Universiteit Leiden

How to Encourage Consumption of Sustainable Products

The Effect of Deviant Products on Consumption Behaviour

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Master thesis Psychology, specialization Economic & Consumer Psychology

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Date: September 2016

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Abstract

The aim of this master thesis was to study how to increase consumption behaviour of sustainable products. We argued that based on their sustainable aspect, these products were seen as deviant. Based on the deviance literature we predicted that people would react negatively towards these products. We proposed that when people's moral self-concept is made salient, consumption of and attitude towards sustainable products would increase. We tested 200 participants; mostly students from Leiden University, in a two (puzzle; moral vs. neutral) by two (labelling; organic vs. neutral) design. Based on the morality and deviance literature, we argued that solving only a moral word puzzle would lead to less consumption and more negative attitude towards sustainable products. However, for this manipulation, the results showed no significant difference in consumption of and attitude towards the product for both the participants of the neutral and moral word puzzle. Subsequently, we argued that when reading an organic label after completing either puzzle, the moral self-concept would be triggered. Results show that consumption behaviour and attitude of participants who consumed an organic labelled product was significantly higher when compared to participants who consumed a neutral labelled product. No interaction effect was found for our manipulations. Also, the willingness to receive the product was not influenced by our manipulations. Overall, our findings suggest that organic labelling can trigger moral self-concept and encourages consumption behaviour of sustainable products. However, further research is necessary to fully understand the link between labelling and consumption behaviour.

Keywords; Consumption Behaviour, Deviance, Moral Identity, Self-Concept, Sustainability.

Global warming poses a serious threat to people and nature (United Nations, 2015). In recent events, the United Nations organized a conference on global warming, known as the COP 21. During this conference, binding obligations were established with developed countries to reduce their greenhouse gas emissions. As a result, a maximum of two degrees Celsius has been set as a goal to limit global warming (COP 21, 2015). This was necessary, because there is a steady rise of carbon dioxide concentrations in our atmosphere (Bazzaz, 1990). One of the core reasons for this rise is the Industrial Revolution (Jensen, 1993). According to Jensen, manufacturing and production increased since 1973. This revolution changed consumption behaviour causing people to consume more than before the revolution. Simultaneously with technology changes comes a growth of population, resulting in even more consumption (Boserup, 1981). Additionally, a rise of CO2 is strongly correlated with the increase in global consumption of fossil fuels (Rotty & Marland, 1986).

In order to maintain the same standard of living, we need to change how we use our resources to prevent further depletion of natural resources (Mainieri, Barnett, Valdero, Unipan, & Oskamp, 1997). The concern for the environment has grown and consumers are now aware of the threat that is climate changes (Tilbury, 1995). Companies are aware of current attitudes towards climate change, thus resulting in the realization that production and manufacturing needs to be more sustainable (McDonough & Braungart, 1998; Mohr, Webb, & Harris, 2001).

However, although often available, sustainable alternatives are not widely consumed (UNEP, 2005). For example, PiperWai is an all-natural charcoal based deodorant (PiperWai, 2015). We expect that consumers would trade sustainable products for non-sustainable counterparts because of their more positive impact on the environment.

In the past few years, a positive development in attitude towards the environment and sustainability has been noticed (Uyeki & Holland, 2000). A recent report on global sustainability shows that people have a positive attitude towards sustainable products and shows that people are prepared to change their consumption behaviour to contribute to a more sustainable future (Nielsen, 2015; Tilbury, 1995). This positive attitude resulted in more companies developing sustainable and environmental friendly products (Maxwell & Van der Vorst, 2003). According to the report of Nielson, the majority of consumers are additionally willing to pay more for sustainable brands.

Unfortunately, research shows that there is an inconsistency between the attitude towards sustainable products and the actual consumption behaviour, meaning that consumers might have a positive attitude towards sustainability and sustainable products, yet their consumption behaviour proves otherwise (Vermeir & Verbeke, 2006). This is also referred to as the attitude-behaviour gap; which explains this behaviour as a discrepancy between attitudes and actual behaviours and states that attitudes alone are poor predictors of behaviour (Kraus, 1995). Multiple researches have made an attempt to explain this attitude-behaviour gap; nevertheless, a final explanation has yet to be found (Carrigan & Attalla, 2001). Currently, this poses a challenge for companies and marketers to promote sustainable products.

