**The effectiveness of appeals in green advertising**

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# Preface

Since I was a child my parents, especially my dad, always pointed me to separate the garbage, not to shower to long, do not spoil water when washing the dishes, take the bicycle instead of the car and to put on a sweater instead of turning on the heater. At the time I experienced it as an obligation but later on when I started to realize the importance of the environment a humorous turn took place. Living with my not to pro-ecological girlfriend, it was my turn.

Writing this Master thesis had two purposes for me. The first was to graduate at the Erasmus University. The second was to find ways to increase the effectiveness of green marketing and to find ways how we can stimulate more people to behave environmentally friendly. This road took me longer that I thought and hoped for. Now finished, I look back with a smile ready for a new adventure with my acquired discipline.

I would like to thank the people around me, especially my girlfriend, for their support and patience. It would have probably cost me more time and effort without them. I also want to thank my supervisor dhr. Bas Donkers for his advice, patience and record winning response time.

Enjoy reading.

Tim van Veelen

Rotterdam, October 2013

# Executive summary

The rise of green marketing has been accompanied by an extensive amount of research. Studies imply that raising the environmental concern would increase environmentally friendly behaviour. Due to an advertisement overload, consumers have a selective attention to advertising and only a small portion of those ads can be recalled. Therefore, creative aspects are crucial for the success of ads. Advertising marketers use appeals to evoke consumer response. These appeals can come in different forms and emotions. Ad-induced appeals have a direct impact on attitude formation. Different appeals are widely examined in general advertisement. However, there is still is a gap of knowledge between consumer response and (emotional) appeals in green advertisement. This research test which types of appeals would be most effective on attitudinal change and purchase intention. Furthermore, if a higher environmental concern would increase pro-ecological behaviour, it would be interesting to see how marketers can be more effective towards non-green consumers to raise their environmental concern and to eventually stimulate pro-ecological behaviour. Theories claim non-green consumers would experience a higher attitudinal change when confronted with green advertising than green consumers. Therefore, it is hypothesized that appeals used in green advertising would evoke a higher attitudinal change for non-green consumers than green consumers.

To measure effectiveness of (emotional) appeals, the “Affect Transfer of Advertising Appeals” model is used. This model examines the direct one-way relationships between the ad cognitions (appeals) and the attitude toward the ad and product or organization. Consequently, it examines the indirect one-way causation between the attitude toward the product and the purchase intentions of the participant. To collect the information a quantitative study is performed using a survey. The data is tested using different SPSS (20.0) methods.

This study accumulates a sample of 146 green and non-green consumers. Seventy-five per cent of the sample came from the Netherlands. The statistical methods run two times; once for the total sample and once for only Dutch participants. Both results show several similar and dissimilar results. Only representative results for the Netherlands are used for implications.

This research finds several relationships between appeals and attitude toward the ad (Aad), attitude toward the product or organization (Ap) and indirectly, the purchase intention (Pi). Positive relationships with Aad are “Happiness”, “Cute” “Humor”, “Guilt” and “Sex appeal”. Positive relationships with Ap are “Humor”, “Cute”, “Imaginative” and “Sex appeal”. The appeal “Fear/scary” is negatively related with Aad. The previous appeals are listed from strongest to weakest.

The relationships between Aad -> Ap and Ap -> Pi have been confirmed for all ads except for ad 1 (Smart Car). This suggests marketers to choose their appeals used in advertisement carefully. Before implementing any of the mentioned appeals, marketers should first look at the goal and context of the advertisement. Mediation effects Ap -> Aad -> Pi are only (partially) found in three ads.

This study finds a slightly higher attitudinal change and purchase intention for green consumers than for non-green consumers, caused by appeals used in green ads. However, a different approach should uncover more in-depth information between these groups.

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# PART ONE Research Focus and Method INTRODUCTION

## 1.1 Problem statement

For decades several organisations had put their best efforts to make people aware of our environmental problems. The goal was to indirectly create an attitudinal change towards environmental care. Around 1980 businesses acknowledged this issue and took responsibility based on their own motives. This started by means of green production, green design and green management (Chen, 2011). The amount of green products is growing in today’s markets. More and more people feel the need to buy responsible products even though they cost more (Haytko and Matulich, 2008). However, the total sale is still far behind compared to non-green products. Research towards green ads and the consumer’s response to green ads were most extensively studied during 1993-2000 with the number dropping after 2000 (Chamorro, Rubio, and Miranda, 2009). Today’s science lacks knowledge about different advertisement appeals used in green print advertisment. C. Ruanguttamanun investigated this matter in further depth, in 2012. However, his research focussed only on the greenest consumers and his methods are questionable. Scientific research shows the same should be investigated with consumers that are less green-minded to find ways, within this matter, to stimulate environmental concern and green purchase behaviour. This will be the focus of this thesis.

## 1.2 Evolution of Green Marketing

Businesses started using green marketing to promote their green products. ‘Green marketing’ has been defined in many ways. Essentially it is marketing, which involves products that are considered to carry environmental responsibility. When a product is environmental responsible, it means that the product is environmental friendly, or the activity related to the creation of the product is done in an environmental responsible way. Mid-1990’s marketers started to experience recoil in the sale of green products. The main reason the green movement failed was due to the ‘green backlash’. This term refers to the negative responds to products based on scepticism of ad claims (Turner & Stoneman, 1996, Davis 1993; Moore 1993; Ottman 1998). Several marketers had unfairly been using green marketing to manipulate consumers and thereby boost their sales. The claims they made were untrue or unrelated to the product (Coddington 1993). These companies did not embrace the green philosophy to the core (Peattie and Crane, 2005). Consequently, environmental concern did not translate into purchasing behaviour (Lee 2008; Rahbar & Wahid, 2011; Shrum, Mccarty & Lowrey, 1995). “Green consumers appeared to be thoughtful and should be treated carefully and respectfully” (Shrum et al, 1995). Gray-lee, Scammon & Mayer (1994) examined the regulatory actions undertaken in the area of green advertising. They found a variety of guidelines (initially created by the Federal Trade Commission) used in different states of the US causing a lack of uniform regulation on this matter. The Federal Trade Commission revised the guidelines to help marketers ensure that the environmental claims regarding their products were truthful and non-deceptive. Late 2000 a new rise of green marketing began. Advanced technology made it possible to create greener products and a decreased carbon footprint (Lee 2008; Rahbar & Wahid, 2011). In 2007, Rex & Baumann implied that companies should avoid emphasizing heavily on environmental concerns but should meet consumer’s need beyond what is good for the environment. Environmental responsibility became a standard for company’s to meet and maintain their competitive positions.

## 1.3 Outline of the thesis

Figure 1.1: Overview of the thesis

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# LITERATURE REVIEW

## 2.1 Green advertising research

The rise of green marketing has been accompanied by an extensive amount of research. Studies imply that raising the environmental concern would increase environmental friendly behaviour (Straughan and Roberts, 1999). Dunlap and Jones (2002) defined environmental concern as “the degree to which people are aware of problems regarding the environment and support efforts to solve them and or indicate the willingness to contribute personally to their solution”. Consumers with a high level of environmental concern are more likely to purchase and use environmentally friendly products than those with a low level environmental concern (Kim & Choi, 2005; Balderjahn, 1988). Attitude was observed to be the strongest predictor of purchasing decisions (N. Yamini, 2003). Haytko and Matulich (2008) conducted a survey related to environmental responsibility and attitude towards green advertisement. Results showed that consumers that are environmentally responsible had more positive attitudes towards green advertising than those who were environmentally apathetic. The results imply that green advertising may be best at reaching those who are already practicing green behaviours. Tucker et al. (2013) main findings suggest that consumers who care about the environment will be receptive to green themed ads. Rationally thought, green consumers are purchasing green products to support environmental care and any other green initiative would support their beliefs and therefore they would have more positive attitude towards a green ad than consumers without such beliefs. In a sense, regarding attitudinal change, it could be suggested that advertisement towards green consumers who already buy green products would be less effective than non-green consumers. This thought is supported by the work of Schuhwerk and Lefkoff-Hagius (1995). Their research results confirms that a green appeal used in an ad was significantly more persuasive for consumers who are less involved with the environment, than a non-green appeal. Highly involved consumer’s experienced no significant differences in purchase intent and attitude toward the advertisement. They suggest highly involved consumers may be predisposed to purchase green products and are not affected by the type of appeal used. Petty and Cacioppo (1986) provided supportive evidence for the view that different features of an advertisement may be more or less effective, depending on a person’s involvement with it. For example: for low-involved consumers the peripheral cues are more important than issue-relevant arguments and for the high-involved consumers it is the other way around. They and Celsi and Olson (1988) further claim that consumers with higher levels of involvement with the advertised product or issue are more likely to exert greater cognitive effort (central route) and process the claims in the message, and will be resistant to attitude change. Therefore, it could be suggested that non-green consumers will experience a higher attitudinal change when an appeal (peripheral cue) is used in green advertisement, than green consumers, as green consumers will be more focussed on the claims used in green advertisement. Furthermore, following on Kim & Choi (2005) and Yamini’s (2003) results (previously stated), raising the environmental concern among non-green consumers would increase the number of consumers with the likeliness to buy environmentally friendly products. Therefore it would be beneficial to discover how green advertisement would be most effective towards the non-green consumer.

## 2.2 The green and non-green consumer of today

Previous studies distinguish clearly separated groups, referring to ‘green consumers’ and ‘non-green consumers’ or ‘green reluctant consumers’. However this clear distinction is fading as the environmental concern is spreading among our population. Eriksson (2002) defined this change as the “green consumerism”. Earlier In 2011, the widely accepted Natural Marketing Institute (NMI) distributed different levels of green consumers. They proposed five shades of consumers regarding environmental responsibility shown in table 2.1. The definition of each shade is included in appendix 1. Bellomy Research Inc. surveyed a nationwide sample of consumers between the ages of 15 to 54 in the U.S. year 2010. It focussed on the likeliness of seeking for environmentally friendly clothes. The survey identified a spectrum of green consumers based on their attitudes towards environmentally friendly apparel.

Both studies show that the largest part (+- 80%) our current population are somewhat to active green participants who show their concern through looking for green products and buying them. The rest is lightly concerned to not concerned about the environment. They are not willing to put in the effort or higher costs in order to buy green products. These insights should be used in modern research in order to form usable implications. Because the Bellomy Research study focussed their questions on buying apparel, this research uses the data provided by the NMI.

Table 2.1. Consumer segments defined by Natural Marketing Institute

|  |  |
| --- | --- |
| **NMI defined Consumer segments** | **% of U.S. population** |
| Lifestyle of Health and Sustainability | 18% |
| Neutralities | 12% |
| Drifters | 26% |
| Conventionals | 27% |
| Unconcerned | 17% |

## 

## 2.3 Green print advertisement

The use of green printed advertisement grew extensively (430%) between 1989 and 1990 (Ottman, 1993). It still is a proven media choice to reach a wide range and high amount of consumers. The consumers control the time and pace of exposure of the advertisement (Metha & Purvis, 1995). The downside of print advertisement is that it is hard to create interaction with the consumer because it purely communicates a message or feeling. Still it generates more favourable attitudes and stronger purchase intentions than broadcast advertisement (Chan, 2004). This could be explained by the findings of Shrum et al. (1995), where consumers are more receptive for print than TV advertising. In todays marketing, print advertisement is combined with several other media types.

C. A. Rademaker (2013) conducted a research towards media choice regarding green advertisement. She demonstrated that the use of an advertising medium affect eco-brand image. The overall marketing manager reported that he does not consider environmental aspects when selecting advertising media due to financial pressure since the crisis of 2007. None of the respondents (marketers) mentioned any environmental policies as a guide for their marketing communication strategy.

Even though print is not a pro-ecological way of advertising, previous discussion implies that print advertisement still is a strong and popular medium to promote green products or green organizational claims for the broad audience. Increasing the effectiveness of green print advertisement could enhance the purchase of green products or increase environmental concern and thereby be more pro-ecological in the long run. Therefore, information obtained from print advertising research would not only be useful for marketers but could indirectly be good for the environment as well.

## 

## 2.4 Advertising appeals

As in traditional advertising, appeals are specific approaches to communicate information related to the advertised product or service (C. Ruanguttamanun, 2012). These appeals may positively or negatively affect the effectiveness of the communication. They are generally used in illustrations in various forms depending on the types of products or services, cultures (Zhang & Gelb, 1996). Most of the previous studies focused on the effectiveness of various green appeals primarily based on the environmental benefits, such as recyclable packaging, biodegradable materials or green conserving (C. Chang, 2011; J. Pickett-Baker & R. Ozaki, 2008). “The green advertising appeals that provide detailed, relevant, understandable, and supported information on environmental benefits is confirmed to enhance the communication effectiveness of green ads”, Chan et al. (2006). Advertising marketers also use emotions as an appeal to evoke consumer response. Although emotions are widely examined in general advertisement, there is still is a gap of knowledge between consumer response and emotional appeals in green advertisement. It could be that particular emotions can evoke a more positive of negative response used in a green context.

### 2.4.1 Emotion appeals

Emotions can determine the appeal used in an ad. These emotion appeals can evoke behavioural reactions, expressive reactions, physiological reactions and subjective feelings (Desmet, 2002). Ad-induced emotions have a direct impact on attitude formation (Batra and Ray 1986; Edell and Burke 1987; Holbrook and Batra 1987). It can influence brand decision-making even when a rational element in advertisement has no outcome (Heath, 2007).

Emotions such as anger, panic, empathy and humor have a stimulating effect on attitude creation (Larsen and Diener, 1987; Weinberger and Gulas, 1992). Using sex appeal maintaining relevance to the product attracts attention and asserts sex-related outcomes as a result (Reichert, 2010). The degree of thoughts generated by the ad, depends on the power of the emotion experienced by the message receiver. The use of positive and negative emotion appeals may also have different effects. Moore and William (1996) imply negative emotion appeals have a significant negative impact of attitudes towards the ad, whereas positive emotional appeals stimulate a positive attitude toward the ad. Their study results showed no significant attitude changes when using non-emotional ads.

There is a database of literature that contains information about emotion appeals. Table 2.2 represents a summary of these appeals. Most of them are used in this research.

Table 2.2: Advertising appeals with literature support

|  |  |
| --- | --- |
| **Emotion Appeals** | **Authors** |
| Cute | Markus, 2002; Meveigh, 2000; Sherman et al., 2009 |
| Depressed | Edell & Burke, 1987; Havlena & Holbrook, 1986 |
| Fear | Batra & Ray, 1986; Hastings et al., 2004; Havlena & Holbroek, 1986; Henthorne et al., 1993; Banerjee et al., 1995; Ruiter et al., 2001; Pervan & Vocino, 2008 |
| Guilt | Batra & Ray, 1986; Banerjee et al., 1995; Lindsay-Hartz, 1984; Weiner & Craighead, 2010 |
| Humor | Banerjee et al., 1995; Hatzithomas et al., 2011; Sternthal & Craig, 1973; Tremblay, 2003 |
| Sad | Batra & Ray, 1986; Edell & Burke, 1987; Havlena & Holbrook, 1986; Moore & Harris, 1996 |
| Safe | Hartmann et al., 2005 |
| Sex appeal | Liu et al., 2009 |
| Shame | Batra & Ray, 1986 |
| Shocking | Dahl et al., 2003; Mechanda et al., 2002; West and Sargeant, 2004; Batra & Ray, 1986; Havlena & Holbrook, 1986 |
| Romantic Love | Stern, 1991; Richmond & Hartmann, 1982; Biswas, Olsen & Carlet, 1992 |

## 2.5 Current research towards appeals in green print advertisement

Researcher C. Ruanguttamanum conducted a study[[1]](#footnote-1) towards green appeals in print advertisement, in year 2012. His attempt was to answer the major questions to determine which appeals are rated most strongly in green print advertisement among green consumers (the ‘greenest’ consumer according to the Natural Marketing Institute) as well as the relationships between appeals and attitude towards the ad and attitude towards the product and purchase intentions among this group. Positive appeals were hypothesized positively and negative appeals were hypothesized negatively. C. Ruanguttamanum examined the following appeals: colourful, corporate image, cute, depressed, entertaining, eye-catching graphics, guilt/shame, humor, imaginative, informative, natural, fear/scary, sad, shocking and unrealistic optimism. These were used in 8 print ads, which were evaluated in advance by thirty highly educated participants. According to his results, the ‘sad’ appeal had the strongest impact on attitudinal change and ‘unrealistic optimism the weakest (211 responses). A combination between cute and eye catching graphics was seemed to be the best combination for green print advertising. He concluded that using the right appeal for green consumers could create a domino effect. It would influence buyers to move from only having a positive attitude toward the ad and product to an intention to purchase the product or to support an organization. However, these results are not based on solid findings. A flaw in this research was the use of multiple appealed ads of the same brand of product, which could influence the perception of the viewer about the concerned brand or product after seeing the first ad. Furthermore, without correcting an appeal-based ad with a neutral ad (no clear identified appeals) of the same product or organization, the results may only indicate whether the attitude toward the ad is overall rated positively or negatively among the green consumers.

Even though the method was not bullet proof, it still gives useful information about the attitude per ad (and appeal). The responses show a positive attitude towards the appeal ‘sad’, but a negative towards the combination of ‘humor’ and ‘unrealistic optimism’. Cute seems to create an overall positive attitude change. The ads containing these appeals were used in this research to examine the responses in a better-founded design.

