. The organic product brand reaffirms its ecological commitments, presenting a f

ilm, 5 visuals and a website materializing its values. Every detail in this campaign was thought to be as responsible as possible.

In addition, based on the results obtained, consumers perceive associations more positively than b usinesses. It is thus necessary for companies to establish partnerships with non-governmental org anizations. These partnerships allow businesses to be perceived in a legitimate way. Also, this wo rk identified errors to avoid when developing an environmental communication strategy: the amb iguity, the green color, the exaggeration, and the lack of evidence of the messages. To avoid these pitfalls, it is important that the images used in the advertisements support and illustrate the speec hes and do not present any ambiguity in relation to each other. In this sense, the images mobilize d must be used in a proportionate way to the environmental claim and should not mislead the con sumer about the environmental qualities of the product and the company. Advertisers should not abuse green color in environmental posters so that the consumer is more inclined to believe the c ommercial discourse. The advantage of the product must also be presented as such without exaggerating the ecological scope. Claims relating to the environmental benefits of the product must be supported by reliable scientific evidence and concrete justifications. Labels and detailed and tang ible information can provide consumers with indisputable evidence.

This study has some limitations. First, executives, students, and employees are particularly over-represented in the sample. While workers and inactive people in general (job seekers, retirees, hou sewives) are significantly underrepresented. Also, the sample is mainly made up of highly-educat ed individuals, while more than 70% of the French population has a lower level of education than the BAC (INSEE, 2015). Individuals in excess of 60 are also underrepresented in the sample, while they represent INSEE 18.4% of the French population (INSEE, 2015). Thus, further research should mobilize a more representative sample. Second, the cultural variable might be interesting to study because environmental advertisements can be perceived differently depending on the origin of consumers (Leonidou et al., 2011). A replication of this study on subjects from different cult ures could also be interesting. Finally, the study examines the variable of the source of environmental advertising only in the form of two modalities: advertising by the company and another by as sociation. Experimentation with other sources such as government agencies should be replicated.

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