Research shows that sustainable products, such as PipwerWai, only represent 5% of total market share (Young, Hwang, McDonalds, & Oates, 2010). One of the reasons may be that these products are not always as appealing and attractive as their non-sustainable counterparts. Sometimes the sustainable product is more expensive, as we see for instance with energy. Goldemberg (2007) show that some of the renewable sources of energy are more expensive than energy produced from fossil fuels. Additionally, sustainable alternatives are

often assumed to be unattractive in appearance and uncomfortable, for example in design (McLennan, 2004). Overall, Vermeir and Verbeke (2006) found a more negative attitude for the attributes price, appearance, convenience and conservation towards sustainable products. This means that sustainable and environmental friendly products usually differ from products in the same product category and are deviant in the way the products are used, their ingredients or the packaging. In PiperWai's case, the packaging is deviant because it consists of reusable materials; which eliminates the use of traditional plastic packaging that most deodorants use, resulting in the reduction of plastic waste and thereby deviates from its product category.

Through conscious choices such as consumption of sustainable products, consumers can protect earth's natural resources and prevent further environmental damage (Mainieri, Barnett, Valdero, Unipan, & Oskamp, 1997). Mainiere et al. (1997) state that society needs environmentally conscious behaviour such as green buying; consuming products that are benign toward the environment. Kollmuss and Agyeman (2002) refer to a similar need of 'pro-environmental behaviour'. This is behaviour that has minimal negative impact on the natural and built world. As such, this behaviour minimizes resource and energy consumption and reduces waste production. For this study we use the definition 'sustainable consumption' to refer to behavioural consumption that has a less negative impact on the environment as opposed to non-sustainable consumption (Connolly & Prothero, 2003).

The aim of this research is to encourage the consumption of products that have a more positive impact on the environment when compared to non-sustainable products, yet are not widely consumed. Understanding the underlying mechanisms of consumer decisions regarding sustainable products helps to achieve this.

We base our assumption that sustainable products are not appealing to consumers on literature that shows that people react negatively towards deviance (Abrams, Marques, Bown, & Henson, 2000; Brewer, 1979; Chekroun & Nugier, 2011; Marques, Yzerbyt & Leyens, 1988). Deviance is defined as the violation of the norms of the group (Jetten & Hornsey, 2013). In general, people react negatively towards deviance, whether these norm violations are positive or negative.

Although research on deviance in general focuses on the behaviour of people (Brewer & Silver 1978; Chekroun & Nugier, 2011; Cramwinckel, van den Bos, & van Dijk 2015; Masuda & Feng, 2015; Marques & Zerbyt, 1988; Spreitzer & Soneshein, 2004; Warren, 2003), we argue that products can also be deviant. We assume that people will react similarly negative to deviant products as they do to deviant people, because products can be an expression of people's identity and emphasize their own uniqueness (Belk, 1988). In doing so, people tend to construct their identity through consumption behaviour. One could argue that people use products to confirm their identity. This means that people may demonstrate their morality by consuming sustainable products. McEwen (2005) states that consumers tend to create powerful relations with brands through these enhanced consumers' identities. Additionally, Belk (1988) indicates that possessions can give us a sense of who we are, where we come from and where we are going. Through this identification with an object or product, the object or product can function as a pseudo person (Scott & Lane, 2000). As such, one could argue that people evaluate products the same way they evaluate people. In doing so, by choosing the products you use, you also choose your identity. Beggan (1992) argues that object perception should be conceptualized as a social process, meaning that how people judge objects is similar to how people judge individuals.

Morality and self-concept

Thus, people are aware of the climate change problem and indicate that they are prepared to adjust their behaviour to benefit society, but they are not acting accordingly. We believe the current consumption behaviour of sustainable products is focussed on the deviant side of the product and we assume that this hinders the consumption.