# THE RESEARCH QUESTIONS

## 3.1 The purpose of the thesis

Today’s science lacks knowledge about different advertisement appeals used in green print advertisment. The previous research attempt showed some insight of attitudinal reflections toward different appeals used green print advertisement. Current literature implies it would be effective to focus green advertisement on non-green consumers (Celsi and Olson, 1988; Petty, Cacioppo, and Schumann, 1983; Schuhwerk and Lefkoff-Hagius, 1995). This thesis looks (1) into the attitudinal effects of different appeals used in green ads and (2) if these appeals reflect differently on green and non-green consumers. It should further fill the gap of knowledge of appeals in green print advertisement and give useful implications for marketers to create more effective green print advertisement. The ultimate purpose is to create a higher environmental concern among the population and increase purchase of green products.

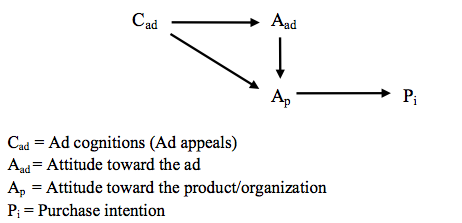
## 

## 3.2 Research Model and Hypotheses

‘Attitude towards the ad’ (Aad) is defined as “a predisposition to respond in a favourable or unfavourable manner to a particular advertising stimulus during a particular exposure occasion” (Lutz, 1985).  After M. Olsen and Shimp (1981) introduced the ‘Attitude toward the ad’ construct, research on the causal relationship between Aad and other factors regarding advertising effectiveness became a mainstream study (Brown & Stayman, 1992). Different studies showed that Aad usually acts as a moderator to influence brand, product or organizational image attitude and subsequently intention to purchase (Pi). Moore and William (1996) imply negative emotion appeals have a significant negative impact of attitudes towards the ad, whereas positive emotional appeals stimulate a positive attitude toward the ad. There are several models that explain this process. The model that is used in the previous study explains both direct one-way causation and indirect one-way causation. C. Ruanguttamanum (2012) converted the original model “The Affect Transfer Hypothesis” constructed by Shimp (1981), to a more applicable model for the research towards advertisement appeals and named it “The Affect Transfer of Advertising Appeals”.

The model (figure 3.1) examines the direct, one-way relationship from cognitions about the advertising appeals (Cad) to attitude toward the ad (Aad) and attitude towards the product or service (Ap), and from Ap to purchase intentions (Pi), and the indirect one-way causation from Aad to Ap.

Figure 3.1: The Affect Transfer of Advertising Appeals Model



Chapter 2.1 suggest that appeals used in green advertisement create a higher attitudinal change at non-green consumers than it does to green consumers. Theory implies (emotional) appeals have a stimulating effect on attitude creation. It also implies that a higher environmental concern would stimulate pro-ecological behaviour. To investigate whether different appeals evoke a higher attitudinal change and a higher purchase intention for non-green consumers than it does for green consumers the following hypothesis (H) is created:

***H1: “Appeals in green print advertisement evoke a higher attitudinal change (Aad, Ap) and a higher purchase intention for non-green consumers than it does to green consumers.”***

The effect of different visual components on Aad and Ap has been proven in a previous study conducted by Mitchell (1986). In order to study the influence of different appeals the following hypothesis is formed:

***H2: “There is a relationship between the attitude toward the ad and an appeal (Cute, Humor, Sex-appeal, Guilt, Unrealistic optimism, Happiness, Joyful, Unbelievable, Fear(scary), Fear(afraid), Sad and imaginative) used in a green ad.***

***H3: “There is a relationship between the attitude toward the product or organization and an appeal (Cute, Humor, Sex-appeal, Guilt, Unrealistic optimism, Happiness, Joyful, Unbelievable, Fear(scary), Fear(afraid), Sad and imaginative) used in a green ad.***

Emotional appeals may have a positive or negative influence on attitude toward the ad, depending on the nature of the appeal. Moore and William (1996) discovered this relationship in general ads. It should be tested if these results also apply for green ads. The following hypothesis is created:

***H4: “Negative emotional appeals used in green ads have a negative relationship with attitude toward the ad and positive emotional appeals used in green ads have a positive relationship with attitude toward the ad.”***

Several studies indicated a positive relationship between the attitude toward an ad and the attitude towards the brand (Gardner, 1985; Park and Young, 1985). This relation is known as the affect transfer hypothesis (MacKenzie et al., 1986). Attitude toward the brand was defined similarly to liking the product in previous advertising research to determine the effects of advertising on overall attitude toward the product or brand (Jamrozy, 1996; Nyaseda, 2010). Therefore the following hypothesis is composed:

***H5: “Attitude toward the green ad will be positively related to attitude toward the product or organization.”***

Metha and Purvis (1995) discovered a positive relationship between feelings toward advertising and buying interest. Aad is suggested to be a mediating variable that influences brand attitudes and consequently purchase intentions (MacKenzie et al. 1986). Therefore the following hypothesis is set up:

***H6: “The attitude toward the product or organization will be positively related to purchase intentions and is mediated by the attitude towards the ad.”***

# RESEARCH DESIGN AND METHODOLOGY

## 4.1 Research approach

The goal is to find empirical evidence to determine which appeals are most effective in green print advertisement. This study is building on previous scientific theories proven to be valid and useful for attitudinal experiments. Clear hypotheses are constructed using deductive reasoning. In order to produce representative implications, a quantitative approach was chosen, using a survey. The survey contains several product oriented and organizational oriented ads, with questions to be answered for each ad, to measure possible attitude changes and purchase intention. In order to measure attitude changes influenced by appeals a standard response was measured. For each ad used for the research, an ad without a clear or specific appeal is found or created. These neutral ads contain the same message, and brand or product the appeal ad is representing. Further on in this research these ads will be defined as a ‘neutral ad’. The neutral ads are presented before the ads containing appeals (appeal ads) to measure possible attitudinal changes.

## 4.2 The subjects

Analysing the distribution of NMI, 30% of the population is behaving environmentally responsible, 26% is environmental concerned but quite new to the behavioural context. The rest (44%) is somewhat environmental conscious, but primarily cost saving driven, to environmental unconcerned. According to the data 56% (26% + 30%) of the population is behaving pro-ecological and will therefore be defined as the green consumer.

NMI research (2011) indicated 83% of the total (U.S) population is at least somewhat green and it shows a decline in environmental unconcerned consumers. It was not expected to be much less in Europe. Focussing on the bottom shade (‘Unconcerned’, 17% of total population) for this research was expected to be very difficult and time-consuming. Moreover, the percentage of shade is continuously decreasing. Therefore, more knowledge about this group of environmental unconcerned consumers is less relevant in this research. Still, It would be valuable to know what appeals would work best for the bottom 44% of the population, as they are more sensitive for attitudinal changes towards the environment. In this research this part of the population will be defined as the non-green consumer.

The subjects for this research are green consumers and non-green consumer

### 4.2.1 Demographic variables

In order to find other possible differences in demographic characteristics, each participant was asked to provide information about their age, gender, ethnicity and education.

## 4.3 The experiment

### 4.3.1 Experimental Stimulus

There are a wide variety of ways to advertise. Print advertisement is chosen for this study for several reasons. As previously stated, Shrum et al. (1995) suggested that green consumers are more receptive to print than TV advertising. Additionally, print environmental advertising claims generate more favourable attitudes towards products, services and stronger purchase intentions than broadcast advertisement (Chan, 2004). Even though a non pro-ecological medium could influence green communications negatively, previous discussion in chapter 1 still implies research in green print advertisement is useful for marketers. Finally, it could contribute to the use of illustrative advertisement on the Internet.

Previous research by C. Ruanguttamanum (2012) already did a pre-study with 40 international green ads found on the Internet. These ads ranged from published year 2007 to 2012, were product and organizational oriented and belonged to large and cross-country known companies. Thirty highly educated participants with different backgrounds ascertained the appeals found among these ads. Ads that did not provide specific and strong appeals or deliver clear messages were eliminated. However some of the remaining ads were from a similar organization and as we previously discussed are the not useful for the research. These ads are replaced with ads from different organizations and products. Furthermore, for each ad a neutral ad is found or created. Eight middle- to high-educated participants successfully tested these ads for the absence of a strong appeal. For two ads the neutral ads contain an appeal on purpose because there are not enough suitable ads available (or hard to find) to create a balanced distribution of positive appeals and negative appeals to study. This was needed to test whether the mood of an appeal (positive or negative) would influence the attitude differently. For ad 2 a neutral ad is created containing the “Cute” appeal and for ad 3 a neutral ad is created containing the “Unbelievable” appeal. This way the appeal will be identified in both ads. The pre-test confirmed the existence of these appeals in the ads.

The following table (table 4.1) contains the selected ads, which will be elaborated in appendix 3. The table describes for each ad the two strongest identified appeals and the mood of the identified appeals (positive/negative).

Table 4.1: Selected ads with the identified appeals used for the experiment.

|  |  |  |
| --- | --- | --- |
| **Ad** | **Appeals** | **Mood** |
| Ben & Jerry | * Cute * Imaginative | Positive |
| World Nature Funding | * Sad * Cute | Negative |
| Toyota Prius | * Humor * Unrealistic Optimism | Positive |
| Diesel Clothes | * Sex appeal * Unbelievable | Positive |
| Smart | * Scary * Shocking | Negative |
| Green Peace | * Joy * Happy | Positive |
| Bund | * Guilt * Anger | Negative |

4.3.2 The Measurements

Several researchers (Gadenne, 2011; Wulf and Schroder, 2003) recommend that it would be best to direct an attitude measurement at the specific environmental issue in order to predict the specific behaviour. This was recommended because previous research (conducted by Tracy and Oskamp, 1983-1984) showed inconsistencies between different environmental aspects regarding attitude and behaviour. The characteristics provided by NMI show that the non-green consumer is not willing to buy pro-ecological products if these costs more than products that don't contain eco-benefits, in contrast to the green consumer. Therefore the green purchase behaviour scale is adopted from Lee (2008) in order to distribute the participants. The participants should fill in four questions on a 4-Likert scale (1. strongly disagree to 4. strongly agree). The mean score of all four answers will be calculated for the distribution of the participant. The bottom 50% scores represented the self-concerned consumers and the top 50% scores the green consumers (based on the previously discussed green population distribution of NMI).

According to the ‘Affect Tansfer of Advertisment Appeals model’, four variables should to be measured. At first, the participant must determine how strongly they identify the advertising appeals (Cap) and their likeability toward the ads (Aad). Consequently, the participants must determine their attitude toward the product (Ap) or organization (dependent on the ad) and their likelihood to purchase the product (Pi) or contribute to the organization. These variables are elaborated in the following paragraphs.

##### **Advertising appeals (Cap)**

The level in which the participant identifies the appeal in the concerned ad is collected trough a 4-point Likert scale measurement ranging from 1 (not at all) to 4 (entirely). The scale did not contain a neutral point because it is impossible to be neutral when it is requested to judge the presence or absence of an appeal.

##### **Measuring the variables (Aad, Ap, Pi)**

The semantic differential scales, constructed by Homer (1990), are used to measure the attitude towards the ad, attitude towards the product and the purchase intentions. The pairs of items used are:

|  |  |  |
| --- | --- | --- |
| **Attitude towards the ad** | **Attitude toward the product** | **Purchase intentions** |
| Positive / Negative  Favourable / Not favourable  Interesting / Not interesting | Like / Dislike  Favourable / Not favourable  Good / Bad | Likely / Unlikely  Probably / Probably not |

All the pairs contained a 4-point scale. The final Aad, Ap and Pi of the participant were calculated using the mean score of all the three pairs.

### 4.3.3 The Survey

At the start of the survey a small introduction is written to inform the participant about the project and survey. Consequently, information about the participant is gathered using questions regarding demographic and psychographic characteristics and four questions to rate their level of green behaviour.

Before showing the first ad the participant is informed about what was expected from them to do. Below the ad, the questions referring to the concerning ad is presented. When the participant filled in all of the questions they need to press the ‘next’ button to see the next ad. This process continued until all ads are questioned (in one time period). The product oriented ads and organizational image ads are presented alternately and the order is controlled. When all questions are answered the participant will kindly be thanked for participating.

Seven appeal ads and seven neutral ads will be examined. In order to keep the survey finish rate as high as possible the survey is split into two surveys. Both surveys has the same structure but different ads. Survey one contains the ads: ‘Smart Car’, ‘WWF’ and ‘Diesel’ and survey two: ‘Toyota Prius’, ‘Bund’, ‘Ben & Jerry’s and ‘Greenpeace’.

The survey is split in to two parts. First the participants must fill in questions about the neutral ads and thereafter the ‘appealed’ ads. The participants must determine how strongly they identify the advertising appeals (Cad) and their likeability toward the ads. Subsequently, the participants must determine their attitude toward the product or organization (depending on the ad) and their likelihood to purchase the product or contribute to the concerning organization. Some of the ads contain products of low involvement. The level of involvement influences the engagement in an elaborated cognitive process (Petty, Cacioppo & Schumann, 1994) and how extensively an ad will be analysed. Therefore the survey questions regarding their purchase behaviour in these ads are slightly modified using theory of Grossman & Till (1998).

The ads are presented on an A4 paper (8” x 10”) with full colour and virtually large on screen, also with the original colours. The tool that is used for the online survey is Qualtrics[[2]](#footnote-2). The instrument is included in Appendix 2.

4.3 Data gathering

Participants are asked to take part in the study individually face to face and virtually using an online survey tool. The face-to-face requests take place on universities and entertainment spots. The online social media (Facebook) functions as a platform to spread the survey publically. International Facebook connections are asked to spread the survey request in order to obtain a variety of participants. During the survey there was a lack of green consumers. Therefore the survey was posted on several blogs with pro-ecological topics.

## 4.5 Analysis methods

The items of each variable (Aad, Ap and Pi) will be summed up for both neutral ads as for appeal ads. Consequently, the neutral ad scores will be subtracted from the appeal ad scores in order to remove the base line of response (without appeals). All the mean scores for each variable will be compared for the fourteen appeals present in the seven ads. To examine relations between advertisement appeals and the variables (Aad, Ap and Pi) the statistical methods Linear regression and Pearson’s correlation will be used. These relations will be tested at a 0.05 statistical level of significance. Independent-samples t-test will be used to analyse possible differences in attitudinal changes between green and non-green consumers. An overview of statistical methods that are used to test the hypotheses and the order of used variables is given using the following table (table 4.2). The software that is used for the statistical analyses is SPSS 20.0. Statistical data is included in Appendix 4.

Table 4.2: Statistical method(s) per hypothesis.

|  |  |  |
| --- | --- | --- |
| **Hypothesis** | **Statistical method** | **Variables** |
| ***1.*** | Independent-samples t-test | Dependent: Aad, Ap, Pi  Independent: Greentype |
| 2, 4 | Linear Regression, Pearson’s correlation | Dependent: Aad  Independent: Appeal 1, appeal 2 |
| 3, 4 | Linear Regression, Pearson’s correlation | Dependent: Ap  Independent: Appeal 1, appeal 2 |
| 5. | Linear Regression, Pearson’s correlation | Dependent: Ap  Independent: Aad |
| 6. | Linear Regression, Pearson’s correlation | Dependent: Pi  Independent: Ap (and Aad) |

# PART TWO The results

## 5.1 The participants

The following data represents an overview of the participant’s demographics.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Total participants:** 146 | | | **Gender:** | Male: | 83 |
| Female: | 63 |
| **Age distribution:** | | | **Country:** | | |
| Under 21: | 10 | | Lithuania: Netherlands: Romania:  Slovakia:  Slovenia:  United Kingdom: United States:  Bulgaria:  China:  France:  Germany:  Greece:  Hungary:  Australia: | | 3  112  1  2  1  1  5  11  3  2  2  2  1  2 |
| 21 – 25: | 56 | |
| 26-30 | 36 | |
| 31-40: | 20 | |
| 41-57: | 22 | |
| Above 58: | 2 | |
|  | | |
| **Green participants:** 68 (33 male) | | |
| **Non-green participants:** 78 (50 male) | | |
| **Education:** | | |
| High school Graduate: | | 27 |
| Intermediate vocational education: | | 10 |
| Bachelor’s: | | 55 |
| Master’s: | | 48 |

The largest part consists of the age between 21 and 30 (64%). Due to the lack of (completed) responses and given time period a more balanced distribution is not possible. The female group has a better green distribution balance than male participants.

## 5.2 Hypotheses testing

Before running any SPSS methods outliers are removed and a reliability test is performed on every ad. The results of the reliability test are included in appendix 4. All ads have a Cronbach score of > 0,65 and thus are approved to use in this research.

The first hypothesis suggests appeals used in green advertisement would have a higher attitudinal effect and create a higher purchase intention at non-green consumers than it does on green consumers. The Levene’s test (included with the independent-samples t-test) shows there is no difference in variance between the two groups. This means there is enough similarity to test them on mean differences. The Independent-samples t-test shows only one difference between the two groups, found in ad 3 (Diesel Clothes). It shows non-green consumers has a slightly more positive attitude toward the ad than green consumers. The appeals used in this ad are ‘Sex Appeal’ and ‘Unbelievable’. All scores are summed up for both groups in order to give an overall measure of attitudinal change and purchase intentions. The green consumers experience a slightly higher attitudinal change as well as purchase intention (9,69 and 2,16) than non-green consumers (8,76 and 1,34), which is contradicting with the hypothesis. Therefore, hypothesis 1 is rejected. Results are included in appendix 4.

