USING PRIMES TO FIGHT ENVIRONMENTAL CRIMES

A FIELD EXPERIMENT INTO PEOPLE'S RECYCLING BEHAVIOUR

ARDANICA ASSINK

S1827685

SUPERVISOR:

DR. JORIS VAN HOOF

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UNIVERSITEIT TWENTE.

Abstract

Aim

The awareness about climate change is raising and consumers are looking for more sustainable ways of living. A possible solution to a part of the problem of climate change might be related to recycling and reusing disposable products. However, recycling is not yet done on a large scale. In order to raise recycling rates, consumers should be stimulated to show the desired behaviour. To encourage a specific behaviour, emphasizing the expected behaviour or social norm, can be an effective strategy. Another strategy is to use subtle cues, called primes, in the environment of the consumer. Primes subconsciously trigger associations in the mind. An example of this is using images of eyes, which can positively affect the probability that someone shows prosocial behaviour because of increased perceived social presence. This research aims to explore whether specific primes, using an image of eyes and a claim that emphasized a social norm, have an effect on the recycling behaviour of people.

Method

A 2x2 method was used, with the eyes prime and the claim prime as independent variables and recycling behaviour as the dependent variable. Four types of disposable cups were printed, with the four manipulations. Manipulation 1 showed eyes, manipulation 2 showed a claim, manipulation 3 showed eyes and a claim and manipulation 4 showed nothing and served as the control group for the research. Over a period of 12 days, coffee, double espresso and flat white coffee was solely sold in the cups with the manipulations of this research in a coffee kiosk on a university campus. Three recycling bins were placed near the coffee kiosk, in order to give people the possibility to return their disposable cup to a recycling point. During the data collection period, the recycling points were emptied every day and the cups in the recycling points were counted.

Results

In total, 712 cups were sold during the data collection period. From that total amount of sold cups, 31% was returned to a recycling point by participants. For the manipulation with the eyes prime, no significant effect on recycling behaviour was found. For the claim prime, no significant effect on recycling behaviour was found either. For the manipulation that combined the eyes prime and the claim prime, no significant effect was found either.

Conclusion

From the cup designs, the manipulation that made us of both the eyes prime and the claim prime seemed to be most successful, even though this effect was not significant. Therefore, this field experiment did not prove that the used primes have an effect on recycling behaviour. The general conclusion of this research is that people do not act more prosocial when they are confronted with primes on disposable coffee cups.

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1. Introduction

The twentieth century has been a century of great growth. Now, at the beginning of the twenty-first century, the social and environmental consequences of that growth become visible. "Increasing levels of greenhouse gasses in the atmosphere, a hole in the ozone layer caused by CFC releases, widespread destruction of the rainforests, and a growing list of endangered species and ecosystems are just a few of the indicators that all is not well" (Peattie, & Charter, 2003). Following from this, climate change is a problem that the current generations have to deal with. Part of the issue of climate change is plastic debris and the question of how to get rid of all the plastics people produce, in a sustainable way. The plastic production takes up around four percent of the world's oil and gas. Next to that, around fifty percent of all plastics that are produced, are used as disposables (British Plastics Federation 2008). This means that half of all produced plastic is meant for single-use applications (Hopewell, Dvorak., & Kosior, 2009). Plastics are used much because of their many advantages: they are lightweight, inexpensive, durable and can be moulded into almost every desired shape (Andrady, & Neal, 2009). Because of all these benefits, people have not been hesitant when it comes to using disposables. However, the use of these products also has its downsides. According to Lewis, Verghese and Fitzpatrick (2010), the impact of the use of single-use plastic includes the consumption of non-renewable resources to manufacture a single-use product, low recovery rates at the end of life, and high visibility and ecological impacts in litter" (p. 145). Andrady (1994) explains that the complete impact that plastics, and products in which plastics are incorporated, will have on the environment are not known yet, since they have only been produced for a relatively short time.

That the amount of garbage that people produce is problematic, is agreed upon in literature. Scientists offer several different solutions to the problem, of which one is investing in biodegradable alternatives. According to Andrady (1994), most plastics are very durable and not biodegradable, which means that most plastics that are produced today, will still exist decades, centuries or even millennia. Song, Murphy, Narayan and Davies (2009) say that biodegradable alternatives are especially effective options for single-use disposable applications where the produced waste can be locally composted. A second, widely supported strategy that could serve as a solution to the garbage problem is recycling. According to the United Nations Environment Assembly (2019), only 9 percent of all plastic waste that was ever produced has been recycled. The United Nations Environment Assembly (2019) adds that since there is no magical cure to the garbage problem, recycling should be part of the answer. By collecting separated garbage materials and treat it in such a way that it can be reused, less natural resources will be needed in the production of new materials and the garbage will not pollute ecosystems. One of the most frequently used disposable products is the disposable coffee cup. According to Ranheim and Halvorsen (2005), Americans only drink over 400 million cups of coffee per day. The National Coffee Association USA states that people under the age of 35 are most likely to take their coffee on the go, for which disposable cups are used most of the time (Forbes, 2017), resulting in thousands of used disposable cups that end up as garbage every day. Disposable coffee cups are often thrown away after a single use, despite the fact that reusing or recycling the cups could have a positive impact on the environment.

Even though recycling or reusing materials and products is very favourable for the environment and probably inevitable in the future, it is not done on a large scale yet. Increasing recycling rates is reliant on a behavioural change. Producers and consumers would need to put their best foot forward, in order to fight climate change by increasing recycling rates. Behavioural change can be

achieved via different routes, of which educating people about their problematic behaviour is a common route to choose. However, actively educating people about problematic behaviour does not always lead to the desired results. Alternatives to the strategy that involves education to achieve behavioural change could emphasize social norms or make use of subtle cues in the environment, called primes, to subconsciously trigger associations.

This research will focus on stimulating the desired behaviour of recycling a disposable cup, by using primes. In order to specify the study, the following research question has been formulated:

Do people act more prosocial when they are confronted with primes on disposable coffee cups?

Answering the previously mentioned research question will be of societal relevance since the results will give insight into stimulating environmentally-friendly behaviour with specific communicational interventions in the form of primes. This research will explore the effectiveness of two primes and will report on the behaviour that people show. The results of this research might contribute to a more sustainable future.

In the following chapters, the full process of the research will be explained extensively. The first chapter of the report will consist of a theoretical framework, which elaborates on the main concepts, topics, theories and approaches that are mentioned in literature that is relevant to the research question. Secondly, the methodology section will give an excessive description of the full research process. In this chapter, the research question, sub-questions will be explained and the research design will be discussed. Next to that, the study's population, participants and techniques that were used to sample the participants will be explained. This research design will be used to collect and analyse data that is needed to answer the research question. After the methods are explained, the results will be discussed in the results section. The most striking outcomes of the data collection will be highlighted in this chapter. Following from the results, a chapter will be present in which conclusions are drawn from the results. Lastly, the strengths and weaknesses of this study will be discussed in the discussion chapter of this report.

2. Theoretical framework

The following chapter of this report will discuss relevant literature related to the main topics of this research. The first part of this chapter will elaborate on the corporate social responsibility that organizations have with regard to the environment. After that, literature about stimulating certain behaviours by the use of nudges and primes will be presented with a special focus on priming and nudging with claims and images of eyes.