For this research, we argue that increase in consumption of and attitude towards sustainable products is possible by triggering moral behaviour. A powerful way to influence and encourage moral behaviour is through the self-concept, because morality is an important part of the self-concept (Aquino & Reed, 2002; Cramwinckel, van Dijk, Scheepers, & van den Bos, 2013). The self-concept consists of an individual's experiences, on which self-perception is based (Shavelson, Hubner, & Stanton, 1976). We propose that when the moral self-concept is triggered, people will perform moral behaviour such as consuming sustainable product. We base this proposition on studies from Mazar and Zhong (2010), and as such, we argue that consumption of sustainable products can be seen as moral behaviour as it increases concern and feeling of responsibility for society. In addition, other studies show that purchasing choices express norms, values and beliefs (Caruana, 2007; Irwin & Baron, 2001).

It may be that consumers will choose products that reflect their moral identity. This results in our assumption that when morality is salient, people will consume more sustainable products (Reynolds, 2006). In addition, Mazar and Zhong (2010) suggest based on three studies that consumption is more tightly connected to the social and moral self than previously thought. Cohen and Sherman (2014) demonstrate that people attempt to achieve a positive moral self-concept and want to regard themselves as moral. In our study, we argue that increasing the salience of morality will lead to activation of the moral self-concept, which subsequently leads to an increase in consumption of sustainable products (relative to neutral products). The question, however, is how to increase the salience of morality. Two

manipulations are examined in this study to investigate how to increase consumption of and attitude towards sustainable products while using morality.

We first argue that words can stimulate specific self-concepts. Markus and Kunda (1986) show that when presented with words, an automatic association between concept and attribute occurs. Additionally, word puzzles are proven to be an effective priming task (Bargh, Gollwitzer, Barndollar, & Trötschel, 2001). By focusing on specific information, people will unconsciously take that information into account when making future judgments and decisions (Herr, 1989). This is the reason that for the first manipulation in our study we decided to ask people to solve a word finding puzzle. We argue that while searching for moral words in a word finding puzzle, the participants' focus will be on morality. In the study by Herr (1989), participants had to solve a puzzle with names of brands of either expensive or inexpensive cars. Subsequently, participants were asked to judge cars with concealed brand names on a scale from 'extremely inexpensive' to 'extremely expensive'. The findings of this study show that the expensive priming condition led to higher price judgements. At the same time, participants from the inexpensive priming condition judged cars as more inexpensive. This study by Herr (1989) shows us that when people are focused on specific information, they will perform behaviour in line with this information. We argue that this means that when people are focused on morality, they will perform moral behaviour. However, we expect that unconsciously focussing on morality alone in combination with a sustainable product will result in a focus on the deviant aspects of the product. Therefore, our first hypothesis is based on the deviance literature. We expect people to consume less of sustainable products and have a more negative attitude towards sustainable products when compared to the consumption and attitudes of neutral products, after people have focused on moral words by solving a moral word-solving puzzle.

Secondly, we argue that labelling can stimulate the self-concept and can influence consumption behaviour and attitudes. Little research has been done related to labelling, although marketers can use labelling to gain a competitive advantage (Nancarrow, Tiu Wright, & Brace, 1998). For this study, when we refer to labelling, we focus on how the product is described. Products can stand out through labelling and according to Daugherty, Sabath and Rogers, (1992) companies have learned that tailoring and standing out provides marketing advantages. The same study states that consumers base their decision making upon more than just price, promotional support and customer service. Therefore, it is crucial for sustainable products that firms look beyond these basic products offering. We argue that labelling provides opportunities for customization to stand out. Nancarrow et al. (1998) state that words and symbols could be of semiotic significant value for costumers and therefore a thorough analysis of consumers and existing market stimuli is needed. They additionally note that it is increasingly important for products, given the competitive environment, to communicate effectively in an appealing way. In the current study, we therefore investigate whether labelling may be employed as an effective marketing communication strategy with regard to sustainable consumption goods. For our second hypothesis we expect that the moral self-concept is triggered after reading an organic label, and thus will lead to a focus on morality. However, we believe and argue that the focus on the organic label will not result in a focus on the deviant aspect of the sustainable product. We believe so, as the participants read the label and are thus consciously processing that the product is organic. We argue that this will lead to an increase in consumption behaviour, a more positive attitude towards the sustainable product and more willingness to receive the product in the organic label condition when compared to the neutral label condition.