The same tests are also performed with Dutch participants only because they represent 75% of all participants. Similar results occur: green consumers experience a slightly higher attitudinal change as well as purchase intention than non-green consumers the attitudinal change. Based on significance, there was no difference found between the two groups regarding attitudinal change. Furthermore, Dutch Green consumers have a significant higher purchase intention in ad 6 (Ben & Jerry’s) than non-green consumers.

Another (similar) test is performed to see whether there are differences in appeal recognition in the ads between males and females. There is one significant difference present for ad 3. Male participants have a higher mean score on recognizing the ‘Sex-appeal’ appeal, which is not surprising because the sex appeal is communicated using a female model.

The second hypothesis implies a relationship between appeals used in green ads and the attitude toward the ad (Aad). The third implied the same but is focussed on the attitude toward the product or organization (Ap). First a Peason’s Correlation is performed to find correlations between the appeals used in an ad and the attitude towards it. This method is followed with a linear regression to find direct relations. The statistical results show some positive and negative relations. The results are summarized in the table 5.1. The numbers represent the amount of influence on the constant, which is different within every ad. The ‘-‘ indicates no significant relation. Additionally, the linear regression is also used to test Dutch participant only. These results are added in the same table between brackets.

Table 5.1: Statistical results of the relationships between appeal and attitude towards the ad and attitude toward the product or organization. Results between brackets represent only Dutch participants.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Ad** | **Appeal (Cad)** | **Correlations (1-tailed)** | | **Linear regressions (B)** | |
| **Aad** | **Ap** | **Aad** | **Ap** |
| 1. | Fear/Scary | -,338 | -,324 | -1,371 (-1,442) | - |
| Shocking | - | -,272 | - | - |
| 2. | Sad | - | - | - | - |
| Cute | ,443 | ,274 | 1,151 *(1,205)* | ,491 *(,476)* |
| 3. | Sex Appeal | ,381 | ,262 | ,781 *(,869)* | ,416 *(,421)* |
| Unbelievable | -,236 | - | - | - |
| 4. | Humor | ,442 | ,371 | 1,087 *(1,377)* | ,680 *(,860)* |
| Unrealistic Opt. | - | - | - | - |
| 5. | Fear/afraid | - | - | - | - |
| Guilt | - | - | - *(,988)* | - |
| 6. | Cute | ,417 | ,318 | ,516 *(,623)* | - |
| Imaginative | ,433 | ,392 | ,548 *(0)* | ,399 *(,471)* |
| 7. | Joyful | ,304 | ,284 | - | - |
| Happiness | ,347 | ,280 | - *(1,536)* | - |

Correlations from 0,20 to 0,30 indicates a weak relationship, from 0,30 to 0,39 a moderate and from 0,40 to 0,69 a strong relationship. Anything above 0,69 indicates a very strong relationship. Positive numbers indicates a positive relationship and negative numbers indicates negative relationships. The data shows an overall moderate to strong correlation from Cad to Aad and Ap.

To test the hypothesis the linear regression results are used because more accurate than correlations. The outcomes of the linear regression represent direct relationships between variables. For every significant relationship the hypothesis is accepted. Table 5.2 represents the accepted relationships.

Table 5.2: Accepted relationships Cad tot Aad and Cad to Ap.

|  |  |
| --- | --- |
| **Attitude toward the ad (Cad -> Aad)** | **Attitude toward the product/organization (Cad -> Ap)** |
| Fear/Scary | Cute |
| Cute | Sex Appeal |
| Sex Appeal | Humor |
| Humor | Imaginative |
| Imaginative |  |

The previous relations also account for Dutch participants, except for Guilt (ad 5), Imaginative (ad 6) and Happiness (ad 7). There was no significant effect found between “Imaginative” and Aad. Happiness and Guilt has a positive effect on Aad.

The fourth hypothesis tests whether the nature of the emotional appeal (negative/positive) used in green ads has influence on attitude toward the ad in the same nature. The following table (5.3) show the positive and negative effects caused by the appeals on the attitude.

Table 5.4: Positive and negative (significant and not significant) effects on attitudinal change caused by positive and negative appeals.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Ad & Appeal | Nature | Effect on Aad | Effects on Ap | Hypothesis test |
| 1. Fear (scary) | Negative | -1,371 (sig.) | -0,623 | Consistent |
| 1. Shocking | Negative | 0,489 | -0,134 | Inconsistent |
| 2. Sad | Negative | 0,403 | 0,306 | Inconsistent |
| 2. Cute | Positive | 1,151 (sig.) | 0,491 (sig.) | Consistent |
| 3. Sex appeal | Positive | 0,781 (sig.) | 0,416 (sig.) | Consistent |
| 3. Unbelievable | Neutral | -0,429 | 0,082 |  |
| 4. Humor | Positive | 1,087 (sig.) | 0,680 (sig.) | Consistent |
| 4. Unrealistic Optimism | Neutral | 0,317 | 0,178 |  |
| 5. Fear (afraid) | Negative | -0,085 | 0,284 | Inconsistent |
| 5. Guilt | Negative | 0,276 | -0,100 | Inconsistent |
| 6. Cute | Positive | 0,516 (sig.) | 0,255 | Consistent |
| 6. Imaginative | Neutral | 0,548 (sig.) | 0,399 (sig.) |  |
| 7. Joyful | Positive | 0,228 | 0,217 | Consistent |
| 7. Happiness | Positive | 0,824 | 0,190 | Consistent |

The results show several relations, which are consistent with the hypothesis testing. However, several negative appeals show a contradicting effect than what was hypothesized. Therefore hypothesis four is only accepted for positive appeals.

The fifth hypothesis suggests a relationship between the attitude toward the ad (Aad) and the attitude toward the product or organization (Ap). The sixth hypothesis suggests the relationship between the attitude toward the product or organization and purchase intentions (Pi) and a mediation of Aad between these variables. Statistical data (table 5.5) show strong significant correlations (Pearson’s correlation) and relations (linear regression) between the Aad and Ap, for all ads. Therefore, hypothesis five is accepted. This also applies for the relationships between Ap to Pi, except for ad 1. Table 5.6 contains the mediation effects (Ap -> Aad -> Pi) for the seven ads. There isn’t a significant relationship between Ap and Pi for ad 1, therefore this ad does not have a mediation effect. Furthermore, the results show inconsistent effects. Only Ads 2, 3 and to 6 show significant (partial) mediation effects. A partial mediation effect exists when both variables (included) contain a significant relationship with Pi. Thus the hypothesis is accepted for the first part (relationship Ap -> Pi), and rejected regarding the second part (mediation effect).

The results for the Dutch participants show similar results regarding hypothesis five and the first part of hypothesis six.

Table 5.5: Statistical summary of examined correlations and relations (linear regression) between Aad -> Ap, and Ap -> Pi. Results between brackets represent only Dutch participants.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Ad** | **Correlations (1-tailed)** | | **Linear regressions (B)** | |
| **Aad -> Ap** | **Ap -> Pi** | **Aad -> Ap** | **Ap -> Pi** |
| 1. | ,488 | - | ,370 *(,357)* | - |
| 2. | ,347 | ,511 | ,219 *(,185)* | ,379 *(,310)* |
| 3. | ,365 | ,469 | ,256 *(,205)* | ,457 *(,468)* |
| 4. | ,482 | ,542 | ,358 *(,442)* | ,275 *(,280)* |
| 5. | ,532 | ,538 | ,442 *(,422)* | ,332 *(,403)* |
| 6. | ,584 | ,483 | ,431 *(,389)* | ,338 *(,289)* |
| 7. | ,367 | ,338 | ,163 *(,220)* | ,326 *(,363)* |

Table 5.5: Mediation effects Ap -> Aad -> Pi.

|  |  |  |  |
| --- | --- | --- | --- |
| **Linear regressions (B)** | | | |
| **Aad and Ap -> Pi** | | | |
|  | **Aad** | **Ap** | **Mediation** |
| 1 | - | - | - |
| 2 | ,160 | ,291 | Partial |
| 3 | ,188 | ,359 | Partial |
| 4 | -,002 (insig.) | ,276 | Not significant |
| 5 | ,062 (insig) | ,290 | Not significant |
| 6 | ,186 | ,192 | Partial |
| 7 | -,038 (insig) | ,357 | Not significant |

# 

# PART THREE Conclusion

## 6.1 Conclusion

Results show significant effects in green advertisement caused by different appeals. The attitude toward the ad can be influenced by the appeals: “Fear/scary”, “Cute”, “Sex appeal”, “Humor” and “Imaginative”. The appeal 'Fear/scary' is most effective on attitude toward the ad. “Cute” is the second most effective appeal and the third is 'Humor'. The attitude toward the product organization can be influenced by the same appeals except for “Fear/scary”. The appeal with the strongest effect on the attitude toward the product or organization is “Humor”. The second and third most effective appeals are “Cute” and subsequently “Sex Appeal”.

Only positive appeals show consistent positive effects on the attitude toward the ad and product or organization. This does not account for all negative appeals. Several negative appeals seem to have a positive effect on the attitude.

It is hypothesized that there is a relationship between attitude toward the ad and attitude toward the product or organization, and attitude toward the product or organization and purchase intentions. These hypotheses are accepted for all ads except for ad 1. The attitude toward the product (Smart Car) does not relate to the purchase intention. Furthermore, the mediation effect of attitude toward the ad on attitude towards the product or organization to purchase intention is examined. Results show inconsistent effects. Only partial mediation effects are found in Ad 2, 3 and 6.

The hypothesized higher attitudinal change for non-green consumers (than green consumers), caused by appeals used in green ads, has been rejected. Appeals used in green advertisement evoke a slightly higher attitudinal change and purchase intention to green consumers than it does to non-green consumers.

## 6.2 Discussion

A quantitative study has been performed in order to test six hypotheses. These hypotheses have to answer the two main questions of this thesis. The first question is focussed on what kind of (emotional) appeals used in green ads would have the most effect on the attitude toward the ad, product or organization and purchase intentions. The second part is aimed at possible differences in these attitudinal changes between green consumers and non-green consumers, caused by these appeals.

Several significant results are found in this research. The knowledge gap about different appeals used in green ads is partially uncovered. The appeal “Fear/scary” has a negative influence on the attitude toward the ad and is negatively correlated with the attitude toward the product. Consequently, most participants are not likely to buy a Smart Car. It is short-sighted to conclude this is only because of the used appeal. It does give us a better view of what an appeal such as fear/scary may contribute to, or harm the purchase intention. Other appeals found to have a relationship with the attitude toward the ad and product or organization, are “Cute”, “Sex appeal”, “Humor” and “Imaginative”. In a previous study C. Ruanguttamanum (2012) the appeal “Cute” also seems to correlate positively to both attitude toward the ad and product. “Cute” may be seen as an effective appeal in green ads for a positive attitude. The appeal “Sex appeal” is consistent with previous studies (Lui et. al., 2005; Reichert T., 2010), performed without green related advertisement, to enhance attitude positively. A caution note has to be made; the use of the appeal was related to the product (apparel). Different contexts could lead to different outcomes. The appeal “Humor” also has a positive influence on the attitude toward the product. However, Weinberger and Gulas (1992) concluded, taking previous studies into account, humor would not lead to a higher persuasion. Our results are consistent with their conclusion. Humor used in ad 4, has the weakest indirect relationship with purchase intention (Cad -> Ap -> Pi) compared to other appeals. It may not be concluded that this is because of the appeal only. A car is a high-involvement product for most people. For this type of product it generally takes more than one ad to convince a consumer. Furthermore, the Toyota Prius had some negative publications (Dekker, 2012) this year in the Netherlands (and other countries). Still, if the goal is to persuade people to purchase the product, assuming Toyota wants to sell their cars, a different appeal would be more effective.

The mediation analysis shows inconsistent results. Only three significant (partial) mediation effects are found (ad 2,3 and 6). This could be explained because ad 4 contained an expensive product (discussed earlier in this chapter), ad 5 a relatively unknown (German) brand in the Netherlands and ad 7 contains a well-known and established brand, which makes it harder to influence attitudes and purchase intentions.

­Some of the appeals does not have a significant effect, which are interesting to examine. Two appeals are manipulated on purpose. These were “Cute” (ad 2) and “Unbelievable” (ad 3), discussed in chapter 4.3.1. However, participants identify the cute appeal stronger in the neutral ad than they do in the appeal ad, causing a negative mean score for this appeal. The attitude toward the neutral ad is also higher than it is for the appeal ad, explaining the positive relationship between “Cute” and attitude toward the ad, shown in table 5.2. Surprisingly, they also (somewhat) recognize the “Sad” appeal in the neutral ad, resulting in a (too) small difference between both ads regarding this appeal. This could be the explanation for the insignificant effect. The participants recognized the appeal “Unrealistic optimism” somewhat in neutral ad 4, which is surprising. The neutral ad only consists of the Toyota brand, a picture of the car and a gas emission bar below it indicating the car has a (almost) minimum gas emission. It could be that the average participant is not aware that the Prius is a hybrid car (and in fact has an almost minimum gas emission) and therefore thinks the ad has unrealistic optimism. For the appeal ad the participants recognize the appeal somewhat to moderately. The difference is too small to be related to attitudinal changes. Ad 5 did not show any significant relationships for neither of the appeals. The neutral ad contains the same message but without the striking image of the appeal ad. Instead a regular bear walking on grass is used. However, the appeals are almost similarly recognized in both ads. It could be an explanation that the message itself is most responsible creating the appeals. Ad 7 does have distinctive results regarding the recognized appeals in both ads. However, both ads have almost similar scores on Aad, Ap and Pi. An explanation could be because Greenpeace is a well-known and established brand with strong positive and/or negative associations. The appeals did not affect the participants enough to change attitude toward the product or support intentions. Another reason could be that the participants like the message present in the neutral ad with a similar effect on Aad, Ap and Pi, as the appeals have in the appeal ad.

I have also looked in to the Dutch participants. The relations found for the total sample also account for Dutch participants, except for Guilt (ad 5), Imaginative (ad 6) and Happiness (ad 7). There was no significant effect found between “Imaginative” and Aad. Happiness and Guilt has a positive effect on Aad. Comparing the means of Dutch participants with non-Dutch participants, the attitudes does not differ much in ad 5. Dutch participants do recognize Guilt more than non-Dutch participants. I was not able to find or think of an explanation. Unlike the significant relationship between “Imaginative” (ad 6) and Aad for the total sample (table 5.2), there is no significant relationship found among the scores of Dutch participants. Analysing the mean scores, there is almost no difference in scores for Aad between Dutch and non-Dutch participants. Contradictory, the Dutch participants recognized the appeal more than the non-Dutch did, in the appeal ad. The appeal does not have significant effect on Dutch participants regarding the Aad. It does have a relationship with Ap.

The strongest relationship found for Dutch participants is in ad 7, between “Happiness” and Aad. They recognized less happiness in the neutral ad than non-Dutch participants and had a lower Aad, explaining the difference between the groups. The reason for this could be that Greenpeace is relatively very active in the Netherlands. The headquarters of Greenpeace is settles in the capital of the Netherlands.

This study towards appeals used in green advertising dealt with attitudinal changes. Previous theories suggest non-green consumers would experience a higher attitudinal change when confronted with green advertising than green consumers. Therefore I hypothesized that appeals used in green advertising would evoke a higher attitudinal change for non-green consumers than green consumers. Unfortunately, the results show contradicting results. Green consumer experienced a slightly (not significant) higher attitudinal response and purchase intention. Therefore this hypothesis is rejected.

Finally, a lot of not significant relationships were found. Several reasons may explain this. The design used was not proper enough to examine the issues. Looking at the data and evaluating the survey with some of the participants it is clear that the used design does not go deep enough to examine the different factors that influence the attitude and purchase intentions. For instance the choice and amount of ads are not sufficient enough. Some of the products and organization (brand) already have a strong image (positive or negative) among the participants resulting in an almost absent attitude change. A less strong associated or known brand could be of better use in the future. Additionally, it should be questioned how strongly the participant already has associations with the brand. Furthermore, the pairs of items used per question were not distinguishable enough. Liking a product or favouring a product is too similar to each other according participants. The data seems to confirm this, as there is little difference in scoring between the items resulting in an unclear view of what a participant really thinks or feels about an ad, product or organization. Is it because they really do not like the product? Did they have previous experiences the product, which influences their current response? Is it because the product is pro-ecological? Was the message was reliable or credible? Would they buy the product if it had a different brand? All these questions should be answered to get a good image of the participant’s response and create more possibilities to find relationships and differences.

Another critical note has to be made. The results may not be generalized because 75% of all participants came from the Netherlands. A cross-cultural study may uncover whether these results are useable internationally.

## 6.3 Managerial implications

The data shows significant relations between the attitude toward the ad and product, and the purchase intention. Influencing the attitude positively would indirectly increase the purchase intention, which would be interesting for most marketers. Using the appeals “Cute”, “Humor”, “Guilt”, “Sex appeal” and “Happiness” will increase positive attitudes toward the ad and product organization in the Netherlands. An appeal that generates negative attitudinal changes is “Fear/scary”. Before implementing any of the mentioned appeals, marketers should first examine if the communicated appeal fits their brand’s image to avoid brand dilution. Furthermore, the goal and context of the ad is important. For example, if the goal is to persuade consumers, humor is not the right appeal to choose.