2.1 Corporate social responsibility

Awareness about the garbage problem is raising and organizations start to take action to contribute to a solution, but why would organizations that are mainly focussed on making profit invest time in being green? The execution of marketing in a green way could be seen as something 'extra' for commercial organizations, and can therefore be seen as part of the corporate social responsibility of the Organization (CSR) (Chernev and Blair, 2015). Corporate social responsibility (CSR) are the practices that have a positive influence on society and improve the workplace in ways that organizations are not legally required to do (Vogel, 2007). Carrol (2000) described CSR as the actions that are taken by an organization in order to further social good, whereas this is beyond the explicit interests of the organization and not required by law. Often corporate social responsibility is seen as something that merely enhances the reputations of organizations and to buy a bit of goodwill from customers, although research shows that CSR "can extend beyond public relations and customer goodwill to influence the way consumers evaluate a company's products"(p. 1) and that acts of social goodwill that are unrelated to the organization's core business can change the perceptions of their products and services in a good way (Chernev, & Blair, 2015). This means that acting more environment-friendly as an organization will not only do good to the actual environment, but customer's perceptions about the products that the organization sells will become more positive, even though the product might not be related to the environment at all.

Whereas CSR is about contributing to social good in general, green marketing is specifically focused on sustainability and the environment and can be seen as a part of the corporate social responsibility of organizations. Peattie and Charter (2003), say that the challenge of our time is to turn the good intentions of working on sustainability and taking care of the planet into a sustainable and environmentally friendly way of managing organizations. The desire for a way to manage organizations in a sustainable way has an impact on marketing and communication in general. Polonsky (1994) defines green marketing as follows: "Green or Environmental Marketing consists of all activities designed to generate and facilitate any exchanges intended to satisfy human needs or wants, such that the satisfaction of these needs and wants occurs, with minimal detrimental impact on the natural environment" (p. 3). Some researchers emphasize the importance the importance of CSR because of another reason. Cherian and Jacob (2012), state that the necessity to practice business in a sustainable, green way is only the result of the increasing global customer awareness about the lack of environmental protection. Organizations need to react on the changing needs of the customer, new regulations and a changing mindset and its concerns about the environmental impact of products and services. This means that CSR is no longer only something 'extra' that enhances customer's perceptions about products, but that it becomes a demand from the customer that is aware of the environmental problems. This is supported by the research of Doyle (1992), that says that changes in our global environment caused an increased consumer concern regarding restoring the ecological balance by demanding sustainable products.

2.2 Nudging and priming

Part of the CSR of an organization could be to demotivate people to show a certain undesired behaviour. Marketing campaigns that aim to reduce littering are an example of this. As discussed in the introduction of this report, purely informing or educating people is not always effective. Alternatives to educating the target audience are strategies called nudging and priming. The concepts of nudging and priming will be explained in the following chapter. First, a general introduction to nudging and priming will be made. After that, priming claims will be discussed. Lastly, a section will elaborate on images of eyes as primes.

2.2.1 Nudging and priming defined

People do often not rationally choose what kind of behaviour they show. Behaviour is often governed by automatic and unconscious processes, whereas sometimes decisions are made consciously. These two modes that influence behaviour are often referred to as the dual system (Chaiken, & Trope, 1999). A distinction is made between the cognitive system, which makes rational and conscious decisions, and the automatic mind, which is greatly influenced by the context and environment of the person. The automatic mind is sensitive to subtle cues in the surroundings of the person that subconsciously influence the behaviour and decision making of the individual. Therefore, "by influencing the context in which a choice has to be made, it may be possible to bypass the cognitive system" (Ölander, & Thøgersen, 2014) (p. 344). That means that by influencing a person's environment, a person's behaviour is pushed towards a desired direction, which is often referred to as nudging.

The term 'nudge' is very broad and means giving someone a gentle push in the literal sense of the word. In the behavioural sciences nudging is of course not about a physical push, but it is a metaphor for the mental, often subconscious push towards a specific behaviour. Sunstein (2014) explains that a nudge steers an individual towards a certain behaviour, but the individual always has the freedom to behave differently. Some are concerned about the ethics behind nudging. Questions arise about how fair it is to influence someone's behaviour on a subconscious level. Schubert (2015) explores this topic in his research and states that nudging hardly compromises autonomy because of the freedom that is an essential part of a nudge. This is also explained by Sunstein (2015): "To count as such, a nudge must fully preserve freedom of choice" (p. 417).

An example that is mentioned by Sunstein (2014) is GPS. Systems like Google Maps will provide people with routes that lead from a certain point to another. Even though the system shows this certain route, the user is always free to take different turns and drive somewhere else. Other examples of nudging are provided by Wilkinson (2013), who agrees that the idea of a nudge is that an "apparently insignificant detail can have major impacts on people's behaviour" (p. 341). People can for instance be nudged into making healthy food choices by placing healthy foods in prominent places in supermarkets, instead of prohibiting junk food. And instead of letting police give tickets to speeders, governments could reshape the lines on roads in a way that slows drivers down.

Nudges can be used in many contexts where it is desired to change behaviour, of which one is the environment (Stern, 1999). Ölander and Thøgersen (2014) argue in their research that purely informing people about environmental problems does not have an effect on the behaviour that they show. However, the information did increase people's knowledge about the greenhouse effect. To really change the behaviour that people show, in an environmentally-friendly way, nudging might serve as a solution. Pichert and Katsikopoulos (2008) for example did a research on green energy,

and motivations for people to use green energy. They looked into the decision making process of people who have to choose a certain kind of electricity and found out that more people made an environmentally-friendly decision by choosing green energy when green energy was shown as the default option. In this case, the nudge was showing the green energy as default option, and it turned out to be successful.

Whereas nudges are often alterations in the environment that make it easier for people to make 'the right' decision, primes are messages that are subconsciously and rather spontaneously picked up by the brain and respond to associations to stimulate a certain behaviour. More elaborately, primes are subtle cues in the environment that trigger and activate specific knowledge, which then guides further thinking and decision making (Holland, Hendriks, & Aarts, 2005). Social norms play an important role in priming. Cialdini and Trost (1998), state that the social norms that are triggered by a prime form an vital mechanism by which our social behaviour is directed. An example of priming is given by Aarts and Dijksterhuis (2003), who proved that images of a library caused people to show prosocial behaviour by lowering their voices. In this case, the image of the library trigger the knowledge that people have about libraries, including the social norm of being silent. Another example of priming is provided by De Lange, Debets, Ruitenburg and Holland (2012), who used scents as primes. In this research, scents are used to trigger certain associations, in order to influence social behaviour. De Lange et al. (2012) proved that people litter less in trains that smell like detergent because passengers associated a clean smell with a clean environment. Dijksterhuis and Van Knippenberg (1998), explored priming in a different setting. The researchers tested the performance of participants on a general knowledge scale and found out that priming the stereotype of a professor or the trait intelligence improved the participants' score. Other than that, the stereotype of a soccer hooligan and the trait stupid were used, which reduced the performance on the general knowledge scale.