For our third and final hypothesis we focus on both manipulations. We argue that there is an interaction effect between the word finding puzzle manipulation and the labelling manipulation. In the current study, we believe that the focus will not be on the deviant aspect of the sustainable product when solving a moral word finding puzzle and when subsequently reading an organic label. We argue that both the moral word finding puzzle and the organic label will be consciously processed and there will be a focus on morality. Focal-attentive processing can be used for the control of complex; novel, responses (Velmans, 1991) and we argue that moral responses belong to these types of responses. Additionally, Velmans (1991) argues that when consciousness is absent, focal-attentive processing is usually absent, which explains why consciousness seems necessary for the completion of complex tasks. We expect an increase in consumption behaviour of and positive attitude towards the sustainable product when people first solve a moral word finding puzzle and hereafter read an organic label. Evans (2008) states that there is a distinction between processes that are unconscious, rapid, automatic and high capacity, and those that are conscious, slow and deliberative. We argue that when information is processed dually, consciously and unconsciously, it will lead to moral related behaviour such as consumption of sustainable products.

The current research

In this study we investigated the consumption and evaluation of a sustainable product. We chose to use organic potato chips, a product that is both sustainable yet deviant because of its organic and environmentally friendly ingredients. Before engaging in the tasting task, participants were asked to complete a word-finding puzzle. The words in this puzzle were either moral or neutral, depending on the condition participants were assigned to. After participants solved the word puzzle, they were invited to taste and evaluate the organic potato chips. Participants were either assigned to the neutral condition, in which they received

neutral information about the product such as nutritional information, or to the moral condition, in which they received nutritional information accompanied with information about the sustainability aspect of the product.

Method

Participants and design

Our experiment had a 2 (puzzle: moral vs. neutral) x 2 (labelling: organic vs. neutral) between-subjects design. For this research we aimed to collect 50 students per condition from the Leiden University. However, because this study was executed at the end of the academic school year, there were not as many students available as we anticipated beforehand. We therefore decided that we would approach people on campus and ask if they were available to participate in our research. Therefore, our participants were not solely students. By accident, a 14-year old girl participated in our study. As such, we deleted this participant from our data, which resulted in a total of 200 participants for this experiment (144 women), which participated in exchange for study credits or money. The participants, aged 18 to 41, were on average 21.68 years old (SD = 2.93) and we know the age, sex, weight and length of all participants. For the neutral puzzle, neutral label condition, there were 51 participants and for the moral puzzle, organic label there were 49 participants. For the neutral puzzle, organic label, there were 50 participants and for the moral puzzle, neutral label, there were also 50 participants. We checked for restrained eating habits such as dieting or allergies, because these factors could influence the consumption behaviour of these participants. We anticipated that these participants would eat nothing at all, very little or would eat a lot.

Procedure

After providing informed consent, participants were guided to a private cubicle. Here they found a desk with a pen and piece of paper with the word-finding puzzle. They were

asked to solve this puzzle and to find 10 words that are either neutral or moral. We used the tool on www.woordzoekers.org to create these word-finding puzzles.

In the moral puzzle condition participants were asked to find 10 words. As seen in Figure 1, these words were ‘Aardig’ (Kind), ‘Begripvol’ (Understanding), ‘Behulpzaam’ (Helpful), ‘Eerlijk’ (Fair), ‘Ethisch’ (Ethical), ‘Hardwerkend’ (Hardworking), ‘Meelevend’ (Compassionate), ‘Oprecht’ (Honest), ‘Vrijgevig’ (Generous) and ‘Zorgzaam’ (Caring). These words were based on previous research of Aquino and Reed (2002) who used these words to measure moral identity and to describe characteristics that are fitting for a moral person. Their study found that these words represent moral traits and in turn described if a person is moral or not.