## 6.4 Future research

This research focuses on the use of appeals on printed advertisement. With the continuous importance of the Internet it would be interesting to see if there is a difference in effectiveness of different appeals in green advertising. It would be interesting to see what appeals generate the most attention for green advertising as marketer’s battle for attention in today’s markets.

The sample consisted mostly of Dutch participants. In order to create internationally usable implications a better-balanced international sample is requisite.

Some appeals do not have effect on the attitude in some of the used ads. It is reasoned that the strength of the used brand is to strong to be influenced by appeals used in one ad. A similar test should be done with less known or less established brands to examine if these appeals are able to create attitudinal changes. Another reason is the type of product (high- versus low-involvement). A study should be performed focussed only on high- or only low-involvement products to analyse responses with a similar involvement level. This way it is easier and more responsible to compare the data. This study uses both product- and organizational oriented ads. For the same reason previously mentioned, there should be focus on one orientation. This also implies for the used ads in the experiment. The ads used in this study have a wide variety in types of green communication. Some ads promoted environmentally friendly product features, another helping animals survive, another supporting fair trade and another to stop global warming. It could generate more solid implications focussing on one of the types.

The current design used for this research has some issues. To enhance statistical analyses it would be better to create two different survey groups. One group should answer only the neutral ads and the other group only the appeal ads. This way the responses are more independent and easier to process. In this design participants views the same brand or product twice, which can influence the response. Additionally, this study used a four point Likert scale. Using this scale range forces the participant to choose a side even when the participant is neutral. This could generate wrong information about the participants and it decreases the credibility of the research. It would be better to use a 3, 5 or 7 point Likert scale.

To uncover more clear (and significant) differences between green and non-green consumers regarding attitudinal change different questions should be asked. The questions should go deeper in the behavioural matter to uncover the influence of different appeals. This way, there are more factors that can differ between the two groups and gives a higher probability of findings differences.

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# Appendix 1: NMI – The five shades of green

The Natural Marketing Institute distributed different degrees of green consumers are distributed in to five shades of green, in 2011.

**Shade 1: Lifestyle of Health and Sustainability**

* Active stewards of the environment
* Dedicated to personaland planetary health
* Lifestyle oriented
* Heaviest purchasers and influencers of green/socially responsible products

**Shade 2: Naturalities**

* Motivated by personal health more than planetary health
* Searching for healthy products, which may (secondarily) be green
* Income restricts behavior, creating attitudinal versus behavioral disconnects

**Shade 3: Drifters**

* Green followers
* Relatively new to the green space; in search of easy lifestyle and product changes
* Want to be seen as doing their part
* Currently responsible for market growth

**Shade 4: Conventionals**

* Waste-conscious, practical, and rational
* Primarily driven by cost savings; eco-benefits secondary
* Well-educated and above-average income

**Shade 5: Unconcerned**

* Unconcerned about the environment and society
* Dealing with day-to-day challenges

# Appendix 2: The Survey

**Introduction**

Your opinion will contribute to my study towards green print advertisement and my graduation at the Erasmus University. With the results of this research we can advice marketers to create more effective ads.

Please participate in this (anonymous) quick survey. I could send you the results afterwards if you want.

Thank you in advance,

Tim van Veelen  
<my email address>

**Participant information**

Gender: Male / Female

Age: \_\_

Nationality: \_\_\_\_\_\_\_

Highest level of Education:

High school Graduate / Bachelor’s / Master’s

**Participant Green Purchasing Behaviour (Strongly disagree to Strongly agree)**

1. When I want to buy a product, I look at the ingredients label to see of it contains things that are environmentally friendly.
2. I prefer green products over non-green products when their product qualities are similar.
3. I choose to buy products that are environmentally friendly
4. I buy green products even if they are more expensive than the non-green ones.

*<Ad>*

**Survey Questions**

1. Concerning the ad, overall, how do you feel about the ad?

(please check one box for every adjectives)

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Negative | ☐ | ☐ | ☐ | ☐ | Positive |
| Not favourable | ☐ | ☐ | ☐ | ☐ | Favourable |
| Not interesting | ☐ | ☐ | ☐ | ☐ | Interesting |

1. To what extent do you think this advertisement has:

(please check one box for every adjectives)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Not at all | Somewhat | Moderatly | Extremely |
| **[Appeal 1]** | ☐ | ☐ | ☐ | ☐ |
| **[Appeal 2]** | ☐ | ☐ | ☐ | ☐ |

1. Your overall opinion toward the [**product/organization]** is:

(please check one box for every adjectives)

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Dislike | ☐ | ☐ | ☐ | ☐ | Like |
| Not favourable | ☐ | ☐ | ☐ | ☐ | Favourable |
| Bad | ☐ | ☐ | ☐ | ☐ | Good |

**When product-oriented ad – Low involvement product:**   
If you were to buy a **[product category]** on one of your next trips to the stores. How likely would you buy **[product reference]**?

**When product-oriented ad – High involvement product:**If you were to buy a **[product category]**, and this one was within your budget, how likely would you buy **[product reference]**?

**When organizational-oriented ad:** If you were to support an organization. How likely would you support **[organization reference]**?

(please check one box for every adjectives)

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Not likely | ☐ | ☐ | ☐ | ☐ | Likely |
| Probably Not | ☐ | ☐ | ☐ | ☐ | Probably |

# Appendix 3: The experimental stimulus

|  |  |  |
| --- | --- | --- |
| **Ad number 4 – Toyota Prius Car**  This ad was published in Israel year 2010. The ad communicates that methane gas produced by sheep is worse compared to the emissions of a Toyota Prius car.  The two strongest identified appeals:   * Humor * Unrealistic optimism |  |  |
| **Ad number 6 – Ben & Jerry’s**  This ad was published in the U.S.A year 2011. The ad communicates how responsible Ben & Jerry’s chooses commodities for their products.  The two strongest identified appeals:   * *Cute* * *Imaginative* |  |  |

|  |  |  |
| --- | --- | --- |
| **Ad number 2 – World Wildlife Fund Homeless Penguin**  This ad was published Finland year 2007. The ad communicates that you can help (save) endangered animals (because of global warming) by recycling materials.  The two strongest identified appeals:   * *Sad* * *Cute* |  |  |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Ad number 1 – SMART car**  This ad was published in Germany year 2010. The ad points out that people don’t have to be scared of running costs, “Smart fortwo, Extremely economical.”  The two strongest identified appeals:   * *Fear(scary)* * *Shocking* | | |  |  |
| **Ad number 3 – Diesel Clothes**  This ad was published in multiple countries year 2007. The goal was to generate attention and provoke discussion of serious societal issues. The campaign won a Silver Lion for Print at Cannes International Advertising Festival 2007.  The two strongest identified appeals:   * *Sex Appeal* * *Unbelievable* |  |  | | |

|  |  |  |
| --- | --- | --- |
| **Ad number 7 – Greenpeace Firefly**  This ad was published in Romania year 2008. “Energy efficient light bulbs have a smaller impact on the environment. This makes them nature's favourites”.  The two strongest identified appeals:   * *Joyful* * *Happiness* |  |  |

|  |  |  |
| --- | --- | --- |
| **Ad number 5 – Bund ‘Animal extinction’**  This ad was published cross country year 2011. “Every 60 seconds a species dies out”.  The two strongest identified appeals:   * *Fear(anger)* * *Guilt* |  |  |

**Neutral ads**





# Appendix 4: Statistical data & SPSS output

**Reliability Statistics**

As represented below, all ads have a Cronbach’s alpha higher than 0,65 and thus approved to be reliable. All items were individually scanned to comply to the minimum of 0,65. All items passed the requirement.

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Smart Car – Neutral:   |  |  | | --- | --- | | **Reliability Statistics** | | | Cronbach's Alpha | N of Items | | ,873 | 10 | | Smart Car – Appeal:   |  |  | | --- | --- | | **Reliability Statistics** | | | Cronbach's Alpha | N of Items | | ,764 | 10 | |
| WWF – Neutral:   |  |  | | --- | --- | | **Reliability Statistics** | | | Cronbach's Alpha | N of Items | | ,828 | 10 | | WWF – Appeal:   |  |  | | --- | --- | | **Reliability Statistics** | | | Cronbach's Alpha | N of Items | | ,834 | 10 | |
| Diesel Clothes – Neutral   |  |  | | --- | --- | | **Reliability Statistics** | | | Cronbach's Alpha | N of Items | | ,876 | 10 | | Diesel Clothes – Appeal:   |  |  | | --- | --- | | **Reliability Statistics** | | | Cronbach's Alpha | N of Items | | ,902 | 10 | |
| Toyota Prius - Neutral:   |  |  | | --- | --- | | **Reliability Statistics** | | | Cronbach's Alpha | N of Items | | ,880 | 10 | | Toyota Prius – Appeal:   |  |  | | --- | --- | | **Reliability Statistics** | | | Cronbach's Alpha | N of Items | | ,898 | 10 | |
| Bund - Neutral:   |  |  | | --- | --- | | **Reliability Statistics** | | | Cronbach's Alpha | N of Items | | ,903 | 10 | | Bund – Appeal:   |  |  | | --- | --- | | **Reliability Statistics** | | | Cronbach's Alpha | N of Items | | ,917 | 10 | |
| Ben & Jerry’s – Neutral:   |  |  | | --- | --- | | **Reliability Statistics** | | | Cronbach's Alpha | N of Items | | ,939 | 10 | | Ben & Jerry’s – Appeal:   |  |  | | --- | --- | | **Reliability Statistics** | | | Cronbach's Alpha | N of Items | | ,955 | 10 | |
| Greenpeace – Neutral:   |  |  | | --- | --- | | **Reliability Statistics** | | | Cronbach's Alpha | N of Items | | ,917 | 10 | | Greenpeace – Appeal:   |  |  | | --- | --- | | **Reliability Statistics** | | | Cronbach's Alpha | N of Items | | ,941 | 10 | |

The questionnaires about green purchase behaviour are also proven to be reliable as shown is the following table:

|  |  |
| --- | --- |
| **Reliability Statistics** | |
| Cronbach's Alpha | N of Items |
| ,751 | 4 |

**Independent-samples t-test table**

**Total sample**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Ad | Mean | | Mean:  Green consumers | Mean:  Non-green consumers | t | Sig  (2-tailed) | Levene’s test, equal variances assumed |
| Min. | Max. | Sig. |
| Ad1: Attitude ad | -9 | 4 | -1,8182 | -1,1250 | 1,016 | ,313 | ,614 |
| Ad1: Attitude product | -7 | 4 | -,8485 | -1,3500 | -,970 | ,335 | ,119 |
| Ad1: Purchase Int. | -4 | 4 | ,1515 | -,1000 | -,921 | ,360 | ,155 |
| Ad2: Attitude ad | -8 | 6 | -1,6061 | -1,1000 | ,763 | ,448 | ,577 |
| Ad2: Attitude product | -6 | 7 | -,2121 | ,3000 | 1,232 | ,222 | ,341 |
| Ad2: Purchase Int. | -4 | 4 | -,3030 | ,2750 | 1,899 | ,062 | ,964 |
| Ad3: Attitude ad | -4 | 6 | -,3636 | ,6500 | 2,152 | ,035 | ,983 |
| Ad3: Attitude product | -3 | 5 | ,2424 | ,1250 | -,345 | ,731 | ,144 |
| Ad3: Purchase Int. | -4 | 4 | ,3636 | ,1250 | -,723 | ,472 | ,954 |
| Ad4: Attitude ad | -8 | 7 | ,7714 | ,6842 | -,130 | ,897 | 0,67 |
| Ad4: Attitude product | -6 | 8 | ,6571 | ,3421 | -,637 | ,526 | ,155 |
| Ad4: Purchase Int. | -4 | 4 | ,2000 | ,3158 | ,460 | ,647 | ,158 |
| Ad5: Attitude ad | -9 | 6 | -,7429 | -,7368 | ,009 | ,993 | ,914 |
| Ad5: Attitude product | -7 | 5 | -,1143 | -,4474 | -,607 | 545 | ,633 |
| Ad5: Purchase Int. | -4 | 6 | ,5429 | ,2105 | -,986 | ,328 | ,314 |
| Ad6: Attitude ad | -6 | 5 | ,4571 | ,6579 | ,467 | ,642 | ,258 |
| Ad6: Attitude product | -3 | 3 | ,3429 | ,3684 | ,080 | ,936 | ,921 |
| Ad6: Purchase Int. | -2 | 2 | ,3714 | ,1579 | -,966 | ,337 | 0,83 |
| Ad7: Attitude ad | -9 | 9 | ,8857 | ,6316 | -,372 | ,711 | 0,47 |
| Ad7: Attitude product | -3 | 5 | ,6286 | ,2368 | -1,302 | ,197 | ,596 |
| Ad7: Purchase Int. | -3 | 5 | ,2286 | ,1579 | -,241 | ,810 | ,652 |

|  |  |  |
| --- | --- | --- |
|  | Levene's Test for Equality of Variances | |
| F | Sig. | t | df | Sig. (2-tailed) | Mean Difference | Std. Error Difference |
|
| Ad6.adA.difference | 1,302 | ,258 | ,467 | 71 | ,642 | ,20075 | ,43005 |
|  |  | ,471 | 69,690 | ,639 | ,20075 | ,42615 |
| Ad6.adP.difference | ,010 | ,921 | ,080 | 71 | ,936 | ,02556 | ,31790 |
|  |  | ,081 | 70,877 | ,936 | ,02556 | ,31735 |
| Ad6.adPu.difference | 3,099 | ,083 | -,966 | 71 | ,337 | -,21353 | ,22108 |
|  |  | -,956 | 64,092 | ,343 | -,21353 | ,22337 |
| Ad7.adA.difference | 4,070 | ,047 | -,372 | 71 | ,711 | -,25414 | ,68241 |
|  |  | -,377 | 67,327 | ,707 | -,25414 | ,67356 |
| Ad7.adP.difference | ,284 | ,596 | -1,302 | 71 | ,197 | -,39173 | ,30080 |
|  |  | -1,323 | 65,036 | ,190 | -,39173 | ,29607 |
| Ad7.adPu.difference | ,205 | ,652 | -,241 | 71 | ,810 | -,07068 | ,29323 |
|  |  | -,243 | 69,294 | ,808 | -,07068 | ,29033 |
| Ad1.adA.difference | ,257 | ,614 | 1,016 | 71 | ,313 | ,69318 | ,68208 |
|  |  | 1,024 | 70,004 | ,309 | ,69318 | ,67706 |
| Ad1.adP.difference | 2,491 | ,119 | -,970 | 71 | ,335 | -,50152 | ,51714 |
|  |  | -,995 | 70,558 | ,323 | -,50152 | ,50380 |
| Ad1.adPu.difference | 2,063 | ,155 | -,921 | 71 | ,360 | -,25152 | ,27323 |
|  |  | -,911 | 65,168 | ,366 | -,25152 | ,27604 |
| Ad2.adA.difference | ,314 | ,577 | ,763 | 71 | ,448 | ,50606 | ,66367 |
|  |  | ,754 | 64,768 | ,454 | ,50606 | ,67124 |
| Ad2.adP.difference | ,919 | ,341 | 1,232 | 71 | ,222 | ,51212 | ,41576 |
|  |  | 1,271 | 69,682 | ,208 | ,51212 | ,40286 |
| Ad2.adPu.difference | ,002 | ,964 | 1,899 | 71 | ,062 | ,57803 | ,30438 |
|  |  | 1,907 | 69,429 | ,061 | ,57803 | ,30305 |
| Ad3.adA.difference | ,000 | ,983 | 2,152 | 71 | ,035 | 1,01364 | ,47094 |
|  |  | 2,150 | 68,146 | ,035 | 1,01364 | ,47136 |
| Ad3.adP.difference | 2,178 | ,144 | -,345 | 71 | ,731 | -,11742 | ,34003 |
|  |  | -,341 | 64,532 | ,734 | -,11742 | ,34412 |
| Ad3.adPu.difference | ,003 | ,954 | -,723 | 71 | ,472 | -,23864 | ,33024 |
|  |  | -,728 | 70,062 | ,469 | -,23864 | ,32770 |
| Ad4.adA.difference | 3,471 | ,067 | -,130 | 71 | ,897 | -,08722 | ,66867 |
|  |  | -,132 | 67,586 | ,895 | -,08722 | ,66024 |
| Ad4.adP.difference | 2,067 | ,155 | -,637 | 71 | ,526 | -,31504 | ,49460 |
|  |  | -,648 | 63,377 | ,519 | -,31504 | ,48595 |
| Ad4.adPu.difference | 2,033 | ,158 | ,460 | 71 | ,647 | ,11579 | ,25148 |
|  |  | ,468 | 64,765 | ,641 | ,11579 | ,24745 |
| Ad5.adA.difference | ,012 | ,914 | ,009 | 71 | ,993 | ,00602 | ,69346 |
|  |  | ,009 | 69,917 | ,993 | ,00602 | ,69465 |
| Ad5.adP.difference | ,229 | ,633 | -,607 | 71 | ,545 | -,33308 | ,54834 |
|  |  | -,603 | 67,061 | ,548 | -,33308 | ,55201 |
| Ad5.adPu.difference | 1,029 | ,314 | -,986 | 71 | ,328 | -,33233 | ,33711 |
|  |  | -,978 | 66,010 | ,332 | -,33233 | ,33983 |