2.2.2 Normative claims

As explained in the previous paragraph, nudges and primes are closely related to social norms. According to Neighbors, Larimer and Lewis (2004), the use of social norms in marketing programs is becoming increasingly popular as a tool for changing behaviours, such as drug use, alcohol consumption, unhealthy eating habits, littering, gambling and recycling. Schultz, Nolan, Cialdini, Goldstein and Griskevicius (2007), state that campaigns that make use of social norms have become an alternative to the more traditional approaches, such as informational campaigns, and that those campaigns are based on two consistent findings. Firstly, most people overestimate the prevalence of undesirable behaviours, like alcohol consumption amongst peers, which is a way to justify the undesirable behaviour (Borsari & Carey, 2003). Secondly, people observe the behaviour of peers and take that as standards against which they compare their own behaviour, which is also used to justify the undesirable behaviour (Clapp & McDonnell, 2000). According to Schultz et al. (2007), marketing campaigns that make use of social norms, aim to reduce undesirable behaviours by correcting a person's misperceptions about the behaviour's prevalence. In other words, the campaigns confront the person with a social norm, that is not biased by the person's own environment, and tells the person that the undesirable behaviour actually occurs less often than he/she thinks.

A customary way to communicate social norms, is to use of claims. A claim can be used as a prime, if the claim triggers certain associations in the mind that lead to a certain behaviour. The normative claim could for example emphasize a social norm that is related to the environment. Research shows that claims have to meet some demands to be effective. The first criterium that has

to be considered when writing a claim, had to do with verifiability. Polonsky, Carlson, Grove and Kangun (1997), state that verifiable, factual claims derive more positive responses from consumers, especially when dealing with environmental claims. Chan, Leung and Wong (2006), support this and add that consumers prefer to have concrete, rather than vague, claims that hold verifiable information. Next to the criterium that requires an environmental claims to be verifiable, directness and social identification is considered to be related to the effectiveness of claims. Bartels and Onwezen (2014), explains that consumers have to feel addressed in order to make the claim effective. This means that the consumer has to feel like the claim is directed at him or her, or the group that the consumer is part of. Bartels and Onwezen (2014), describe an example in which people that consider themselves to be part of a group that buys organic products, are more sensitive to claims that are hold environmental and ethical claims on products. Another important criterium for environmental claims to be effective, is that the used claims are understandable for the consumer. Davis (1993), maintains that claims with an environmental background that are easily understandable for the consumer, are likely to be received better by the audience. In practice, this means that claims only holds concepts that the consumer can easily process. In conclusion, normative claims can be an effective tool to stimulate desirable behaviour when the claim is verifiable, direct and understandable.

Based on literature, the expectation would be that normative environmental claims could have a positive effect on desired behaviour. When zooming in on the context of this field experiment, literature predicts that such claims could have a positive influence on recycling behaviour. To explore whether that is really true, a sub-question to the main research question of this research was formulated:

Do environmental claims on disposable coffee cups increase recycling behaviour?

2.2.3 Priming eyes

On a daily basis, people are confronted with choices. When being confronted with a choice, a person can decide to show a certain action. The choice to take this action is almost always influenced by different factors, one of them being social presence. People tend to adjust their behaviour in situations where they are being watched or observed by others (Markus, 1978). This is supported by other researchers like Zajonc and Sales (1966), who state that the presence of other organisms correlates with increased arousal. Both pieces of research (Markus, 1978; Zajonc, & Sales, 1966) state that the mere presence of another organism is sufficient to trigger this arousal. Argo, Dahl and Manchanda (2005), state that the presence of others in a person's environment triggers self-evaluation, which leads to adjustments in behaviour.

This means that a person is likely to adjust his behaviour to the social norm, when there is a feeling of social presence. This could even be taken a step further: letting people experience social presence without an actual second human being in the environment. Van Rompay, Vonk and Fransen (2009), for example did research on social presence in combination with helping behaviour. This research showed that the presence of security cameras, which increased the perceived social presence of participants, had an influence on prosocial behaviour. In other words, participants were more likely to show helping behaviour under the condition of being watched by a security camera. Van Bommel, Van Prooijen, Elffers and Van Lange (2014), also did research on social presence, security cameras and helping behaviour and showed results that are comparable to those of Van Rompay et al. (2009). Another way to generate the feeling of social presence is using images of eyes. Haley and Fessler (2005) found in their research that subtle cues in the environment of people in the

style of eye-like shapes impact the mental mechanisms in such a way that a person shows more prosocial behaviour. However, the researchers add that “individuals differ with regard to their sensitivity to various types of such input” (Haley, & Fessler, 2005) (p. 253). In these researches, the subtle cues that influence the behaviour of the person are used as primes.

Influencing people's behaviour by using images of eyes, is something that has been explored in different research settings. Economic games are widely used to get insights into decision making processes, when people are asked to donate money. Haley and Fessler (2005) did a research that included such an economic game and they concluded that the presence of watching eyes made participants more generous, compared to participants who were not confronted with the subtle cues of watching eyes. Nette et al. (2013) agree on the fact that there is an effect, however they state that people do not get more generous but did increase the probability of donating something, instead of nothing. They add that the mean of donations did not change, but the amount of donations did.

Another context in which watching eyes were topic of research in combination with prosocial behaviour, is in the study of Bateson, Callow, Holmes, Roche and Nettle (2013). They looked into the problem of littering on a university campus, and whether images of eyes could reduce the littering problem. In this research, leaflets were attached to bicycles in six bicycle racks near to major university buildings on a campus. The leaflets held no information that the participants might have wanted to keep and the leaflets were installed in such a way that they had to be removed before the bicycle could easily be used again. Three out of the six bicycle racks had big images of eyes installed above them and all racks had a litter receptacle in the vicinity. The behaviour of the cyclists was observed with regard to the possibility of littering. Bateson et al. saw that the images of watching eyes above the bicycle racks, reduced the littering. They added that this effect was only seen when larger numbers of people were around.

A similar research regarding littering and recycling was done by Francey and Bergmüller (2012), During this research experiment, plastic and paper waste was placed in bus stops. Recycling bins for these materials were also placed in these stops, to make the act of recycling the litter possible for the participants. In all bus stops, instructions on throwing away litter in the right bin was shown. In around fifty percent of the stops, images of eyes were part of the interior. This research showed that the eyes had no effect on the likelihood that participants would throw away garbage. However, the participants that did choose to engage in garbage cleaning, spent more time on this process in the presence of the eyes. The images of eyes turned out to have a direct effect on behaviour.

Not all eyes have the same kind of influence on people’s behaviour. Research indicates that the style of the eye that is presented has an influence on the effectiveness. According to the Social Control Theory (Hirschi, 1969), desired behaviour might be increased by social control in the form of presence of authority figures. Williams and McShane (2015), agree with Hirschi and add that respect for persons with authority usually develops in youth when “close parental attachments” are rewarded for “conformity by the approval and esteem of those he admires” (p. 527). This means that people learn to respect authority figures from a young age. The style of the eye that is used as a prime, should therefore come across as authoritarian. A study by Nettle, Nott and Bateson (2012), supports this. The study aimed to reduce bicycle theft with images of eyes. The results of this research might have been particularly strong, because the experiment showed eyes in combination with a police sign, which appeals to the perception of authority.