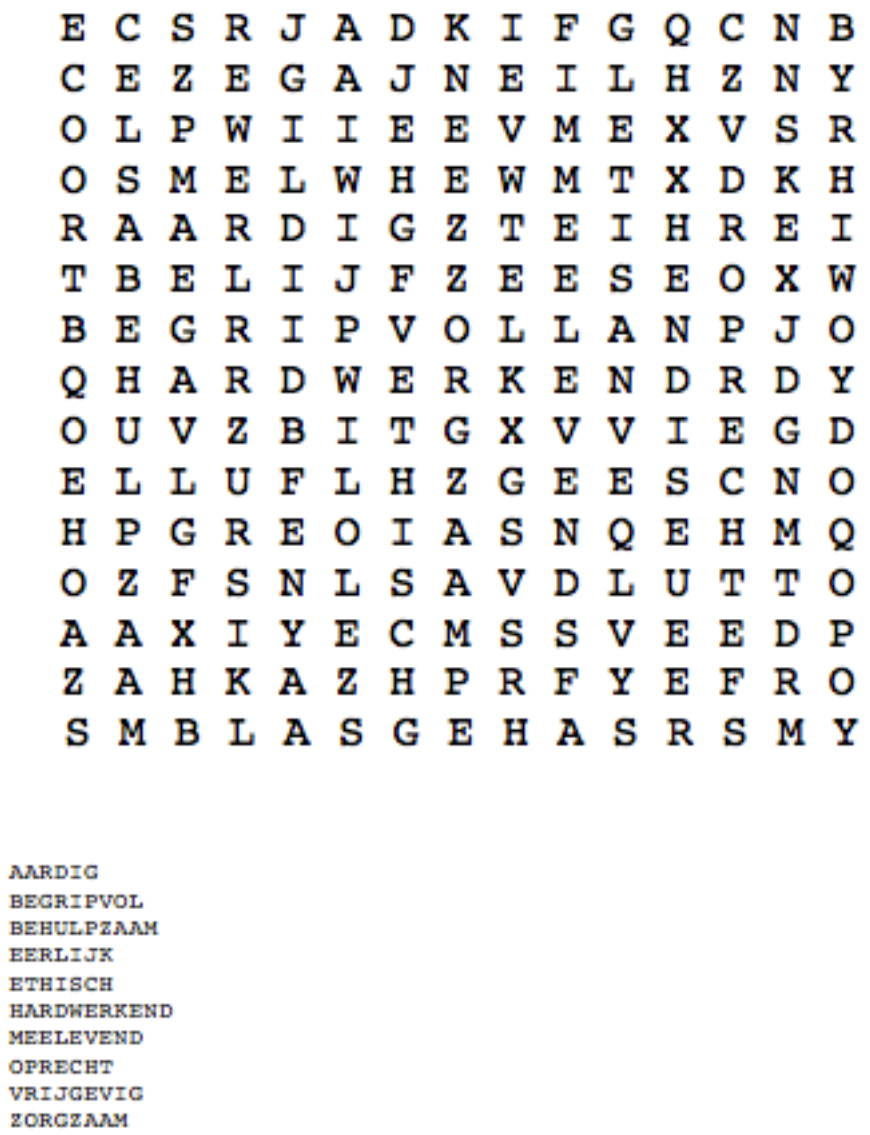

Figure 1. Moral word finding puzzle.

In the neutral puzzle condition participants were asked to find the words ‘Aankleden’ (To dress), ‘Ademhaling’ (Breathing), ‘Badkamer’ (Bathroom), ‘Bestek’ (Cutlery), ‘Centimeter’ (Centimetre), ‘Dossier’ (File), ‘Etiket’ (Label), ‘Handtas’ (Handbag), ‘Legpuzzel’ (Jigsaw) and ‘Supermarkt’ (Supermarket), as shown in Figure 2. These words were based on the commonly used Dutch words list from Herman and De Houwer’s (1994). We made sure that the words in the neutral puzzle condition matched in length and abstraction level to the words in the moral puzzle condition.