**Dutch participants**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Group Statistics** | | | | | |
|  | GreenDutch | N | Mean | Std. Deviation | Std. Error Mean |
| Ad1.adA.difference | ,00 = Non-green | 39 | -1,1538 | 3,03088 | ,48533 |
| 1,00 = Green | 27 | -1,8519 | 2,53747 | ,48834 |
| Ad1.adP.difference | ,00 | 39 | -1,4103 | 2,44646 | ,39175 |
| 1,00 | 27 | -,7407 | 1,85208 | ,35643 |
| Ad1.adPu.difference | ,00 | 39 | -,1282 | 1,10452 | ,17687 |
| 1,00 | 27 | ,1481 | 1,29210 | ,24866 |
| Ad2.adA.difference | ,00 | 39 | -1,1795 | 2,65441 | ,42505 |
| 1,00 | 27 | -1,5185 | 3,27426 | ,63013 |
| Ad2.adP.difference | ,00 | 39 | ,1282 | 1,70417 | ,27289 |
| 1,00 | 27 | -,1111 | 1,47631 | ,28412 |
| Ad2.adPu.difference | ,00 | 39 | ,1795 | 1,18925 | ,19043 |
| 1,00 | 27 | -,3704 | 1,27545 | ,24546 |
| Ad3.adA.difference | ,00 | 39 | ,5897 | 1,98306 | ,31754 |
| 1,00 | 27 | -,2963 | 2,12702 | ,40935 |
| Ad3.adP.difference | ,00 | 39 | ,0000 | 1,12390 | ,17997 |
| 1,00 | 27 | ,4444 | 1,55250 | ,29878 |
| Ad3.adPu.difference | ,00 | 39 | ,0513 | 1,39451 | ,22330 |
| 1,00 | 27 | ,4815 | 1,34079 | ,25804 |
| Ad4.adA.difference | ,00 | 29 | ,5517 | 3,22475 | ,59882 |
| 1,00 | 17 | ,9412 | 3,15180 | ,76442 |
| Ad4.adP.difference | ,00 | 29 | ,0690 | 2,71150 | ,50351 |
| 1,00 | 17 | 1,1765 | 1,91165 | ,46364 |
| Ad4.adPu.difference | ,00 | 29 | ,2759 | 1,38607 | ,25739 |
| 1,00 | 17 | ,1765 | ,80896 | ,19620 |
| Ad5.adA.difference | ,00 | 29 | -,2069 | 2,65087 | ,49225 |
| 1,00 | 17 | ,2941 | 2,97415 | ,72134 |
| Ad5.adP.difference | ,00 | 29 | -,3448 | 2,20836 | ,41008 |
| 1,00 | 17 | ,1765 | 2,74398 | ,66551 |
| Ad5.adPu.difference | ,00 | 29 | ,3793 | 1,39933 | ,25985 |
| 1,00 | 17 | 1,1765 | 1,87867 | ,45565 |
| Ad6.adA.difference | ,00 | 29 | ,6207 | 2,21059 | ,41050 |
| 1,00 | 17 | ,7059 | 1,31171 | ,31814 |
| Ad6.adP.difference | ,00 | 29 | ,3103 | 1,33907 | ,24866 |
| 1,00 | 17 | ,8235 | 1,28624 | ,31196 |
| Ad6.adPu.difference | ,00 | 29 | ,1379 | ,83342 | ,15476 |
| 1,00 | 17 | ,7059 | ,91956 | ,22303 |
| Ad7.adA.difference | ,00 | 29 | ,7241 | 3,61442 | ,67118 |
| 1,00 | 17 | 1,0588 | 1,74895 | ,42418 |
| Ad7.adP.difference | ,00 | 29 | ,2414 | 1,68301 | ,31253 |
| 1,00 | 17 | ,5294 | ,79982 | ,19398 |
| Ad7.adPu.difference | ,00 | 29 | ,1724 | 1,58270 | ,29390 |
| 1,00 | 17 | ,4118 | 1,37199 | ,33276 |

|  |  |  |
| --- | --- | --- |
|  | Levene's Test for Equality of Variances | |
| F | Sig. | t | df | Sig. (2-tailed) | Mean Difference | Std. Error Difference |
|
| Ad6.adA.difference | 2,688 | ,108 | -,144 | 44 | ,886 | -,08519 | ,59037 |
|  |  | -,164 | 43,974 | ,870 | -,08519 | ,51934 |
| Ad6.adP.difference | ,242 | ,626 | -1,273 | 44 | ,210 | -,51318 | ,40324 |
|  |  | -1,286 | 34,770 | ,207 | -,51318 | ,39894 |
| Ad6.adPu.difference | 3,616 | ,064 | -2,148 | 44 | ,037 | -,56795 | ,26445 |
|  |  | -2,092 | 31,010 | ,045 | -,56795 | ,27146 |
| Ad7.adA.difference | 6,530 | ,014 | -,357 | 44 | ,723 | -,33469 | ,93781 |
|  |  | -,422 | 42,867 | ,675 | -,33469 | ,79399 |
| Ad7.adP.difference | 1,837 | ,182 | -,661 | 44 | ,512 | -,28803 | ,43576 |
|  |  | -,783 | 42,652 | ,438 | -,28803 | ,36784 |
| Ad7.adPu.difference | ,003 | ,958 | -,519 | 44 | ,606 | -,23935 | ,46109 |
|  |  | -,539 | 37,618 | ,593 | -,23935 | ,44396 |
| Ad1.adA.difference | ,984 | ,325 | ,981 | 64 | ,330 | ,69801 | ,71121 |
|  |  | 1,014 | 61,605 | ,315 | ,69801 | ,68849 |
| Ad1.adP.difference | 2,553 | ,115 | -1,202 | 64 | ,234 | -,66952 | ,55685 |
|  |  | -1,264 | 63,428 | ,211 | -,66952 | ,52963 |
| Ad1.adPu.difference | 2,307 | ,134 | -,932 | 64 | ,355 | -,27635 | ,29650 |
|  |  | -,906 | 50,175 | ,369 | -,27635 | ,30515 |
| Ad2.adA.difference | 1,395 | ,242 | ,463 | 64 | ,645 | ,33903 | ,73157 |
|  |  | ,446 | 48,213 | ,658 | ,33903 | ,76009 |
| Ad2.adP.difference | ,125 | ,724 | ,592 | 64 | ,556 | ,23932 | ,40444 |
|  |  | ,607 | 60,733 | ,546 | ,23932 | ,39394 |
| Ad2.adPu.difference | ,475 | ,493 | 1,793 | 64 | ,078 | ,54986 | ,30669 |
|  |  | 1,770 | 53,465 | ,082 | ,54986 | ,31067 |
| Ad3.adA.difference | ,118 | ,732 | 1,733 | 64 | ,088 | ,88604 | ,51142 |
|  |  | 1,710 | 53,461 | ,093 | ,88604 | ,51807 |
| Ad3.adP.difference | 7,098 | ,010 | -1,350 | 64 | ,182 | -,44444 | ,32921 |
|  |  | -1,274 | 44,299 | ,209 | -,44444 | ,34879 |
| Ad3.adPu.difference | ,253 | ,617 | -1,252 | 64 | ,215 | -,43020 | ,34372 |
|  |  | -1,261 | 57,471 | ,213 | -,43020 | ,34124 |
| Ad4.adA.difference | ,046 | ,832 | -,399 | 44 | ,692 | -,38945 | ,97699 |
|  |  | -,401 | 34,285 | ,691 | -,38945 | ,97105 |
| Ad4.adP.difference | ,341 | ,562 | -1,479 | 44 | ,146 | -1,10751 | ,74869 |
|  |  | -1,618 | 42,341 | ,113 | -1,10751 | ,68446 |
| Ad4.adPu.difference | 1,619 | ,210 | ,269 | 44 | ,789 | ,09939 | ,36916 |
|  |  | ,307 | 43,997 | ,760 | ,09939 | ,32364 |
| Ad5.adA.difference | ,379 | ,542 | -,592 | 44 | ,557 | -,50101 | ,84698 |
|  |  | -,574 | 30,582 | ,570 | -,50101 | ,87329 |
| Ad5.adP.difference | 1,368 | ,248 | -,706 | 44 | ,484 | -,52130 | ,73827 |
|  |  | -,667 | 28,139 | ,510 | -,52130 | ,78171 |
| Ad5.adPu.difference | 1,707 | ,198 | -1,641 | 44 | ,108 | -,79716 | ,48582 |
|  |  | -1,520 | 26,498 | ,140 | -,79716 | ,52453 |

**Gender**

|  |  |  |
| --- | --- | --- |
|  | Levene's Test for Equality of Variances | |
| F | Sig. | t | df | Sig. (2-tailed) | Mean Difference | Std. Error Difference |
|
| Ad1.adA.difference | ,429 | ,514 | 1,426 | 71 | ,158 | ,96591 | ,67739 |
|  |  | 1,413 | 65,608 | ,162 | ,96591 | ,68351 |
| Ad1.adP.difference | ,320 | ,573 | 1,188 | 71 | ,239 | ,61212 | ,51546 |
|  |  | 1,161 | 60,370 | ,250 | ,61212 | ,52713 |
| Ad1.adPu.difference | ,827 | ,366 | ,514 | 71 | ,609 | ,14091 | ,27434 |
|  |  | ,523 | 70,998 | ,603 | ,14091 | ,26938 |
| Ad1.adAp\_1.difference | ,195 | ,660 | -1,227 | 71 | ,224 | -,28258 | ,23020 |
|  |  | -1,216 | 65,355 | ,228 | -,28258 | ,23245 |
| Ad1.adAp\_2.difference | ,435 | ,512 | -,010 | 71 | ,992 | -,00227 | ,23437 |
|  |  | -,010 | 66,076 | ,992 | -,00227 | ,23617 |
| Ad2.adA.difference | ,651 | ,422 | 1,946 | 71 | ,056 | 1,26364 | ,64929 |
|  |  | 1,971 | 70,704 | ,053 | 1,26364 | ,64116 |
| Ad2.adP.difference | ,045 | ,832 | 1,711 | 71 | ,091 | ,70455 | ,41177 |
|  |  | 1,702 | 66,795 | ,093 | ,70455 | ,41402 |
| Ad2.adPu.difference | ,109 | ,742 | 1,355 | 71 | ,180 | ,41742 | ,30806 |
|  |  | 1,353 | 67,882 | ,181 | ,41742 | ,30863 |
| Ad2.adAp\_1.difference | ,594 | ,443 | 1,466 | 71 | ,147 | ,40000 | ,27288 |
|  |  | 1,440 | 62,194 | ,155 | ,40000 | ,27783 |
| Ad2.adAp\_2.difference | ,008 | ,928 | 1,158 | 71 | ,251 | ,32576 | ,28126 |
|  |  | 1,153 | 67,124 | ,253 | ,32576 | ,28250 |
| Ad3.adA.difference | 1,006 | ,319 | 1,703 | 71 | ,093 | ,81136 | ,47643 |
|  |  | 1,676 | 62,943 | ,099 | ,81136 | ,48417 |
| Ad3.adP.difference | 1,719 | ,194 | 1,677 | 71 | ,098 | ,55985 | ,33376 |
|  |  | 1,647 | 61,952 | ,105 | ,55985 | ,34002 |
| Ad3.adPu.difference | ,116 | ,734 | 1,937 | 71 | ,057 | ,62576 | ,32302 |
|  |  | 1,973 | 70,999 | ,052 | ,62576 | ,31714 |
| Ad3.adAp\_1.difference | ,850 | ,360 | 2,391 | 71 | ,019 | ,50682 | ,21197 |
|  |  | 2,337 | 60,116 | ,023 | ,50682 | ,21690 |
| Ad3.adAp\_2.difference | 5,751 | ,019 | -1,132 | 71 | ,262 | -,23561 | ,20821 |
|  |  | -1,179 | 67,005 | ,242 | -,23561 | ,19980 |
| Ad4.adA.difference | 2,729 | ,103 | -1,186 | 71 | ,240 | -,84435 | ,71217 |
|  |  | -1,087 | 35,191 | ,284 | -,84435 | ,77652 |
| Ad4.adP.difference | ,013 | ,908 | -,078 | 71 | ,938 | -,04174 | ,53339 |
|  |  | -,080 | 45,563 | ,936 | -,04174 | ,52020 |
| Ad4.adPu.difference | ,425 | ,516 | ,231 | 71 | ,818 | ,06261 | ,27075 |
|  |  | ,252 | 53,424 | ,802 | ,06261 | ,24811 |
| Ad4.adAp\_1.difference | ,185 | ,668 | -1,340 | 71 | ,185 | -,36957 | ,27585 |
|  |  | -1,395 | 47,361 | ,170 | -,36957 | ,26494 |
| Ad4.adAp\_2.difference | ,374 | ,543 | ,195 | 71 | ,846 | ,04522 | ,23187 |
|  |  | ,211 | 52,223 | ,834 | ,04522 | ,21436 |
| Ad5.adA.difference | 1,919 | ,170 | -,001 | 71 | ,999 | -,00087 | ,74576 |
|  |  | -,001 | 53,762 | ,999 | -,00087 | ,68170 |
| Ad5.adP.difference | 2,535 | ,116 | ,149 | 71 | ,882 | ,08783 | ,59113 |
|  |  | ,173 | 62,269 | ,863 | ,08783 | ,50858 |
| Ad5.adPu.difference | ,001 | ,972 | -,086 | 71 | ,932 | -,03130 | ,36498 |
|  |  | -,083 | 39,844 | ,934 | -,03130 | ,37622 |
| Ad5.adAp\_1.difference | ,776 | ,381 | -,854 | 71 | ,396 | -,19913 | ,23325 |
|  |  | -,914 | 50,856 | ,365 | -,19913 | ,21789 |
| Ad5.adAp\_2.difference | 2,830 | ,097 | -,045 | 71 | ,964 | -,01130 | ,24884 |
|  |  | -,054 | 66,206 | ,957 | -,01130 | ,20768 |
| Ad6.adA.difference | 3,405 | ,069 | -,286 | 71 | ,776 | -,13217 | ,46293 |
|  |  | -,338 | 64,656 | ,737 | -,13217 | ,39123 |
| Ad6.adP.difference | ,576 | ,450 | -,336 | 71 | ,738 | -,11478 | ,34162 |
|  |  | -,363 | 52,206 | ,718 | -,11478 | ,31587 |
| Ad6.adPu.difference | ,309 | ,580 | -,535 | 71 | ,594 | -,12783 | ,23883 |
|  |  | -,525 | 40,864 | ,603 | -,12783 | ,24354 |
| Ad6.adAp\_1.difference | ,000 | ,983 | -,896 | 71 | ,373 | -,23565 | ,26287 |
|  |  | -,908 | 44,150 | ,369 | -,23565 | ,25963 |
| Ad6.adAp\_2.difference | 3,591 | ,062 | -,010 | 71 | ,992 | -,00261 | ,27158 |
|  |  | -,010 | 53,613 | ,992 | -,00261 | ,24852 |
| Ad7.adA.difference | 2,201 | ,142 | ,635 | 71 | ,527 | ,46522 | ,73251 |
|  |  | ,743 | 63,195 | ,460 | ,46522 | ,62595 |
| Ad7.adP.difference | ,229 | ,633 | -1,423 | 71 | ,159 | -,45913 | ,32276 |
|  |  | -1,487 | 47,875 | ,143 | -,45913 | ,30868 |
| Ad7.adPu.difference | 1,516 | ,222 | -1,135 | 71 | ,260 | -,35478 | ,31265 |
|  |  | -1,041 | 35,190 | ,305 | -,35478 | ,34090 |
| Ad7.adAp\_1.difference | ,743 | ,392 | ,870 | 71 | ,387 | ,21739 | ,25001 |
|  |  | ,846 | 40,111 | ,403 | ,21739 | ,25697 |
| Ad7.adAp\_2.difference | ,452 | ,503 | -,143 | 71 | ,886 | -,03652 | ,25484 |
|  |  | -,146 | 44,889 | ,885 | -,03652 | ,25002 |

**Mean differences: Dutch participants versus Non-Dutch**

**Ad 5**

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Report** | | | | | | | | | | | |
| Dutchonly | | Ad5.adA | Ad5.adP | Ad5.adPu | Bund | Bund | Bund | Guilt N | Fear (afraid) N | Guilt | Fear  (afraid) |
| Non-Dutch | Mean | 7,5185 | 8,4444 | 5,7407 | 9,4815 | 8,9630 | 5,8889 | 2,48 | 2,11 | 2,56 | 2,41 |
| N | 27 | 27 | 27 | 27 | 27 | 27 | 27 | 27 | 27 | 27 |
| Std. Deviation | 3,38969 | 3,19053 | 2,15893 | 2,60724 | 3,09443 | 2,29269 | 1,087 | ,892 | 1,050 | 1,083 |
| Dutch | Mean | 7,3696 | 7,7609 | 4,8478 | 7,3913 | 7,9130 | 4,1739 | 2,26 | 2,20 | 2,83 | 2,98 |
| N | 46 | 46 | 46 | 46 | 46 | 46 | 46 | 46 | 46 | 46 |
| Std. Deviation | 3,04309 | 2,33033 | 1,69925 | 1,97178 | 2,10635 | 1,88920 | 1,063 | 1,003 | ,950 | ,906 |
| Total | Mean | 7,4247 | 8,0137 | 5,1781 | 8,1644 | 8,3014 | 4,8082 | 2,34 | 2,16 | 2,73 | 2,77 |
| N | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 |
| Std. Deviation | 3,15312 | 2,67962 | 1,91734 | 2,43250 | 2,54779 | 2,19632 | 1,070 | ,958 | ,990 | 1,007 |