Based on literature, the expectation would be that images of eyes could have a positive effect on a specific desired behaviour. When zooming in on the specific context of this field experiment, literature predicts that images of eyes could have a positive influence on recycling

behaviour. To explore whether that is really true, a sub-question to the main research question of this research was formulated:

Do images of eyes on disposable coffee cups increase recycling behaviour?

2.3 Conclusion theoretical framework

Literature showed that there is an increasing global awareness about environmental problems. This leads to a market that demands action from organizations, to let them take responsibility and to let them behave in an environmentally-friendly way. Researchers say that acting sustainably is part of the corporate social responsibility of organizations, which also has a positive effect on consumer's perceptions about sold products.

Primes can be used when a specific behaviour has to be stimulated. In the context of this research, primes can be used to stimulate recycling behaviour. According to the literature in the theoretical framework, priming can be done in many ways. This experimental research focusses on priming with images of eyes and normative, environmental claims. To explore the effectiveness of these primes, two sub-questions were formulated in the theoretical framework. In order to see whether there is an interaction between the two primes, the following, third, sub-question was formulated:

Does a combination of both images of eyes and environmental claims on disposable coffee cups increase recycling behaviour?

3. Preliminary research

In order to validate the materials that were used in the main study of this research, a preliminary research was conducted. More specifically, the goal of this preliminary research was to verify the prime designs, that served as interventions in the main study. The choice was made to use an image of eyes as a prime design, based on the effect that images of eyes have according to literature. As explained in the theoretical framework of this report, people tend to show more prosocial behaviour under the condition of being in an environment with an image of eyes present, especially when the eyes are perceived as being authoritarian. This preliminary research indicated which set of eyes was perceived as most authoritarian by the participants. Next, the preliminary research had to give a decisive answer on which claim to use as an intervention. As discussed in the theoretical framework, normative claims tend to have an effect on behaviour, when done right. Therefore, one of the designs that was used for the main study was an environmental claim. Since normative claims can be an effective tool to stimulate desirable behaviour when the claim is verifiable, direct and understandable, the preliminary research had to indicate which claim best met the mentioned criteria and would be used for the main study.

The conducted preliminary research in the form of a focus group, had as a goal to generate data to substantiate the designs used in the main study. To do so, two research questions were created to find out which pair of eyes would be most suitable for the main study and which environmental claim would be most suitable for the main study. Literature indicated that desired prosocial behaviour is likely to increase when a pair of eyes comes across as authoritarian, as discussed in the theoretical framework. Following from this, the first research question was formulated:

Which pair of eyes is perceived as most authoritarian?

Other than the presence of eyes, environmental claims were discussed in the theoretical framework of this report. Research indicated that environmental claims have a positive influence on desired prosocial behaviour when they are perceived as verifiable, direct and understandable. Therefore the second research question was formulated:

Which environmental claim is perceived as most verifiable, direct and understandable?

To answer the two mentioned research questions for the preliminary research, a semi-structured focus group was conducted. In the following sections a look will be taken at the research method, design, procedure, participants and sampling technique, the results and the conclusion of the preliminary research.

3.1 Method preliminary research

This preliminary research made us of a focus group as a method to gather data. In the following chapters, the design will be explained, the procedure and the participants and sampling technique will be discussed.

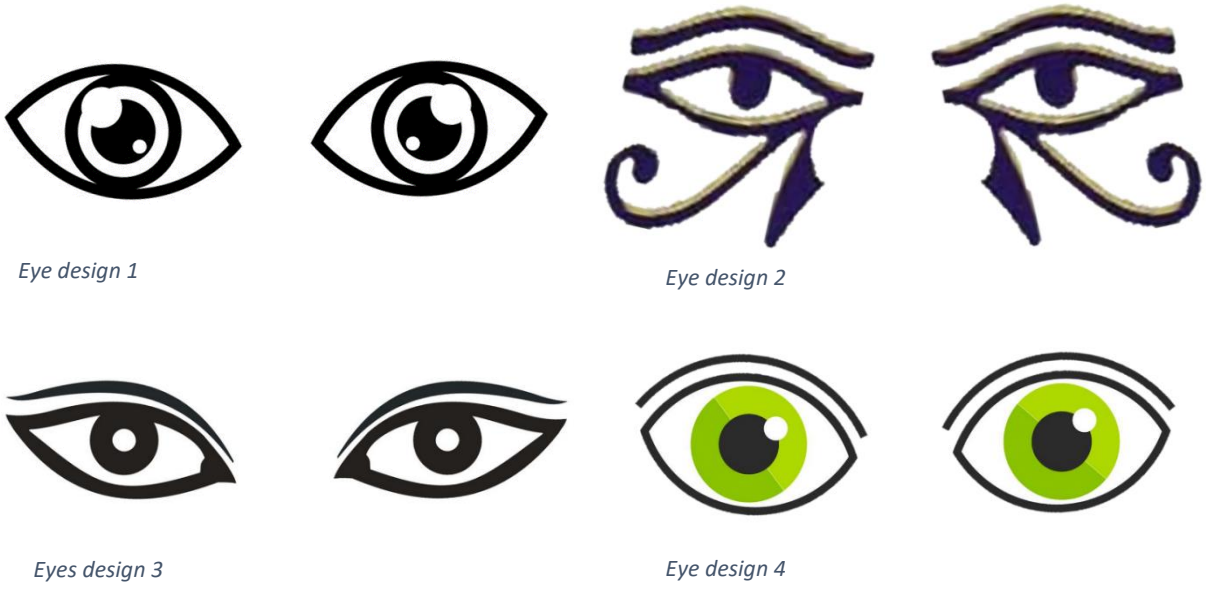
3.1.2 Design preliminary research

In order to find validation for the designs that were used in the main study, a preliminary, qualitative research was conducted in the form of a focus group. Rabiee (2004), explains that the main aim of focus groups "is to understand, and explain, the meanings, beliefs and cultures that influence the feelings, attitudes and behaviours of individuals" (p. 655). Acocella (2012), adds that focus groups have the advantages of creating interaction amongst participants and maximizing the amount of high quality data in a relatively short time. The focus group that was conducted was semi-structured, which means that specific questions were written down by the researcher to be answered by the participants, but there was room for the participants to start discussions.

3.1.3 Procedure preliminary research

The focus group took 45 minutes and existed of three main topics. Firstly, the participants were provided with information about the research in the introduction part of the focus group. During the introduction of the focus group, the participants were also asked for informed consent and were informed about their right to decide to no longer participate in the research at any time. The second part of the focus group focused on the intervention with an image of eyes. The participants were confronted with four images of sets of eyes, as seen in Figure 1. They were asked specific questions about images of eyes. The asked questions let the participants indicate which of the sets of eyes was most authoritarian. After all participants answered the question, there was time to discuss the topic in the group. In the third part of the focus group, the intervention that showed an environmental claim was discussed. This time, the participants were confronted with three environmental claims, which are seen in Figure 2. The participants were asked to indicate which of the claims was most direct, verifiable and understandable. After the participants had answered the questions, there was time for a discussion on the topic.