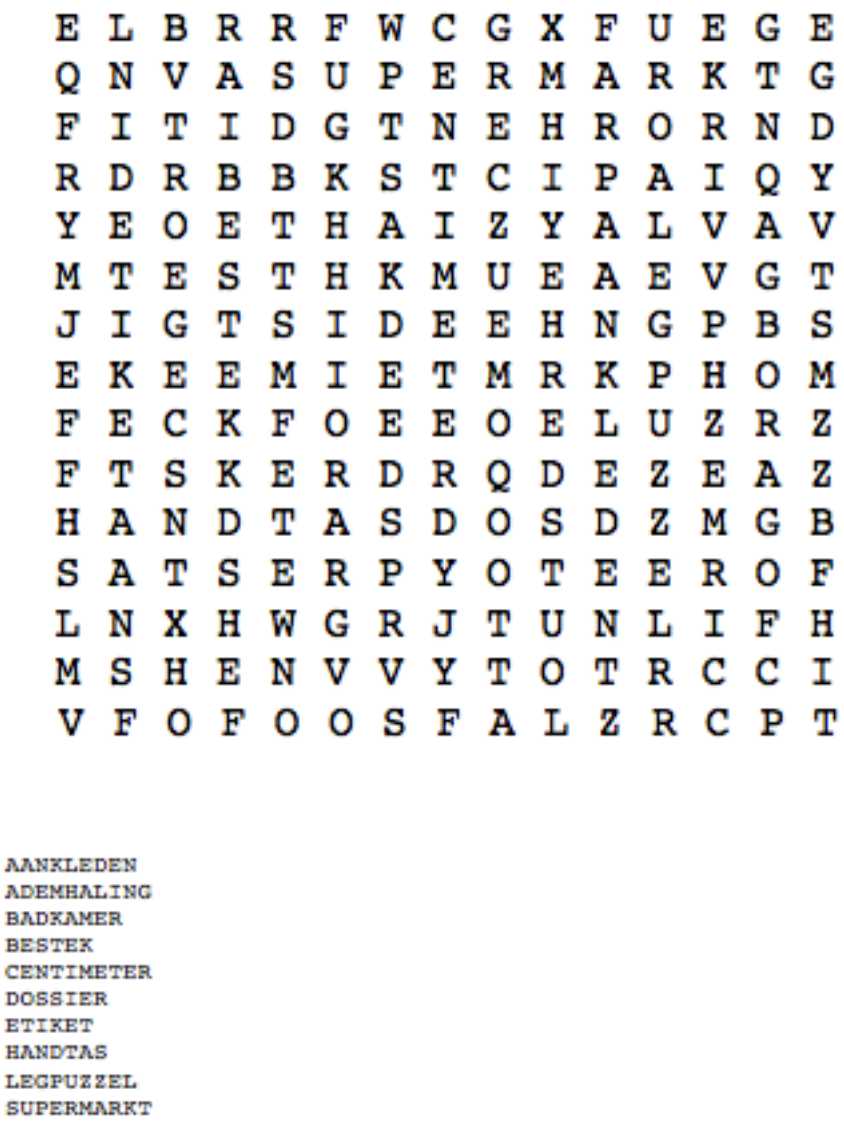

Figure 2. Neutral word finding puzzle.

After the participants worked on the puzzles for a maximum of 10 minutes, they were signalled by the experimenter and received the second part of the experiment. For this part of the experiment the participants received a bowl of 'Jumbo biologische natural chips' (M = 36.73, SD = 3.39); organic potato chips.

There were again two different conditions, the neutral and the moral condition. The participants in the neutral condition read the following information. *'You have just received a*

snack from the experimenter. The snack in front of you is called the Jumbo natural chips. This snack is made out of potato. Nutritional value per 100 grams (g): Fat - 35 g, of which saturates – 3,1; Carbohydrates – 52 g; Protein – 5,8 g; Fibres – 4g; Salt – 1,2 g. We would like to ask you to taste the snack in front of you. Make sure that you taste enough of the snack to have a good impression on how the products tastes. Afterwards you can answer the questions.'

In the moral condition the participants received the same information, however they additionally read that the snack is organic because the following text was added: '*These organic chips are made of organic potatoes. During the production of these potatoes the farmer only works with natural products. This way you can enjoy delicious chips that are made without the use of unnatural means.'*

After participants read this information about the snack they were asked to taste the product. Participants were told to 'taste as much as they need in order to have a good impression of the product'. After the participants tried the snack they signalled the researcher and subsequently received a questionnaire. While participants filled out the questionnaire, the researcher weighed the bowl of chips to determine the actual consumption of the participant. This was measured in a separate room, outside of participants' sight and thus without their awareness. This consumption was our most important dependent variable.