**Ad 6**

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Report** | | | | | | | | | | | |
| Dutchonly | | Ad6.adA | Ad6.adP | Ad6.adPu | Ben&Jerry's N | Ben&Jerry's N | Ben&Jerry's N | Imaginative N | Cute N | Imaginative | Cute |
| Non-Dutch | Mean | 9,2963 | 9,2593 | 6,0741 | 8,8889 | 9,1481 | 5,9630 | 2,26 | 2,11 | 2,74 | 2,56 |
| N | 27 | 27 | 27 | 27 | 27 | 27 | 27 | 27 | 27 | 27 |
| Std. Deviation | 2,77093 | 2,71169 | 1,83818 | 2,92645 | 2,79703 | 1,93115 | ,813 | ,974 | 1,023 | ,974 |
| Dutch | Mean | 9,3913 | 10,1957 | 6,0870 | 8,7391 | 9,6957 | 5,7391 | 2,24 | 1,93 | 3,20 | 2,52 |
| N | 46 | 46 | 46 | 46 | 46 | 46 | 46 | 46 | 46 | 46 |
| Std. Deviation | 2,08143 | 1,84535 | 1,91863 | 2,33271 | 1,91914 | 1,79425 | ,899 | ,952 | ,910 | ,863 |
| Total | Mean | 9,3562 | 9,8493 | 6,0822 | 8,7945 | 9,4932 | 5,8219 | 2,25 | 2,00 | 3,03 | 2,53 |
| N | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 |
| Std. Deviation | 2,34147 | 2,23402 | 1,87641 | 2,54929 | 2,27988 | 1,83593 | ,863 | ,957 | ,971 | ,899 |

**Ad 7**

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Report** | | | | | | | | | | | |
| Dutchonly | | Greenpeace  N | Greenpeace  N | Greenpeace  N | Ad7.adA | Ad7.adP | Ad7.adPu | Happiness  N | Joyful  N | Happiness | Joyful |
| Non-Dutch | Mean | 9,1481 | 9,0741 | 5,7778 | 9,7407 | 9,6296 | 5,8519 | 1,89 | 1,81 | 2,48 | 2,56 |
| N | 27 | 27 | 27 | 27 | 27 | 27 | 27 | 27 | 27 | 27 |
| Std. Deviation | 3,23090 | 2,88132 | 2,02548 | 2,65435 | 2,92401 | 2,05134 | 1,013 | ,921 | 1,014 | 1,013 |
| Dutch | Mean | 7,9130 | 8,2391 | 4,6522 | 8,7609 | 8,5870 | 4,9130 | 1,28 | 1,41 | 2,41 | 2,46 |
| N | 46 | 46 | 46 | 46 | 46 | 46 | 46 | 46 | 46 | 46 |
| Std. Deviation | 2,33644 | 2,32077 | 2,05715 | 2,16215 | 2,37184 | 1,91863 | ,544 | ,686 | ,832 | ,862 |
| Total | Mean | 8,3699 | 8,5479 | 5,0685 | 9,1233 | 8,9726 | 5,2603 | 1,51 | 1,56 | 2,44 | 2,49 |
| N | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 |
| Std. Deviation | 2,74624 | 2,55518 | 2,10376 | 2,38598 | 2,61923 | 2,00712 | ,801 | ,799 | ,897 | ,915 |

**Linear regressions**

**Ad 1: Relationships**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Correlations** | | | | |
|  | | Ad1.adA.difference | Ad1.adAp\_1.difference | Ad1.adAp\_2.difference |
| Pearson Correlation | Ad1.adA.difference | 1,000 | -,338 | -,185 |
| Ad1.adAp\_1.difference | -,338 | 1,000 | ,758 |
| Ad1.adAp\_2.difference | -,185 | ,758 | 1,000 |
| Sig. (1-tailed) | Ad1.adA.difference | . | ,002 | ,059 |
| Ad1.adAp\_1.difference | ,002 | . | ,000 |
| Ad1.adAp\_2.difference | ,059 | ,000 | . |
| N | Ad1.adA.difference | 73 | 73 | 73 |
| Ad1.adAp\_1.difference | 73 | 73 | 73 |
| Ad1.adAp\_2.difference | 73 | 73 | 73 |

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Model Summaryb** | | | | | | | | | |
| Model | | Change Statistics | | | | | | | |
| R Square Change | F Change | | df1 | df2 | | Sig. F Change | |
| 1 | | ,126a | 5,040 | | 2 | 70 | | ,009 | |
| a. Predictors: (Constant), Ad1.adAp\_2.difference, Ad1.adAp\_1.difference | | | | | | | | | |
| b. Dependent Variable: Ad1.adA.difference | | | | | | | | | |
| **Coefficientsa** | | | | | | | | | | | | | | |
| Model | | | | Unstandardized Coefficients | | | | | Standardized Coefficients | | t | Sig. | 95,0% Confidence Interval for B | |
| B | | | Std. Error | | Beta | | Lower Bound | Upper Bound |
| 1 | (Constant) | | | -,146 | | | ,572 | |  | | -,256 | ,799 | -1,287 | ,994 |
| Ad1.adAp\_1.difference | | | -1,371 | | | ,506 | | -,464 | | -2,709 | ,008 | -2,380 | -,362 |
| Ad1.adAp\_2.difference | | | ,489 | | | ,502 | | ,167 | | ,974 | ,333 | -,512 | 1,491 |
| a. Dependent Variable: Ad1.adA.difference | | | | | | | | | | | | | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Correlations** | | | | |
|  | | Ad1.adP.difference | Ad1.adAp\_1.difference | Ad1.adAp\_2.difference |
| Pearson Correlation | Ad1.adP.difference | 1,000 | -,324 | -,272 |
| Ad1.adAp\_1.difference | -,324 | 1,000 | ,758 |
| Ad1.adAp\_2.difference | -,272 | ,758 | 1,000 |
| Sig. (1-tailed) | Ad1.adP.difference | . | ,003 | ,010 |
| Ad1.adAp\_1.difference | ,003 | . | ,000 |
| Ad1.adAp\_2.difference | ,010 | ,000 | . |
| N | Ad1.adP.difference | 73 | 73 | 73 |
| Ad1.adAp\_1.difference | 73 | 73 | 73 |
| Ad1.adAp\_2.difference | 73 | 73 | 73 |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Model Summaryb** | | | | | |
| Model | Change Statistics | | | | |
| R Square Change | F Change | df1 | df2 | Sig. F Change |
| 1 | ,107a | 4,183 | 2 | 70 | ,019 |
| a. Predictors: (Constant), Ad1.adAp\_2.difference, Ad1.adAp\_1.difference | | | | | |
| b. Dependent Variable: Ad1.adP.difference | | | | | |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Coefficientsa** | | | | | | | | |
| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. | 95,0% Confidence Interval for B | |
| B | Std. Error | Beta | Lower Bound | Upper Bound |
| 1 | (Constant) | -,081 | ,438 |  | -,186 | ,853 | -,955 | ,792 |
| Ad1.adAp\_1.difference | -,623 | ,388 | -,279 | -1,608 | ,112 | -1,396 | ,150 |
| Ad1.adAp\_2.difference | -,134 | ,385 | -,060 | -,349 | ,728 | -,901 | ,633 |
| a. Dependent Variable: Ad1.adP.difference | | | | | | | | |

|  |  |  |  |
| --- | --- | --- | --- |
| **Correlations** | | | |
|  | | Ad1.adP.difference | Ad1.adA.difference |
| Pearson Correlation | Ad1.adP.difference | 1,000 | ,488 |
| Ad1.adA.difference | ,488 | 1,000 |
| Sig. (1-tailed) | Ad1.adP.difference | . | ,000 |
| Ad1.adA.difference | ,000 | . |
| N | Ad1.adP.difference | 73 | 73 |
| Ad1.adA.difference | 73 | 73 |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Model Summaryb** | | | | | |
| Model | Change Statistics | | | | |
| R Square Change | F Change | df1 | df2 | Sig. F Change |
| 1 | ,238a | 22,192 | 1 | 71 | ,000 |
| a. Predictors: (Constant), Ad1.adA.difference | | | | | |
| b. Dependent Variable: Ad1.adP.difference | | | | | |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Coefficientsa** | | | | | | | | |
| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. | 95,0% Confidence Interval for B | |
| B | Std. Error | Beta | Lower Bound | Upper Bound |
| 1 | (Constant) | -,591 | ,253 |  | -2,340 | ,022 | -1,095 | -,087 |
| Ad1.adA.difference | ,370 | ,078 | ,488 | 4,711 | ,000 | ,213 | ,526 |
| a. Dependent Variable: Ad1.adP.difference | | | | | | | | |

|  |  |  |  |
| --- | --- | --- | --- |
| **Correlations** | | | |
|  | | Ad1.adPu.difference | Ad1.adP.difference |
| Pearson Correlation | Ad1.adPu.difference | 1,000 | ,017 |
| Ad1.adP.difference | ,017 | 1,000 |
| Sig. (1-tailed) | Ad1.adPu.difference | . | ,443 |
| Ad1.adP.difference | ,443 | . |
| N | Ad1.adPu.difference | 73 | 73 |
| Ad1.adP.difference | 73 | 73 |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Model Summaryb** | | | | | |
| Model | Change Statistics | | | | |
| R Square Change | F Change | df1 | df2 | Sig. F Change |
| 1 | ,000a | ,021 | 1 | 71 | ,886 |
| a. Predictors: (Constant), Ad1.adP.difference | | | | | |
| b. Dependent Variable: Ad1.adPu.difference | | | | | |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Coefficientsa** | | | | | | | | |
| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. | 95,0% Confidence Interval for B | |
| B | Std. Error | Beta | Lower Bound | Upper Bound |
| 1 | (Constant) | ,024 | ,154 |  | ,155 | ,878 | -,283 | ,330 |
| Ad1.adP.difference | ,009 | ,063 | ,017 | ,143 | ,886 | -,116 | ,134 |
| a. Dependent Variable: Ad1.adPu.difference | | | | | | | | |

**Ad 2: Relationships**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Correlations** | | | | |
|  | | Ad2.adA.difference | Ad2.adAp\_1.difference | Ad2.adAp\_2.difference |
| Pearson Correlation | Ad2.adA.difference | 1,000 | ,028 | ,443 |
| Ad2.adAp\_1.difference | ,028 | 1,000 | -,284 |
| Ad2.adAp\_2.difference | ,443 | -,284 | 1,000 |
| Sig. (1-tailed) | Ad2.adA.difference | . | ,406 | ,000 |
| Ad2.adAp\_1.difference | ,406 | . | ,007 |
| Ad2.adAp\_2.difference | ,000 | ,007 | . |
| N | Ad2.adA.difference | 73 | 73 | 73 |
| Ad2.adAp\_1.difference | 73 | 73 | 73 |
| Ad2.adAp\_2.difference | 73 | 73 | 73 |

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Model Summaryb** | | | | | | | | | |
| Model | | Change Statistics | | | | | | | |
| R Square Change | F Change | | df1 | df2 | | Sig. F Change | |
| 1 | | ,222a | 9,977 | | 2 | 70 | | ,000 | |
| a. Predictors: (Constant), Ad2.adAp\_2.difference, Ad2.adAp\_1.difference | | | | | | | | | |
| b. Dependent Variable: Ad2.adA.difference | | | | | | | | | |
| **Coefficientsa** | | | | | | | | | | | | | | |
| Model | | | | Unstandardized Coefficients | | | | | Standardized Coefficients | | t | Sig. | 95,0% Confidence Interval for B | |
| B | | | Std. Error | | Beta | | Lower Bound | Upper Bound |
| 1 | (Constant) | | | -,950 | | | ,368 | |  | | -2,581 | ,012 | -1,684 | -,216 |
| Ad2.adAp\_1.difference | | | ,403 | | | ,265 | | ,168 | | 1,524 | ,132 | -,125 | ,931 |
| Ad2.adAp\_2.difference | | | 1,151 | | | ,258 | | ,490 | | 4,459 | ,000 | ,636 | 1,666 |
| a. Dependent Variable: Ad2.adA.difference | | | | | | | | | | | | | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Correlations** | | | | |
|  | | Ad2.adP.difference | Ad2.adAp\_1.difference | Ad2.adAp\_2.difference |
| Pearson Correlation | Ad2.adP.difference | 1,000 | ,108 | ,274 |
| Ad2.adAp\_1.difference | ,108 | 1,000 | -,284 |
| Ad2.adAp\_2.difference | ,274 | -,284 | 1,000 |
| Sig. (1-tailed) | Ad2.adP.difference | . | ,182 | ,009 |
| Ad2.adAp\_1.difference | ,182 | . | ,007 |
| Ad2.adAp\_2.difference | ,009 | ,007 | . |
| N | Ad2.adP.difference | 73 | 73 | 73 |
| Ad2.adAp\_1.difference | 73 | 73 | 73 |
| Ad2.adAp\_2.difference | 73 | 73 | 73 |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Model Summaryb** | | | | | |
| Model | Change Statistics | | | | |
| R Square Change | F Change | df1 | df2 | Sig. F Change |
| 1 | ,113a | 4,446 | 2 | 70 | ,015 |
| a. Predictors: (Constant), Ad2.adAp\_2.difference, Ad2.adAp\_1.difference | | | | | |
| b. Dependent Variable: Ad2.adP.difference | | | | | |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Coefficientsa** | | | | | | | | |
| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. | 95,0% Confidence Interval for B | |
| B | Std. Error | Beta | Lower Bound | Upper Bound |
| 1 | (Constant) | ,125 | ,248 |  | ,505 | ,615 | -,369 | ,619 |
| Ad2.adAp\_1.difference | ,306 | ,178 | ,202 | 1,719 | ,090 | -,049 | ,661 |
| Ad2.adAp\_2.difference | ,491 | ,174 | ,332 | 2,824 | ,006 | ,144 | ,837 |
| a. Dependent Variable: Ad2.adP.difference | | | | | | | | |

|  |  |  |  |
| --- | --- | --- | --- |
| **Correlations** | | | |
|  | | Ad2.adP.difference | Ad2.adA.difference |
| Pearson Correlation | Ad2.adP.difference | 1,000 | ,347 |
| Ad2.adA.difference | ,347 | 1,000 |
| Sig. (1-tailed) | Ad2.adP.difference | . | ,001 |
| Ad2.adA.difference | ,001 | . |
| N | Ad2.adP.difference | 73 | 73 |
| Ad2.adA.difference | 73 | 73 |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Model Summaryb** | | | | | |
| Model | Change Statistics | | | | |
| R Square Change | F Change | df1 | df2 | Sig. F Change |
| 1 | ,120a | 9,703 | 1 | 71 | ,003 |
| a. Predictors: (Constant), Ad2.adA.difference | | | | | |
| b. Dependent Variable: Ad2.adP.difference | | | | | |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Coefficientsa** | | | | | | | | |
| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. | 95,0% Confidence Interval for B | |
| B | Std. Error | Beta | Lower Bound | Upper Bound |
| 1 | (Constant) | ,359 | ,217 |  | 1,653 | ,103 | -,074 | ,792 |
| Ad2.adA.difference | ,219 | ,070 | ,347 | 3,115 | ,003 | ,079 | ,359 |
| a. Dependent Variable: Ad2.adP.difference | | | | | | | | |

|  |  |  |  |
| --- | --- | --- | --- |
| **Correlations** | | | |
|  | | Ad2.adPu.difference | Ad2.adP.difference |
| Pearson Correlation | Ad2.adPu.difference | 1,000 | ,511 |
| Ad2.adP.difference | ,511 | 1,000 |
| Sig. (1-tailed) | Ad2.adPu.difference | . | ,000 |
| Ad2.adP.difference | ,000 | . |
| N | Ad2.adPu.difference | 73 | 73 |
| Ad2.adP.difference | 73 | 73 |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Model Summaryb** | | | | | |
| Model | Change Statistics | | | | |
| R Square Change | F Change | df1 | df2 | Sig. F Change |
| 1 | ,261a | 25,031 | 1 | 71 | ,000 |
| a. Predictors: (Constant), Ad2.adP.difference | | | | | |
| b. Dependent Variable: Ad2.adPu.difference | | | | | |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Coefficientsa** | | | | | | | | |
| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. | 95,0% Confidence Interval for B | |
| B | Std. Error | Beta | Lower Bound | Upper Bound |
| 1 | (Constant) | -,012 | ,134 |  | -,092 | ,927 | -,279 | ,254 |
| Ad2.adP.difference | ,379 | ,076 | ,511 | 5,003 | ,000 | ,228 | ,530 |
| a. Dependent Variable: Ad2.adPu.difference | | | | | | | | |