Figure 1: Eye designs preliminary research



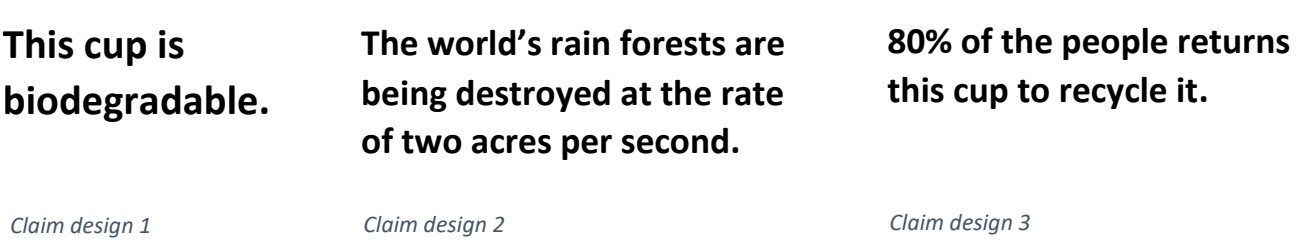
Eye design 1

Eye design 2

Eyes design 3

Eye design 4

Figure 2: Claim design



Claim design 1 *Claim design 2* *Claim design 3*

3.1.4 Participants and sampling technique preliminary research

Eight participants took part in the conducted focus group. All participants were students at the University of Twente, which means that the average level of education was high amongst the participants. The educational backgrounds of the participants varied. Four out of the eight participants were enrolled in the communication science or communication studies programme. The other participants studied creative technology, biomedical technology, health sciences and international business administration. The youngest participant was 20 years old and the oldest participant was 25. All participants had the Dutch nationality and the focus group was therefore conducted in the Dutch language. The used sampling technique that was used for the focus group is convenience sampling. Inclusion criteria were that the participants spoke Dutch and were available at the time of the focus group.

3.1.5 Analysis preliminary research

The spoken text from the focus group was recorded, transcribed and coded. Based on the research questions, a few codes were created. The codes used to analyse the part of the focus group about the eyes were authoritarian and not authoritarian. For the part about the environmental claims, other codes were used, namely direct, not direct, verifiable, not verifiable, understandable and not understandable. With these codes at hand, two coders first coded 10% of the focus group. After having done this, the coding was compared by calculating a Cohen's kappa to ensure intercoder reliability. The Cohen's kappa was 0.76, which means the intercoder reliability is ensured.

3.2 Results preliminary research

In the following sections, the results from the conducted focus groups will be discussed. The result section will be divided into the results concerning the images of eyes and the results concerning the environmental claim.

3.2.1 Images of eyes

During the focus group, the eight participants were confronted with four pairs of eyes, about which they had to answer questions and had to discuss. As a first impression, eye design 1 was perceived as standard and basic. One of the participants said that "these eyes look like cartoon eyes". Other participants mentioned that the eyes looked "wistful" and "a bit sad". Other than that, the participants indicated that the eyes in eye design 1 did not look authoritarian.

When the participants were confronted with eye design 2, the first impression was that the eyes looked like "Chinese dragon eyes". Another participant said that the eyes looked more like

"Egyptian pharaoh eyes". In the discussion, it was mentioned that the eyes came across as intimidating and a bit scary. The participants indicated that the eyes in eye design 2 were perceived as being very authoritarian.

After eye design 2, eye design 3 was discussed. The first impressions of the participants were that the eyes looked "determined" and arrogant. One of the participants said that looking at the eyes reminded him of an "arrogant woman". The eyes were considered to be more realistic than the other eye designs. However, the eyes were not seen as authoritarian.

The last eyes, eye design 4, was perceived as "cute" because they were big and round. One of the participants said that the eyes looked "like the eyes of Nintendo Wii characters" and "like puppy eyes". Other than that, the participants mentioned that the eyes looked "innocent" and that they were "pleasant to look at." When the participants were asked how authoritarian the eyes came across, they said that the eyes did not look authoritarian at all.

3.2.2 Environmental claims

In the second part of the focus group, the eight participants were confronted with three environmental claims. When the participants were confronted with claim 1, they indicated that the claim comes across as a random fact, without any context. Other than that, the participants did not think the claim was direct. One of the participants said that the claim was "very general." Next to that, the claim was not seen as verifiable. One of the participants said that "it is impossible for normal people to verify the claim". Next, the participants were asked whether the claim was understandable. One of them said that "the terms in the claim are pretty vague" and that he therefore did not fully understand the claim. Generally, claim 1 was not perceived as being very understandable.

After claim 1, claim 2 was discussed. The first thing that was noticed by the participants was that the scale of measurement in the claim is not understandable. One of the participants said: "It is a shame that the term 'acre' is used. I cannot imagine how big that is, so for me the meaning is lost". The other participants seemed to agree that the claim was not very understandable. Other than that, the verifiability of the claim was discussed. "This information is probably somewhere on the internet, so I can verify it" is what a participant said. The claim was assessed as being verifiable. The claim was also seen as direct. A participant said that "the claim is probably made to shock, which is pretty direct."

Lastly, the participants were confronted with claim 3. The participants found this claim very verifiable, because it held a percentage. A participant said that "these numbers are probably available somewhere, so I can verify the claim". The participants found claim 3 very understandable: "I know what to do with this statement, I know what is expected of me know". The participants felt like claim 3 gave them a clear direction, unlike the other claims. The participants also agreed that claim 3 was very direct.

3.3 Conclusion preliminary research

Based on the outcomes of the focus group, the formulated research questions for this preliminary research will be answered. Firstly, out of all eye designs, eye design 2 was seen as most authoritarian by the participants of the focus group. Therefore, eye design 2 will serve as a nudge in the main study of this report. The claim that was chosen to be the most direct, verifiable and understandable, according to the data derived from the focus group, was claim 3. Therefore, claim 3 will serve as a nudge in the main study of this report.

4. Method

This research is aimed to explore the following research question: *Do people act more prosocial when they are confronted with primes on disposable coffee cups?* To do so, three more specific sub-questions were formulated:

- Do images of eyes on disposable coffee cups increase recycling behaviour?
- Do environmental claims on disposable coffee cups increase recycling behaviour?
- Does a combination of both images of eyes and environmental claims on disposable coffee cups increase recycling behaviour?

In the following chapter, the methodology of the research will be discussed extensively. To do so, the research design will be presented, the participants of the research, the used instruments, the procedure and the data analysis plan will be discussed.

4.1 Ethical considerations

Ethical approval for this research was obtained from the BMS Ethics Committee from the Faculty of Behavioural, Management and Social sciences from the University of Twente. During the study, the behaviour of individuals was simply observed and no further personal data was collected and individuals were not identified. Therefore, the BMS Ethics Committee did not consider it appropriate and necessary to obtain informed consent from the participants.

4.2 Design

This research aims to explore whether people behave more prosocial when confronted with a textual nudge in the form of an environmental claim, a visual nudge in the form of an image of eyes or both the textual and visual nudge. To do so, a 2x2 design is used, as seen in Table 1. The first independent variable in the research the image of a pair of eyes that is printed on the cups. The second independent variable in the research is the environmental claim on the cups. The dependent variable that is observed in this experimental research is the prosocial behaviour of the participants. The prosocial behaviour is measured by counting the cups that participants bring to a recycle point.