The questionnaire contained the following self-developed items. The participants were asked to indicate on a 7 point Likert scale ranging from 1 *(not at all)* to 7 (*very much*) to what extent they liked the product and to what extent they thought the product was tasty, sustainable, disgusting. We also asked if participants would recommend the product to others and to what extent they believed this product was sustainable. We also assessed how participants graded the product on a scale from one to ten, with one being the lowest and ten

the highest grade.

An open-ended question measured whether and to what extent the product fitted with the image the participant has about him or herself. Another open-ended question assessed how much participants were willing to pay for a package of 125 gram. We asked whether the participant would buy the product 1 *(not at all)* to 7 (*very much*) and we asked the participants about their current consumption of chips. They indicated their answer on a scale from 1 *(I never eat chips)* to 7 (*I eat chips daily*).

All questions about attitude that were answered on a 7 point scale, were used to create an overall attitude variable. In order to do this, we had to recode the variable disgust, because participants answered this question on a scale from1 *(very much)* to 7 (*not at all*). To check if this variable was reliable Cronbach's alpha was checked. With Cronbach's alpha above .7 (α=. 854), we conclude that the overall attitude scale was highly reliable (Tavakol & Dennick, 2011). Deleting items did not result in substantial higher reliability and therefore all items were retained.

After answering questions about attitude, participants were asked to provide background information about their sex and age and how often they consume potato chips in their daily lives. We also asked participants about their weight and length.

Finally, we wanted to investigate whether participants were willing to consume the product on a future occasion by asking participants whether or not they were willing to receive any leftovers if there were any. If so, they could leave their email-address. We used the percentage of people who did or did not leave their email address as an extra dependent variable.

When participants were done filling out these questions, the experiment ended. They were thoroughly debriefed. This was important because in this experiment we took

unobtrusive measures and thus participants were fully debriefed about the aim and purpose of the study. After the debriefing, participants were asked a second informed consent, which all participants signed. Hereafter, they were thanked for their participation, paid and accompanied out of the room.

Results

Data exclusion

Data check

Our data was not only influenced by our manipulations as external factors could also influence the outcomes. We focused on three aspects to analyse if our data was influenced by external factors. First we checked any remarks left by participants to check whether participants should be left out of the main analyses. Second, we examined if weight and length influenced our consumption behaviour by calculating the BMI. Third, we explored if there were extreme scores on the dependent variable consumption behaviour.

First, remarks were read to check if consumption behaviour of participants were mainly influenced by our manipulations. The goal of our research was to increase consumption of sustainable products. As we used chips as the sustainable product in this study, consumers of chips were tested. It is therefore important that the participants in this study could be potential consumers of the product. Steptoe, Pollard and Wardle (1995) describe that a number of factors influence people's dietary choices and thus consumption behaviour, including taste and food preference. Therefore, when participants remarked that they did not like chips in general they were excluded from our analyses, because then their consumption behaviour and attitude towards the product would also be based on their product preference. Suddendorf and Busby (2005) state that when you are satisfied it is easier to ignore advertising appeals such as labelling, and consumption behaviour is driven by future-

need-anticipation. As such, when participants did not have an appetite or were full because they had just eaten, they were predicted to consume less of the chips. Therefore, we decided to delete participants that for instance just had lunch or dinner, because their consumption behaviour was not only influenced by our manipulations. Based on these remarks, we decided to delete three participants. In order to be complete, we checked the significant level when these three participants were not excluded. Subsequently, we performed an ANOVA where these three participants were excluded. We found that excluding or not excluding these participants would result in different significant scores. The ANOVA in which these participants were removed yielded a more significant, $F(1,192) = 3.778$, $p = .053$, $\eta_p^2 = .019$.