**Ad 3: Relationships**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Correlations** | | | | |
|  | | Ad3.adA.difference | Ad3.adAp\_1.difference | Ad3.adAp\_2.difference |
| Pearson Correlation | Ad3.adA.difference | 1,000 | ,381 | -,236 |
| Ad3.adAp\_1.difference | ,381 | 1,000 | -,143 |
| Ad3.adAp\_2.difference | -,236 | -,143 | 1,000 |
| Sig. (1-tailed) | Ad3.adA.difference | . | ,000 | ,022 |
| Ad3.adAp\_1.difference | ,000 | . | ,113 |
| Ad3.adAp\_2.difference | ,022 | ,113 | . |
| N | Ad3.adA.difference | 73 | 73 | 73 |
| Ad3.adAp\_1.difference | 73 | 73 | 73 |
| Ad3.adAp\_2.difference | 73 | 73 | 73 |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Model Summaryb** | | | | | |
| Model | Change Statistics | | | | |
| R Square Change | F Change | df1 | df2 | Sig. F Change |
| 1 | ,179a | 7,609 | 2 | 70 | ,001 |
| a. Predictors: (Constant), Ad3.adAp\_2.difference, Ad3.adAp\_1.difference | | | | | |
| b. Dependent Variable: Ad3.adA.difference | | | | | |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Coefficientsa** | | | | | | | | |
| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. | 95,0% Confidence Interval for B | |
| B | Std. Error | Beta | Lower Bound | Upper Bound |
| 1 | (Constant) | -,485 | ,313 |  | -1,551 | ,125 | -1,109 | ,139 |
| Ad3.adAp\_1.difference | ,781 | ,241 | ,354 | 3,235 | ,002 | ,300 | 1,263 |
| Ad3.adAp\_2.difference | -,429 | ,253 | -,185 | -1,694 | ,095 | -,934 | ,076 |
| a. Dependent Variable: Ad3.adA.difference | | | | | | | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Correlations** | | | | |
|  | | Ad3.adP.difference | Ad3.adAp\_1.difference | Ad3.adAp\_2.difference |
| Pearson Correlation | Ad3.adP.difference | 1,000 | ,262 | ,012 |
| Ad3.adAp\_1.difference | ,262 | 1,000 | -,143 |
| Ad3.adAp\_2.difference | ,012 | -,143 | 1,000 |
| Sig. (1-tailed) | Ad3.adP.difference | . | ,012 | ,460 |
| Ad3.adAp\_1.difference | ,012 | . | ,113 |
| Ad3.adAp\_2.difference | ,460 | ,113 | . |
| N | Ad3.adP.difference | 73 | 73 | 73 |
| Ad3.adAp\_1.difference | 73 | 73 | 73 |
| Ad3.adAp\_2.difference | 73 | 73 | 73 |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Model Summaryb** | | | | | |
| Model | Change Statistics | | | | |
| R Square Change | F Change | df1 | df2 | Sig. F Change |
| 1 | ,071a | 2,687 | 2 | 70 | ,075 |
| a. Predictors: (Constant), Ad3.adAp\_2.difference, Ad3.adAp\_1.difference | | | | | |
| b. Dependent Variable: Ad3.adP.difference | | | | | |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Coefficientsa** | | | | | | | | |
| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. | 95,0% Confidence Interval for B | |
| B | Std. Error | Beta | Lower Bound | Upper Bound |
| 1 | (Constant) | -,204 | ,233 |  | -,876 | ,384 | -,668 | ,260 |
| Ad3.adAp\_1.difference | ,416 | ,180 | ,270 | 2,316 | ,024 | ,058 | ,775 |
| Ad3.adAp\_2.difference | ,082 | ,189 | ,051 | ,436 | ,664 | -,294 | ,458 |
| a. Dependent Variable: Ad3.adP.difference | | | | | | | | |

|  |  |  |  |
| --- | --- | --- | --- |
| **Correlations** | | | |
|  | | Ad3.adP.difference | Ad3.adA.difference |
| Pearson Correlation | Ad3.adP.difference | 1,000 | ,365 |
| Ad3.adA.difference | ,365 | 1,000 |
| Sig. (1-tailed) | Ad3.adP.difference | . | ,001 |
| Ad3.adA.difference | ,001 | . |
| N | Ad3.adP.difference | 73 | 73 |
| Ad3.adA.difference | 73 | 73 |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Model Summaryb** | | | | | |
| Model | Change Statistics | | | | |
| R Square Change | F Change | df1 | df2 | Sig. F Change |
| 1 | ,133a | 10,911 | 1 | 71 | ,001 |
| a. Predictors: (Constant), Ad3.adA.difference | | | | | |
| b. Dependent Variable: Ad3.adP.difference | | | | | |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Coefficientsa** | | | | | | | | |
| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. | 95,0% Confidence Interval for B | |
| B | Std. Error | Beta | Lower Bound | Upper Bound |
| 1 | (Constant) | ,129 | ,158 |  | ,815 | ,418 | -,187 | ,445 |
| Ad3.adA.difference | ,256 | ,077 | ,365 | 3,303 | ,001 | ,101 | ,410 |
| a. Dependent Variable: Ad3.adP.difference | | | | | | | | |

|  |  |  |  |
| --- | --- | --- | --- |
| **Correlations** | | | |
|  | | Ad3.adPu.difference | Ad3.adP.difference |
| Pearson Correlation | Ad3.adPu.difference | 1,000 | ,469 |
| Ad3.adP.difference | ,469 | 1,000 |
| Sig. (1-tailed) | Ad3.adPu.difference | . | ,000 |
| Ad3.adP.difference | ,000 | . |
| N | Ad3.adPu.difference | 73 | 73 |
| Ad3.adP.difference | 73 | 73 |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Model Summaryb** | | | | | |
| Model | Change Statistics | | | | |
| R Square Change | F Change | df1 | df2 | Sig. F Change |
| 1 | ,220a | 20,063 | 1 | 71 | ,000 |
| a. Predictors: (Constant), Ad3.adP.difference | | | | | |
| b. Dependent Variable: Ad3.adPu.difference | | | | | |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Coefficientsa** | | | | | | | | |
| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. | 95,0% Confidence Interval for B | |
| B | Std. Error | Beta | Lower Bound | Upper Bound |
| 1 | (Constant) | ,151 | ,147 |  | 1,032 | ,306 | -,141 | ,444 |
| Ad3.adP.difference | ,457 | ,102 | ,469 | 4,479 | ,000 | ,254 | ,661 |
| a. Dependent Variable: Ad3.adPu.difference | | | | | | | | |

**Ad4: Relationships**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Correlations** | | | | |
|  | | Ad4.adA.difference | Ad4.adAp\_1.difference | Ad4.adAp\_2.difference |
| Pearson Correlation | Ad4.adA.difference | 1,000 | ,442 | ,184 |
| Ad4.adAp\_1.difference | ,442 | 1,000 | ,194 |
| Ad4.adAp\_2.difference | ,184 | ,194 | 1,000 |
| Sig. (1-tailed) | Ad4.adA.difference | . | ,000 | ,060 |
| Ad4.adAp\_1.difference | ,000 | . | ,050 |
| Ad4.adAp\_2.difference | ,060 | ,050 | . |
| N | Ad4.adA.difference | 73 | 73 | 73 |
| Ad4.adAp\_1.difference | 73 | 73 | 73 |
| Ad4.adAp\_2.difference | 73 | 73 | 73 |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Model Summaryb** | | | | | |
| Model | Change Statistics | | | | |
| R Square Change | F Change | df1 | df2 | Sig. F Change |
| 1 | ,205a | 9,051 | 2 | 70 | ,000 |
| a. Predictors: (Constant), Ad4.adAp\_2.difference, Ad4.adAp\_1.difference | | | | | |
| b. Dependent Variable: Ad4.adA.difference | | | | | |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Coefficientsa** | | | | | | | | |
| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. | 95,0% Confidence Interval for B | |
| B | Std. Error | Beta | Lower Bound | Upper Bound |
| 1 | (Constant) | -1,179 | ,540 |  | -2,184 | ,032 | -2,256 | -,103 |
| Ad4.adAp\_1.difference | 1,087 | ,280 | ,422 | 3,889 | ,000 | ,530 | 1,645 |
| Ad4.adAp\_2.difference | ,317 | ,337 | ,102 | ,940 | ,350 | -,355 | ,988 |
| a. Dependent Variable: Ad4.adA.difference | | | | | | | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Correlations** | | | | |
|  | | Ad4.adP.difference | Ad4.adAp\_1.difference | Ad4.adAp\_2.difference |
| Pearson Correlation | Ad4.adP.difference | 1,000 | ,371 | ,146 |
| Ad4.adAp\_1.difference | ,371 | 1,000 | ,194 |
| Ad4.adAp\_2.difference | ,146 | ,194 | 1,000 |
| Sig. (1-tailed) | Ad4.adP.difference | . | ,001 | ,109 |
| Ad4.adAp\_1.difference | ,001 | . | ,050 |
| Ad4.adAp\_2.difference | ,109 | ,050 | . |
| N | Ad4.adP.difference | 73 | 73 | 73 |
| Ad4.adAp\_1.difference | 73 | 73 | 73 |
| Ad4.adAp\_2.difference | 73 | 73 | 73 |

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Coefficientsa** | | | | | | | | | | | | |
| Model | | | Unstandardized Coefficients | | | | Standardized Coefficients | | t | Sig. | 95,0% Confidence Interval for B | |
| B | | Std. Error | | Beta | | Lower Bound | Upper Bound |
| 1 | (Constant) | | -,688 | | ,416 | |  | | -1,656 | ,102 | -1,517 | ,141 |
| Ad4.adAp\_1.difference | | ,680 | | ,215 | | ,356 | | 3,156 | ,002 | ,250 | 1,109 |
| Ad4.adAp\_2.difference | | ,178 | | ,259 | | ,077 | | ,685 | ,496 | -,340 | ,695 |
| a. Dependent Variable: Ad4.adP.difference | | | | | | | | | | | | |
| **Correlations** | | | | | | | |
|  | | | | Ad4.adP.difference | | Ad4.adA.difference | |
| Pearson Correlation | | Ad4.adP.difference | | 1,000 | | ,482 | |
| Ad4.adA.difference | | ,482 | | 1,000 | |
| Sig. (1-tailed) | | Ad4.adP.difference | | . | | ,000 | |
| Ad4.adA.difference | | ,000 | | . | |
| N | | Ad4.adP.difference | | 73 | | 73 | |
| Ad4.adA.difference | | 73 | | 73 | |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Model Summaryb** | | | | | |
| Model | Change Statistics | | | | |
| R Square Change | F Change | df1 | df2 | Sig. F Change |
| 1 | ,232a | 21,499 | 1 | 71 | ,000 |
| a. Predictors: (Constant), Ad4.adA.difference | | | | | |
| b. Dependent Variable: Ad4.adP.difference | | | | | |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Coefficientsa** | | | | | | | | |
| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. | 95,0% Confidence Interval for B | |
| B | Std. Error | Beta | Lower Bound | Upper Bound |
| 1 | (Constant) | ,234 | ,224 |  | 1,042 | ,301 | -,213 | ,681 |
| Ad4.adA.difference | ,358 | ,077 | ,482 | 4,637 | ,000 | ,204 | ,511 |
| a. Dependent Variable: Ad4.adP.difference | | | | | | | | |

|  |  |  |  |
| --- | --- | --- | --- |
| **Correlations** | | | |
|  | | Ad4.adPu.difference | Ad4.adP.difference |
| Pearson Correlation | Ad4.adPu.difference | 1,000 | ,542 |
| Ad4.adP.difference | ,542 | 1,000 |
| Sig. (1-tailed) | Ad4.adPu.difference | . | ,000 |
| Ad4.adP.difference | ,000 | . |
| N | Ad4.adPu.difference | 73 | 73 |
| Ad4.adP.difference | 73 | 73 |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Model Summaryb** | | | | | |
| Model | Change Statistics | | | | |
| R Square Change | F Change | df1 | df2 | Sig. F Change |
| 1 | ,294a | 29,575 | 1 | 71 | ,000 |
| a. Predictors: (Constant), Ad4.adP.difference | | | | | |
| b. Dependent Variable: Ad4.adPu.difference | | | | | |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Coefficientsa** | | | | | | | | |
| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. | 95,0% Confidence Interval for B | |
| B | Std. Error | Beta | Lower Bound | Upper Bound |
| 1 | (Constant) | ,124 | ,109 |  | 1,146 | ,256 | -,092 | ,341 |
| Ad4.adP.difference | ,275 | ,051 | ,542 | 5,438 | ,000 | ,174 | ,376 |
| a. Dependent Variable: Ad4.adPu.difference | | | | | | | | |

**Ad 5: Relationship**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Correlations** | | | | |
|  | | Ad5.adA.difference | Ad5.adAp\_1.difference | Ad5.adAp\_2.difference |
| Pearson Correlation | Ad5.adA.difference | 1,000 | ,013 | ,081 |
| Ad5.adAp\_1.difference | ,013 | 1,000 | ,431 |
| Ad5.adAp\_2.difference | ,081 | ,431 | 1,000 |
| Sig. (1-tailed) | Ad5.adA.difference | . | ,456 | ,249 |
| Ad5.adAp\_1.difference | ,456 | . | ,000 |
| Ad5.adAp\_2.difference | ,249 | ,000 | . |
| N | Ad5.adA.difference | 73 | 73 | 73 |
| Ad5.adAp\_1.difference | 73 | 73 | 73 |
| Ad5.adAp\_2.difference | 73 | 73 | 73 |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Model Summaryb** | | | | | |
| Model | Change Statistics | | | | |
| R Square Change | F Change | df1 | df2 | Sig. F Change |
| 1 | ,007a | ,249 | 2 | 70 | ,780 |
| a. Predictors: (Constant), Ad5.adAp\_2.difference, Ad5.adAp\_1.difference | | | | | |
| b. Dependent Variable: Ad5.adA.difference | | | | | |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Coefficientsa** | | | | | | | | |
| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. | 95,0% Confidence Interval for B | |
| B | Std. Error | Beta | Lower Bound | Upper Bound |
| 1 | (Constant) | -,794 | ,418 |  | -1,900 | ,062 | -1,628 | ,040 |
| Ad5.adAp\_1.difference | -,085 | ,420 | -,027 | -,202 | ,841 | -,922 | ,753 |
| Ad5.adAp\_2.difference | ,276 | ,396 | ,092 | ,697 | ,488 | -,513 | 1,065 |
| a. Dependent Variable: Ad5.adA.difference | | | | | | | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Correlations** | | | | |
|  | | Ad5.adP.difference | Ad5.adAp\_1.difference | Ad5.adAp\_2.difference |
| Pearson Correlation | Ad5.adP.difference | 1,000 | ,095 | ,006 |
| Ad5.adAp\_1.difference | ,095 | 1,000 | ,431 |
| Ad5.adAp\_2.difference | ,006 | ,431 | 1,000 |
| Sig. (1-tailed) | Ad5.adP.difference | . | ,213 | ,479 |
| Ad5.adAp\_1.difference | ,213 | . | ,000 |
| Ad5.adAp\_2.difference | ,479 | ,000 | . |
| N | Ad5.adP.difference | 73 | 73 | 73 |
| Ad5.adAp\_1.difference | 73 | 73 | 73 |
| Ad5.adAp\_2.difference | 73 | 73 | 73 |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Model Summaryb** | | | | | |
| Model | Change Statistics | | | | |
| R Square Change | F Change | df1 | df2 | Sig. F Change |
| 1 | ,010a | ,367 | 2 | 70 | ,694 |
| a. Predictors: (Constant), Ad5.adAp\_2.difference, Ad5.adAp\_1.difference | | | | | |
| b. Dependent Variable: Ad5.adP.difference | | | | | |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Coefficientsa** | | | | | | | | |
| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. | 95,0% Confidence Interval for B | |
| B | Std. Error | Beta | Lower Bound | Upper Bound |
| 1 | (Constant) | -,421 | ,331 |  | -1,271 | ,208 | -1,081 | ,239 |
| Ad5.adAp\_1.difference | ,284 | ,332 | ,113 | ,855 | ,395 | -,378 | ,947 |
| Ad5.adAp\_2.difference | -,100 | ,313 | -,042 | -,320 | ,750 | -,725 | ,524 |
| a. Dependent Variable: Ad5.adP.difference | | | | | | | | |

|  |  |  |  |
| --- | --- | --- | --- |
| **Correlations** | | | |
|  | | Ad5.adP.difference | Ad5.adA.difference |
| Pearson Correlation | Ad5.adP.difference | 1,000 | ,532 |
| Ad5.adA.difference | ,532 | 1,000 |
| Sig. (1-tailed) | Ad5.adP.difference | . | ,000 |
| Ad5.adA.difference | ,000 | . |
| N | Ad5.adP.difference | 73 | 73 |
| Ad5.adA.difference | 73 | 73 |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Model Summaryb** | | | | | |
| Model | Change Statistics | | | | |
| R Square Change | F Change | df1 | df2 | Sig. F Change |
| 1 | ,283a | 28,060 | 1 | 71 | ,000 |
| a. Predictors: (Constant), Ad5.adA.difference | | | | | |
| b. Dependent Variable: Ad5.adP.difference | | | | | |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Coefficientsa** | | | | | | | | |
| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. | 95,0% Confidence Interval for B | |
| B | Std. Error | Beta | Lower Bound | Upper Bound |
| 1 | (Constant) | ,024 | ,240 |  | ,102 | ,919 | -,454 | ,503 |
| Ad5.adA.difference | ,422 | ,080 | ,532 | 5,297 | ,000 | ,263 | ,581 |
| a. Dependent Variable: Ad5.adP.difference | | | | | | | | |

|  |  |  |  |
| --- | --- | --- | --- |
| **Correlations** | | | |
|  | | Ad5.adPu.difference | Ad5.adP.difference |
| Pearson Correlation | Ad5.adPu.difference | 1,000 | ,538 |
| Ad5.adP.difference | ,538 | 1,000 |
| Sig. (1-tailed) | Ad5.adPu.difference | . | ,000 |
| Ad5.adP.difference | ,000 | . |
| N | Ad5.adPu.difference | 73 | 73 |
| Ad5.adP.difference | 73 | 73 |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Model Summaryb** | | | | | |
| Model | Change Statistics | | | | |
| R Square Change | F Change | df1 | df2 | Sig. F Change |
| 1 | ,289a | 28,866 | 1 | 71 | ,000 |
| a. Predictors: (Constant), Ad5.adP.difference | | | | | |
| b. Dependent Variable: Ad5.adPu.difference | | | | | |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Coefficientsa** | | | | | | | | |
| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. | 95,0% Confidence Interval for B | |
| B | Std. Error | Beta | Lower Bound | Upper Bound |
| 1 | (Constant) | ,465 | ,144 |  | 3,230 | ,002 | ,178 | ,753 |
| Ad5.adP.difference | ,332 | ,062 | ,538 | 5,373 | ,000 | ,209 | ,455 |
| a. Dependent Variable: Ad5.adPu.difference | | | | | | | | |