Table 1: 2x2 research design

	Eyes	**No eyes**
No claim	Eyes manipulation	No manipulation
Claim	Eyes-claim manipulation	Claim manipulation

4.3 Manipulations

The research makes use of four different cup designs, following from the used 2x2 design. The first cup design consisted of pair of eyes solely. The second cup design consisted of an environmental claim solely. Thirdly, a cup design was created which consisted of cups with both a pair of eyes and an environmental claim. The last design of the cups serves as a control group, and has a neutral

patterned design. The last cup design served as the control group of the research. Pictures of the cups that belong to the four scenarios can be found in Figure 3. To make sure that a scenario would be carried out as often as the other scenarios, the disposable cups were piled up in a specific order. That means that the cup of the second scenario is piled on the one of the first scenario, the cup form the third scenario is piled on the cup from the second scenario, the cup of the fourth scenario is piled on the cup of the third scenario, and so on.

Figure 3: Cup designs

Claim manipulation

Eyes manipulation

Eyes-claim manipulation

Control design

4.4 Procedure

To bring the previously mentioned scenarios into practice, all coffees, double espressos and flat white coffees in the canteen on campus were sold in the coffee cups with the four different designs. The cups were piled up in such a way that the different designs would be sold as often as each other. The three bins were placed in and near the canteen. Two of the three recycle points were placed in the canteen, next to the regular garbage bins. The third recycling point was placed right outside the canteen, near to the main entrance of the building. The recycle points were grey bins, with a circle-

shaped hole with a diameter of 10 centimetres on the upper side, in which people can throw their cup. The recycle points were made recognizable with a sign that said “Recycle your cup here” and an arrow towards the hole in the bin, as seen in Figure 4. The recycle points were emptied daily, to collect the turned in cups, that served as data.

It was important that the participants were only influenced by the nudges on the cups and that they were not influenced by other stimuli. Therefore the a double blind design was used, which meant that employees of the Waaier canteen were not informed about the research.

Figure 4: Recycling point

4.5 Measures

In order to see whether the primes on the cups had an influence on the recycling behaviour of participants, the cups that were returned to one of the recycling points were counted every day, per intervention and per location of the bin. When the recycling point was emptied, a look was taken at the content of the bin bag that was in the recycling point. From all the trash was put into the bin only the cups that belonged to this research were counted. By counting the returned cups, a dataset was created that was later analysed.

4.6 Participants and sampling technique

In this research, data was collected in the form of cups, from participants who bought coffee or cappuccino in the Waaier Canteen on the University of Twente. Therefore, all participants are consumers from Appèl, the caterer of the University of Twente. However, the participants of the research did not know they served as participants and did not give consent. This means that no demographic data was collected from the participants.

Even though no demographic data was collected from the participants, some assumptions can be made. Firstly, the participants are likely to have a high level of education and are either a student or a staff member to the University of Twente, because the research was conducted on a university. Generally, more male students are enrolled in both bachelor programmes and master programmes at the University of Twente. Therefore, the majority of the participant is likely to be male. Other than that, according to Appèl, the canteen is mostly visited by an international audience.

Dutch people tend to bring their own lunch and drinks to university, whereas international students are more likely to buy lunch and drinks on Campus. Therefore, the majority of participants of the research is probably non-Dutch. Lastly, an assumption about the age of the participants can be made. According to Appèl, their customer base in the Waaier canteen mainly consist of students. Therefore, the average age of this participant group is estimated to be between 18 and 25. However, the canteen is also used by staff members, who generally have a higher age than the students. The average age of all participants is therefore likely to be higher than 25.

5. Results

In total, 712 cups were sold over a period of 12 days. A quarter of the cups that were sold existed of the eye design, a quarter existed of the claim design, a quarter existed of the eyes-claim design and a quarter existed of the control group cups. From the 712 sold cups, 31% was returned to a recycling point. To explore whether the independent variables eyes manipulation, the claim manipulation and an interaction between the two designs had a statistically significant effect on the dependent variable recycling behaviour, a univariate analysis of variance was used. According to the results of the analysis, the model was not found to be significant, $F(1, 708) = 0.425$, $p = .735$. In order to test whether the two prime interventions and the interaction intervention had individual significant effects, univariate analyses were conducted and will be discussed in this chapter. Other than that, a Chi-square test was done in order to explore if there was a significant difference between the control group and the interventions with primes, which is also discussed in this chapter.

Table 2: percentages of recycled cups per design

Design	**Recycled**		**Not recycled**		**Total**	
	Percentage	**Number**	**Not recycled**	**Number**	**Percentage**	**Number**
Eyes	29.8%	53	70.2%	125	100%	178
Claim	28.7%	51	71.3%	127	100%	178
Eyes and claim	33.7%	60	66.3%	118	100%	178
Control group	32.0%	57	68.0%	121	100%	178
Eyes total	31.7%	113	68.3%	243	100%	356
No eyes total	30.3%	108	69.7%	248	100%	356
Claim total	31.2%	111	68.8%	245	100%	356
No claim total	30.9%	110	69.1%	246	100%	356

5.1 Eyes

According to this study, 29.8% of the cups that solely had eyes on them, were returned to a recycling bin. The other 70.2% of the cups that solely had eyes on them, were not returned. As described in the previous paragraph, the used statistical model used in this research was not found to be significant. Next to the complete model, a look can be taken at the individual effect of the eyes manipulation on recycling behaviour. To do so, a univariate analysis of variance was conducted. This analysis concluded that there was a non-significant main effect of the eyes manipulation on recycling behaviour, $F(1, 708) = 0.163$, $p = .686$.

When looking at the total of sold cups with eyes on them, which includes the eyes manipulation and the eyes-claim manipulation, 31.7% of all cups sold with eyes on them were returned to a recycling point. The remaining 68.8% was not returned.

5.2 Claim

According to the current research, the percentage of 28.7% of all sold cups that merely had a claim on them were returned to a recycling bin. The remaining 71.3% of the sold cups with only a claim on them were not returned to a recycling bin. To see whether there was a significant main effect of the claim manipulation on recycling behaviour, a univariate analysis of variance was conducted. This analysis concluded that there was a non-significant main effect of the claim manipulation on recycling behaviour, $F(1, 708) = 0.007$, $p = .936$.

While analysing the total of cups with claims on them, which includes the claim manipulation and the eyes-claim manipulation, 31.2% of the sold cups with a claim on them, were returned to one of the recycling bins. The remainder of 68.8% of the cups with a claim on them, was not returned to be recycled.

5.3 Interaction

The two primes eyes and claim were combined in one of the cup designs to explore whether there was an interaction effect between the two independent variables. From the sold cups with the eyes-claim manipulation, 33.7% was returned to one of the recycling points by the participants. From that follows that 66.3% of the sold cups with the eyes-claim manipulation, did not end up in a recycling bin. A univariate analysis of variance was conducted In order to explore whether there was an interaction between the eyes prime and the claim prime. No significant interaction between the eyes prime and the claim prime on recycling behaviour was found, $F(1, 708) = 1.105$, $p = .294$.

5.4 Control group

According to this research the majority of the cups with the control design that were sold were not returned to be recycled. 32.0% of the cups from the control design were returned to a recycling point, whereas 68.0% was not returned to one of the recycling bins. In order to see whether recycling significantly differed between the control design and the three other designs, a Chi square test was performed. This test found no significant difference between the control design and the three other designs, $\chi^2(1) = 0.107$, $p = .743$.

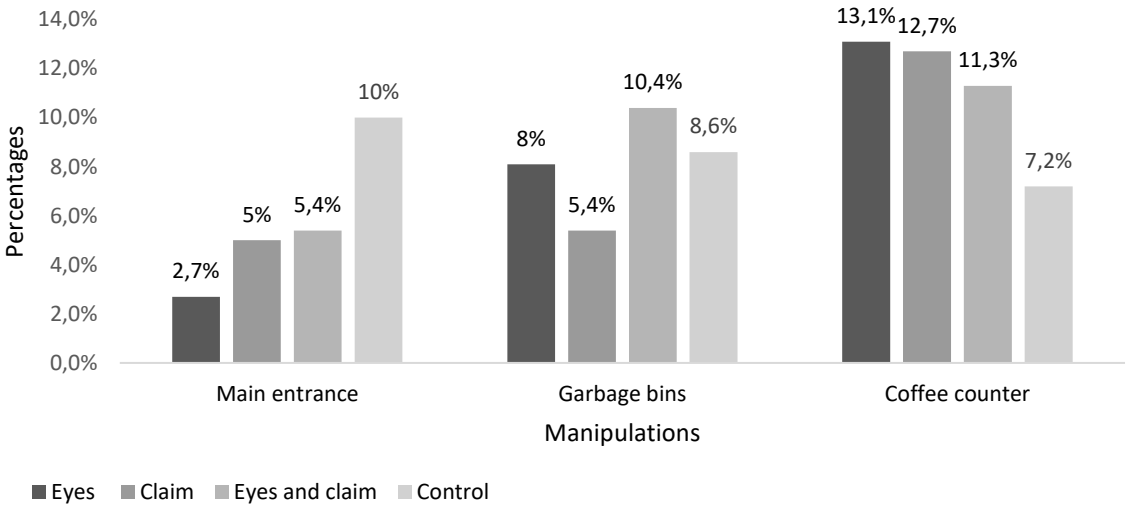
5.5 Locations of recycle points

Regarding the three different positions of the three recycling bins, there were some differences in the amounts of collected cups.

5.5.1 Main entrance Waaier

According to the results, the bin that was placed at the Main entrance of the Waaier building, collected the smallest amount of cups. A percentage of 23.1% of all the recycled cups was found in the bin on this location. In the bin at the main entrance of the Waaier, the smallest percentage of the eyes manipulation, claim manipulation and the eyes-claim manipulation were found. As presented by the results of this research, the biggest part of the recycled control design cups were found in the bin at the main entrance of the Waaier.

Figure 5: Percentages of recycled cups per bin location



5.5.2 Garbage bins

The recycling point that was placed next to already existing garbage bins collected 32.5% of the cups that were returned to be recycled. For all cup designs, the recycling point next to the garbage bins collected the second largest percentage of recycled cups. From all recycled cups with the eyes-claim manipulation, the highest percentage was collected by the recycling bin located next to the garbage bins.

5.5.3 Counter Coffee Corner

The bin that was placed closest to the counter of the Coffee Corner collected the biggest amount of cups. As indicated by the results of this research, a percentage of 44.3% of all recycled cups, was collected by the recycling bin closest to the counter of the Coffee Corner. This bin collected the highest percentages of cups for every design, except for the control design. Next to that, the results shows that, compared to the other designs, especially the eyes design and the claim design, were returned to the recycling point at the Coffee Corner counter.

6. Discussion

After having highlighted the most striking results of this experimental research, these results can be used to answer the formulated research question: "*Do people act more prosocial when they are confronted with primes on disposable coffee cups?".* To specify the research more, three sub-questions were formulated, as discussed in the method section of this research. In the following chapter, these research questions will be answered by interpreting the found results. Firstly, the main findings will be used to answer the formulated research questions, after which the limitations of this research will be discussed. Next, the focus will be on practical and theoretical recommendations that derived from this experimental research. Lastly, the final conclusions for this research will be drawn.

6.1 Discussion of main findings

In this section, the results will be used to answer the formulated research questions. Every sub-question will be discussed in its own paragraph.

6.1.1 Eyes design

This experimental research was meant to explore whether specific primes have influence on the recycling behaviour of people. To do so, the following sub-question was formulated:

Do images of eyes on disposable coffee cups increase recycling behaviour?

The results showed that 29.8% of the cups with the eyes manipulation was returned to one of the recycling points. Compared to the cups from the control group, which were returned to a recycling point in 32.0% of the cases, the manipulation does not seem to have an effect on the recycling behaviour of people. The results of this research confirmed this and found no statistically significant effect of the eyes manipulation on recycling behaviour. Knowing this, the previously mentioned sub-question can be answered: Images of eyes on disposable coffee cups do not increase recycling behaviour. This result is unexpected, since many researchers did find significant results in their researches in which images of eyes influenced social behaviour. For instance, Bateson et al. (2013), proved that images of watching eyes above bicycle racks reduced littering on a university campus. A possible answer to why the eyes intervention did not work for the context or population in this research, might be related to social presence. Markus (1978), who explained that people adjust their behaviour when they are being watched by others. The eyes manipulation in this research was designed to raise the perceived social presence, to motivate participants to show the desired behaviour. However, in the context of this research, the manipulation was not the only stimulus for social presence. Participants bought their coffee in the canteen, where students, teachers and employees of Appèl were be present. Moreover, the canteen is equipped with security cameras. According to Van Rompay et al. (2009), security cameras have a positive effect on prosocial behaviour. These stimuli that might have influenced the perceived social presence of the participants were present for all manipulations, which could explain the nonsignificant results for the eyes manipulation. In other words, there is a chance that the manipulations in this experiment were overruled by the perceived social presence of the environment. This assumption is in line with the findings regarding the locations of the recycling points. The least coffee cups were returned to the

recycling bin that was located most far away from the Coffee Corner and was out of sight for the Coffee Corner employees, students and staff members in the canteen. The location of this recycling point probably resulted in a lower perceived social presence, which could have led to lower recycling rates for this specific location.

6.1.2 Claim design

In order to explore whether environmental claims on disposable cups increase people's intentions to recycle the cup, the following sub-question was formulated:

Do environmental claims on disposable coffee cups increase recycling behaviour?

The results of the experiment show that cups with a claim manipulation were returned to a recycling point in 28.7% of the cases. When comparing this percentage to the control design, which was returned to a recycle bin in 32.0% of the cases, an increased effect of environmental claims on recycling behaviour is not expected. A univariate analysis of variance was performed and found no statistically significant main effect of the claim design on recycling behaviour. With these insignificant results in mind, the previously mentioned sub-question can be answered: Environmental claims on disposable coffee cups do not increase recycling behaviour This means that the intervention was did not work for this context or population. A possible explanation for this might be the boomerang effect. Schultz et al. (2007), explain that emphasizing social norms does not only increase desired behaviour, but it can also have an opposite effect for the group who normally behaves above average when it comes to the social norm. Telling someone that he/she behaves above average, might motivate the person to behave more like the average. The boomerang effect might partly explain why the intervention did not work, assuming that people who normally invest time in recycling wanted to behave more like the average, which was indicated to be that 80% of the people returned the cups to be recycled.