**Ad 6: Relationships**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Correlations** | | | | |
|  | | Ad6.adA.difference | Ad6.adAp\_1.difference | Ad6.adAp\_2.difference |
| Pearson Correlation | Ad6.adA.difference | 1,000 | ,417 | ,433 |
| Ad6.adAp\_1.difference | ,417 | 1,000 | ,380 |
| Ad6.adAp\_2.difference | ,433 | ,380 | 1,000 |
| Sig. (1-tailed) | Ad6.adA.difference | . | ,000 | ,000 |
| Ad6.adAp\_1.difference | ,000 | . | ,000 |
| Ad6.adAp\_2.difference | ,000 | ,000 | . |
| N | Ad6.adA.difference | 73 | 73 | 73 |
| Ad6.adAp\_1.difference | 73 | 73 | 73 |
| Ad6.adAp\_2.difference | 73 | 73 | 73 |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Model Summaryb** | | | | | |
| Model | Change Statistics | | | | |
| R Square Change | F Change | df1 | df2 | Sig. F Change |
| 1 | ,262a | 12,434 | 2 | 70 | ,000 |
| a. Predictors: (Constant), Ad6.adAp\_2.difference, Ad6.adAp\_1.difference | | | | | |
| b. Dependent Variable: Ad6.adA.difference | | | | | |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Coefficientsa** | | | | | | | | |
| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. | 95,0% Confidence Interval for B | |
| B | Std. Error | Beta | Lower Bound | Upper Bound |
| 1 | (Constant) | -,142 | ,236 |  | -,603 | ,549 | -,613 | ,328 |
| Ad6.adAp\_1.difference | ,516 | ,195 | ,295 | 2,654 | ,010 | ,128 | ,904 |
| Ad6.adAp\_2.difference | ,548 | ,189 | ,321 | 2,895 | ,005 | ,170 | ,926 |
| a. Dependent Variable: Ad6.adA.difference | | | | | | | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Correlations** | | | | |
|  | | Ad6.adP.difference | Ad6.adAp\_1.difference | Ad6.adAp\_2.difference |
| Pearson Correlation | Ad6.adP.difference | 1,000 | ,318 | ,392 |
| Ad6.adAp\_1.difference | ,318 | 1,000 | ,380 |
| Ad6.adAp\_2.difference | ,392 | ,380 | 1,000 |
| Sig. (1-tailed) | Ad6.adP.difference | . | ,003 | ,000 |
| Ad6.adAp\_1.difference | ,003 | . | ,000 |
| Ad6.adAp\_2.difference | ,000 | ,000 | . |
| N | Ad6.adP.difference | 73 | 73 | 73 |
| Ad6.adAp\_1.difference | 73 | 73 | 73 |
| Ad6.adAp\_2.difference | 73 | 73 | 73 |

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| --- | --- | --- | --- | --- | --- |
| **Model Summaryb** | | | | | |
| Model | Change Statistics | | | | |
| R Square Change | F Change | df1 | df2 | Sig. F Change |
| 1 | ,187a | 8,040 | 2 | 70 | ,001 |
| a. Predictors: (Constant), Ad6.adAp\_2.difference, Ad6.adAp\_1.difference | | | | | |
| b. Dependent Variable: Ad6.adP.difference | | | | | |

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| **Coefficientsa** | | | | | | | | |
| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. | 95,0% Confidence Interval for B | |
| B | Std. Error | Beta | Lower Bound | Upper Bound |
| 1 | (Constant) | -,092 | ,183 |  | -,501 | ,618 | -,456 | ,273 |
| Ad6.adAp\_1.difference | ,255 | ,151 | ,197 | 1,691 | ,095 | -,046 | ,555 |
| Ad6.adAp\_2.difference | ,399 | ,147 | ,317 | 2,719 | ,008 | ,106 | ,692 |
| a. Dependent Variable: Ad6.adP.difference | | | | | | | | |

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| --- | --- | --- | --- |
| **Correlations** | | | |
|  | | Ad6.adP.difference | Ad6.adA.difference |
| Pearson Correlation | Ad6.adP.difference | 1,000 | ,584 |
| Ad6.adA.difference | ,584 | 1,000 |
| Sig. (1-tailed) | Ad6.adP.difference | . | ,000 |
| Ad6.adA.difference | ,000 | . |
| N | Ad6.adP.difference | 73 | 73 |
| Ad6.adA.difference | 73 | 73 |

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| --- | --- | --- | --- | --- | --- |
| **Model Summaryb** | | | | | |
| Model | Change Statistics | | | | |
| R Square Change | F Change | df1 | df2 | Sig. F Change |
| 1 | ,341a | 36,700 | 1 | 71 | ,000 |
| a. Predictors: (Constant), Ad6.adA.difference | | | | | |
| b. Dependent Variable: Ad6.adP.difference | | | | | |

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| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Coefficientsa** | | | | | | | | |
| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. | 95,0% Confidence Interval for B | |
| B | Std. Error | Beta | Lower Bound | Upper Bound |
| 1 | (Constant) | ,114 | ,135 |  | ,846 | ,401 | -,155 | ,383 |
| Ad6.adA.difference | ,431 | ,071 | ,584 | 6,058 | ,000 | ,289 | ,573 |
| a. Dependent Variable: Ad6.adP.difference | | | | | | | | |

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| --- | --- | --- | --- |
| **Correlations** | | | |
|  | | Ad6.adPu.difference | Ad6.adP.difference |
| Pearson Correlation | Ad6.adPu.difference | 1,000 | ,483 |
| Ad6.adP.difference | ,483 | 1,000 |
| Sig. (1-tailed) | Ad6.adPu.difference | . | ,000 |
| Ad6.adP.difference | ,000 | . |
| N | Ad6.adPu.difference | 73 | 73 |
| Ad6.adP.difference | 73 | 73 |

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| **Model Summaryb** | | | | | |
| Model | Change Statistics | | | | |
| R Square Change | F Change | df1 | df2 | Sig. F Change |
| 1 | ,234a | 21,645 | 1 | 71 | ,000 |
| a. Predictors: (Constant), Ad6.adP.difference | | | | | |
| b. Dependent Variable: Ad6.adPu.difference | | | | | |

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| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Coefficientsa** | | | | | | | | |
| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. | 95,0% Confidence Interval for B | |
| B | Std. Error | Beta | Lower Bound | Upper Bound |
| 1 | (Constant) | ,140 | ,101 |  | 1,388 | ,170 | -,061 | ,341 |
| Ad6.adP.difference | ,338 | ,073 | ,483 | 4,652 | ,000 | ,193 | ,483 |
| a. Dependent Variable: Ad6.adPu.difference | | | | | | | | |

**Ad 7: Relationships**

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| **Correlations** | | | | |
|  | | Ad7.adA.difference | Ad7.adAp\_1.difference | Ad7.adAp\_2.difference |
| Pearson Correlation | Ad7.adA.difference | 1,000 | ,304 | ,347 |
| Ad7.adAp\_1.difference | ,304 | 1,000 | ,791 |
| Ad7.adAp\_2.difference | ,347 | ,791 | 1,000 |
| Sig. (1-tailed) | Ad7.adA.difference | . | ,004 | ,001 |
| Ad7.adAp\_1.difference | ,004 | . | ,000 |
| Ad7.adAp\_2.difference | ,001 | ,000 | . |
| N | Ad7.adA.difference | 73 | 73 | 73 |
| Ad7.adAp\_1.difference | 73 | 73 | 73 |
| Ad7.adAp\_2.difference | 73 | 73 | 73 |

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| --- | --- | --- | --- | --- | --- |
| **Model Summaryb** | | | | | |
| Model | Change Statistics | | | | |
| R Square Change | F Change | df1 | df2 | Sig. F Change |
| 1 | ,123a | 4,909 | 2 | 70 | ,010 |
| a. Predictors: (Constant), Ad7.adAp\_2.difference, Ad7.adAp\_1.difference | | | | | |
| b. Dependent Variable: Ad7.adA.difference | | | | | |

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| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Coefficientsa** | | | | | | | | |
| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. | 95,0% Confidence Interval for B | |
| B | Std. Error | Beta | Lower Bound | Upper Bound |
| 1 | (Constant) | -,226 | ,454 |  | -,498 | ,620 | -1,131 | ,679 |
| Ad7.adAp\_1.difference | ,228 | ,534 | ,078 | ,426 | ,672 | -,838 | 1,293 |
| Ad7.adAp\_2.difference | ,824 | ,527 | ,286 | 1,564 | ,122 | -,227 | 1,875 |
| a. Dependent Variable: Ad7.adA.difference | | | | | | | | |

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Correlations** | | | | | | | | | | |
|  | | | | | Ad7.adP.difference | | | Ad7.adAp\_1.difference | | Ad7.adAp\_2.difference |
| Pearson Correlation | | Ad7.adP.difference | | | 1,000 | | | ,284 | | ,280 |
| Ad7.adAp\_1.difference | | | ,284 | | | 1,000 | | ,791 |
| Ad7.adAp\_2.difference | | | ,280 | | | ,791 | | 1,000 |
| Sig. (1-tailed) | | Ad7.adP.difference | | | . | | | ,007 | | ,008 |
| Ad7.adAp\_1.difference | | | ,007 | | | . | | ,000 |
| Ad7.adAp\_2.difference | | | ,008 | | | ,000 | | . |
| N | | Ad7.adP.difference | | | 73 | | | 73 | | 73 |
| Ad7.adAp\_1.difference | | | 73 | | | 73 | | 73 |
| Ad7.adAp\_2.difference | | | 73 | | | 73 | | 73 |
| **Model Summaryb** | | | | | | | | |
| Model | Change Statistics | | | | | | | |
| R Square Change | | F Change | df1 | | df2 | Sig. F Change | |
| 1 | ,089a | | 3,411 | 2 | | 70 | ,039 | |
| a. Predictors: (Constant), Ad7.adAp\_2.difference, Ad7.adAp\_1.difference | | | | | | | | |
| b. Dependent Variable: Ad7.adP.difference | | | | | | | | |

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| **Coefficientsa** | | | | | | | | |
| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. | 95,0% Confidence Interval for B | |
| B | Std. Error | Beta | Lower Bound | Upper Bound |
| 1 | (Constant) | ,045 | ,206 |  | ,219 | ,827 | -,366 | ,456 |
| Ad7.adAp\_1.difference | ,217 | ,243 | ,167 | ,895 | ,374 | -,267 | ,701 |
| Ad7.adAp\_2.difference | ,190 | ,239 | ,148 | ,794 | ,430 | -,287 | ,668 |
| a. Dependent Variable: Ad7.adP.difference | | | | | | | | |

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| **Correlations** | | | |
|  | | Ad7.adP.difference | Ad7.adA.difference |
| Pearson Correlation | Ad7.adP.difference | 1,000 | ,367 |
| Ad7.adA.difference | ,367 | 1,000 |
| Sig. (1-tailed) | Ad7.adP.difference | . | ,001 |
| Ad7.adA.difference | ,001 | . |
| N | Ad7.adP.difference | 73 | 73 |
| Ad7.adA.difference | 73 | 73 |

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| **Model Summaryb** | | | | | |
| Model | Change Statistics | | | | |
| R Square Change | F Change | df1 | df2 | Sig. F Change |
| 1 | ,135a | 11,037 | 1 | 71 | ,001 |
| a. Predictors: (Constant), Ad7.adA.difference | | | | | |
| b. Dependent Variable: Ad7.adP.difference | | | | | |

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| **Coefficientsa** | | | | | | | | |
| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. | 95,0% Confidence Interval for B | |
| B | Std. Error | Beta | Lower Bound | Upper Bound |
| 1 | (Constant) | ,302 | ,146 |  | 2,062 | ,043 | ,010 | ,593 |
| Ad7.adA.difference | ,163 | ,049 | ,367 | 3,322 | ,001 | ,065 | ,262 |
| a. Dependent Variable: Ad7.adP.difference | | | | | | | | |

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Correlations** | | | | | | | | | | | | |
|  | | | | | | | Ad7.adPu.difference | | | | Ad7.adP.difference | |
| Pearson Correlation | | | Ad7.adPu.difference | | | | 1,000 | | | | ,338 | |
| Ad7.adP.difference | | | | ,338 | | | | 1,000 | |
| Sig. (1-tailed) | | | Ad7.adPu.difference | | | | . | | | | ,002 | |
| Ad7.adP.difference | | | | ,002 | | | | . | |
| N | | | Ad7.adPu.difference | | | | 73 | | | | 73 | |
| Ad7.adP.difference | | | | 73 | | | | 73 | |
| **Model Summaryb** | | | | | | | | | | | |
| Model | | Change Statistics | | | | | | | | | |
| R Square Change | | F Change | | df1 | | | df2 | Sig. F Change | |
| 1 | | ,114a | | 9,166 | | 1 | | | 71 | ,003 | |
| a. Predictors: (Constant), Ad7.adP.difference | | | | | | | | | | | |
| b. Dependent Variable: Ad7.adPu.difference | | | | | | | | | | | |
| **Coefficientsa** | | | | | | | | | | | | | | | | | |
| Model | | | | | Unstandardized Coefficients | | | | | | Standardized Coefficients | | | t | Sig. | 95,0% Confidence Interval for B | |
| B | | | Std. Error | | | Beta | | | Lower Bound | Upper Bound |
| 1 | (Constant) | | | | ,053 | | | ,145 | | |  | | | ,367 | ,714 | -,236 | ,343 |
| Ad7.adP.difference | | | | ,326 | | | ,108 | | | ,338 | | | 3,028 | ,003 | ,111 | ,541 |
| a. Dependent Variable: Ad7.adPu.difference | | | | | | | | | | | | | | | | | |

**Mediation effects hypothesis six**

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| **Coefficientsa** | | | | | | |
| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
| B | Std. Error | Beta |
| 1 | (Constant) | ,206 | ,141 |  | 1,462 | ,148 |
| Ad2.adA.difference | ,160 | ,048 | ,341 | 3,352 | ,001 |
| Ad2.adP.difference | ,291 | ,076 | ,392 | 3,857 | ,000 |
| a. Dependent Variable: Ad2.adPu.difference | | | | | | |

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| **Coefficientsa** | | | | | | |
| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
| B | Std. Error | Beta |
| 1 | (Constant) | ,133 | ,142 |  | ,938 | ,351 |
| Ad3.adA.difference | ,188 | ,074 | ,275 | 2,535 | ,013 |
| Ad3.adP.difference | ,359 | ,106 | ,369 | 3,401 | ,001 |
| a. Dependent Variable: Ad3.adPu.difference | | | | | | |

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| **Coefficientsa** | | | | | | |
| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
| B | Std. Error | Beta |
| 1 | (Constant) | ,125 | ,111 |  | 1,130 | ,262 |
| Ad4.adA.difference | -,002 | ,043 | -,005 | -,039 | ,969 |
| Ad4.adP.difference | ,276 | ,058 | ,544 | 4,750 | ,000 |
| a. Dependent Variable: Ad4.adPu.difference | | | | | | |
| **Coefficientsa** | | | | | | |
| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
| B | Std. Error | Beta |
| 1 | (Constant) | ,499 | ,147 |  | 3,390 | ,001 |
| Ad5.adA.difference | ,062 | ,058 | ,128 | 1,081 | ,283 |
| Ad5.adP.difference | ,290 | ,073 | ,470 | 3,979 | ,000 |
| a. Dependent Variable: Ad5.adPu.difference | | | | | | |
| **Coefficientsa** | | | | | | |
| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
| B | Std. Error | Beta |
| 1 | (Constant) | ,088 | ,097 |  | ,903 | ,369 |
| Ad6.adA.difference | ,186 | ,063 | ,359 | 2,955 | ,004 |
| Ad6.adP.difference | ,192 | ,085 | ,274 | 2,253 | ,027 |
| a. Dependent Variable: Ad6.adPu.difference | | | | | | |

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| --- | --- | --- | --- | --- | --- | --- |
| **Coefficientsa** | | | | | | |
| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
| B | Std. Error | Beta |
| 1 | (Constant) | ,069 | ,147 |  | ,466 | ,643 |
| Ad7.adA.difference | -,038 | ,052 | -,088 | -,729 | ,468 |
| Ad7.adP.difference | ,357 | ,116 | ,370 | 3,075 | ,003 |
| a. Dependent Variable: Ad7.adPu.difference | | | | | | |

1. C. Ruanguttamanum (2012): “The use and effectiveness of appeals in green print advertisement” [↑](#footnote-ref-1)
2. Qualtrics – Online survey platform (www.qualtrics.com) [↑](#footnote-ref-2)