Other than the boomerang effect, social presence might have played a role in the claim manipulation results as well. As explained before, two of the recycling bins were located in an area where often many people are present. These locations might have caused a raised perceived social presence for the participants, which the research did not account for. This means that there is a chance that the primes on the coffee cups were overruled by the social presence of the environment of the experiment.

6.1.3 Interaction between eyes and claim

To find out whether a combination of images of eyes and environmental claims have a positive effect on people's recycling behaviour, the following sub-question was formulated:

Does a combination of both images of eyes and environmental claims on disposable coffee cups increase recycling behaviour?

The results show that 33.7% of the total amount of cups with the eyes-claim manipulation was returned to one of the recycling points. This percentage is slightly higher than the percentage from the control group, which was 32. 0%. Therefore, it can be stated that the eye-claim manipulation performed better than the control group in the context of this experimental research. A univariate analysis of variance was performed in order to explore whether there was a significant interaction between the eyes prime and the claim prime on recycling behaviour. According to this analysis, no statistically significant interaction between the two independent variables was found. The previously mentioned sub-question can be answered: a combination of both images of eyes and environmental claims on disposable coffee cups do not increase recycling behaviour. However no significant interaction effect was found, the combination of the eyes prime and the claim prime performed better than both individual primes and the control group.

Based on literature, it was expected that a combination of both a eyes prime and a claim prime would have an effect on recycling behaviour, because of the proven effect of the individual primes. However, this research did not find such an effect. A possible explanation might have to do with the dissonance between the image and the text. According to Marsh and White (2003), comprehension of text can increase when images are used. However, using an image with text can also have the opposite effect when the messages of the text and image are not matching. In the context of this experimental research, the used image and text were not matching. The dissonance between the messages of the eyes and the claim could have served as a distraction.

6.2 Limitations

However this study was designed with precision, the findings of this study have to be seen in light of some limitations. The first limitation of this research has to do with the lack of information that is known about the participants. Due to the fact that priming is a process that takes place on a subconscious level, it was important that the participants' behaviour was not influenced by the idea that they were participating in a research. Therefore, it was not possible to get an insight into the demographics of the sample, which is a limitation because factors like age, gender and level of education might have an influence in the research.

Another limitation has to do with the level of education of the participants. Even though there is no actual data available about the demographics of the participants, which includes level of education, it is likely that a majority of the participants is educated on a high level. Knowing that the data collection of this research took place in the canteen of a university campus, it is likely that participants were either student or a staff member at the university. The little difference in educational level is a limitation for the research, because the results might have been different within a more diverse population.

The third limitation with regard to the participants of this research has to do with the backgrounds of the people who participated in the preliminary research. All participants were students at the University of Twente, Dutch speaking and between the ages of 20 and 25 years old.

On top of that, halve of the participants were enrolled in the Communication science program at the University of Twente. The lack of diversity in amongst the participants is a limitation to the research, because a more diverse sample, might have led to different outcome that would fit the population better.

Another limitation of the research has to do with the environment of in which the experiment was conducted, because the cups with the primes on them were sold in the canteen of the university. The environment was not designed or adjusted for the research. This means that there is a chance that there were stimuli in the environment, that influenced the participants in some kind of way, and were not accounted for in this research. For example, there is a chance that participants experienced a higher level of social presence around the Coffee Corner, which could explain the high numbers of cups in the recycling bin next to the counter. This is a limitation, because this research does not account for these possible explaining factors.

When it comes to the participants of the research, there is a possibility that the sample did not exist of 712 unique participants. In other words, it is likely that during the data collection, the same person has bought more than one cup of coffee, and counted as more than one participant in the data. This is a limitation to the research, because a large data set of unique participants might lead to a different outcome of the research.

Lastly, the preliminary research made use of the qualitative focus group method. The participants in this focus group method were selected by convenience sampling, and all participants were Dutch. Because all participants were Dutch, the focus group was conducted in Dutch. Therefore, the recordings were also in Dutch. During the process of transcribing the audio, the spoken text was translated into English, in order to be able to use the results in this research report. Translating the text was done as precisely as possible, but there is a chance that the meaning, emotion or context from some parts of the text was lost in translation.

6.3 Recommendations

Based on the done research, some recommendations can be formulated. The following two paragraphs will discuss the specific recommendations for Appèl and the recommendations for future research that derived from the results.

6.3.1 Recommendations for Appèl

However the results of this research indicate that there was a slight interaction effect of the eyes prime and the claim prime on recycling behaviour. From all tested interventions, the manipulation with both primes performed best. Therefore, using the primes as a combined design could be used in this context. If Appèl's goal is to stimulate recycling, it is recommended to either use the cup designs with eyes and a claim, or the cups without a manipulation.

Other than that, images of eyes as primes have successfully been used in many research settings. However this experimental research has not proven that the eyes prime was successful, it might still be useful to use images of eyes in environments where it is desired to stimulate prosocial behaviour. A recommendation for Appèl is to use subtle images of eyes in the environment of their canteens to stimulate prosocial behaviour.

6.3.2 Recommendations for future research

Despite the fact that literature indicated that primes with eyes and primes with claims increase prosocial behaviour, such results were not found in this research. It is important to keep in mind that it cannot be concluded that the primes in this research do not work. Rather than that, the presented primes did not show an effect in the specific context of this research and with this certain population. In order to use the findings and limitations from this research to steer future research, several recommendations were formulated.

It is recommended to do more research into the topics of priming with eyes or claims in combination with environmentally-friendly behaviour. More research into this topic, in different contexts and with larger samples will lead to more insight into the use of primes with the goal to stimulate sustainable behaviour. Other than that, it is recommended to conduct future research into this topic in a controlled environment, like Van Rompay et al. (2009), for example did in their research. In the current experiment, there is a chance that participants were influenced by the environment of the canteen, instead of the primes. By using a completely controlled environment, the biases from the environment can be eliminated.

6.4 Conclusion

In this research, three sub-questions were explored in order to answer the main research question. The first conclusion that can be drawn is that images of eyes on disposable coffee cups do not increase people's recycling behaviour. The second conclusion of this research is that environmental claims on disposable coffee cups do not increase recycling behaviour. Thirdly, the conclusion can be drawn that a combination of both images of eyes and environmental claims on disposable coffee cups do not increase people's recycling behaviour. Because of these results, the general conclusion of this research is that people do not act more prosocial when they are confronted with primes on disposable coffee cups.

Despite the fact that none of the primes had a statistically significant effect on the recycling behaviour of the participants, the manipulation that measured the interaction between the eyes prime and the claim prime, seemed to be most successful in this research. Even though no statistical proof was found, the conclusion can be drawn that out of all manipulations, the most prosocial behaviour was measured in the eyes-claim manipulation. Other than that, the results show that around 30% of the cups from all manipulations were recycled. Following from this finding, one could conclude that participants were willing to recycle their cup in around a third of the cases.

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