Secondly, we examined eating habits as a factor that could influence our data. We proposed that dieting and obesity could influence our data. Lowe and Levine (2005) state that certain eating habits as dieting and obesity can lead to eating less than what is needed or wanted. Hence we analysed whether participants' Body Mass Index (BMI) influenced participants' consumption behaviour and attitude towards the product. BMI is a measure of body fat based on height and weight that applies to adult men and women (Bordowitz, Morland & Reich, 2007) and is calculated by dividing bodyweight in kilograms by squared height in meters. A healthy BMI is between 19 and 25. The currently used definition of overweight is defined as a BMI above 25 and below 30; the definition of obesity is a BMI equal to or higher than 30. We argue that someone with an extreme high or low BMI has different eating habits when compared to someone with an average, healthy BMI. Divergent eating habits could be a reason to exclude participants. Therefore, participants with a BMI of 19 or lower and 30 or higher were analysed more in depth and were considered to be removed from the main analyse. The overall distribution of BMI was approximately normally distributed, however slightly tailed to the right, which indicated that there might have been outliers. To check which participants were outliers we created a boxplot. This boxplot

indicates that for our BMI scale there were three participants with extreme scores (>3 box-lengths). When taking a closer look at these three participants we decided not to remove them from our analyses as these participants with an extreme BMI score did not show different eating habits in our closer analysis, because they scored average on questions like 'how often do you eat chips'. Therefore we decided not to exclude these three participants. Dividing participants into three groups based on high, average or low BMI and controlling for these groups did not reveal a significant effect. Additionally, we performed a test were outliers were deleted and where outliers were remained. Deleting outliers did not result in any significant effects (all *p*s > .05).

Thirdly, we checked if there were outliers on consumption behaviour. If the outliers scored substantial different on BMI and attitude, we would remove the participants from our data. We found one outlier on consumption behaviour. When taking a closer look at this outlier we decided not to exclude the participant from our data, because the participants' scores did not substantial differ from the others. Not only did the participants' BMI indicate a healthy BMI (BMI = 20.57), the attitude of this outlier towards the chips was also not substantial different (M = 4.25) than average (M = 5.09, SD = .846).

To conclude, our decision to exclude participants from the sample was based on three different variables. Based on remarks we decided to delete three participants, based on BMI we decided not to delete any participants and based on the consumption behaviour we also decided not to exclude any participants. Therefore, three participants in total were excluded for our sample, which resulted in a total of 197 participants.

Main analyses

Actual Consumption

To test whether the amount of chips consumed was higher in the moral conditions than in the neutral conditions, we performed an ANOVA with puzzle (neutral vs. moral) and labelling (neutral vs. organic) as independent variable and consumption behaviour as dependent variable. Assumptions of multivariate normality, independent errors and sphericity were checked and were not violated. Results revealed a marginal significant main effect of our labelling manipulation, such that participants consumed more chips in the organic condition (M = 11.86, SD = 7.92) than in the neutral condition (M = 9.90, SD = 7.55; F[1,196] = 3.16, p = .077, η_p^2 = .016). The effect size indicates that it concerns a small effect (Cohen, 1998). As expected, participants consumed more chips when chips were labelled as organic than when chips were labelled as neutral. No significant main effect for the puzzle manipulation was observed, $F(1,196) = 0.373$, $p = .542$, $\eta_p^2 = .002$, nor was there a significant interaction between the puzzle and labelling manipulation, $F(1, 196) = 27.91$, $p = .463$, $\eta_p^2 = .002$.

Attitude about the product

We were interested whether the attitude towards chips would increase after solving a moral word puzzle or after reading a moral label. Checking assumptions of multivariate normality, independent errors and sphericity indicated that these were not violated. Results showed that participants had more positive attitudes about the chips in the organic labelling condition (M = 5.34, SD = .797) than in the neutral labelling condition (M = 4.83, SD = .820), $F(1,188) = 19.28$, $p < .001$, $\eta_p^2 = .093$. This effect is medium sized (Cohen, 1998).

The main effect of puzzle was not significant, $F(1,188) = 0.091$, $p = .764$, $\eta_p^2 < .001$; nor was there a significant interaction effect, $F(1,188) = 1.446$, $p = .231$, $\eta_p^2 = .008$. Taken together, these results suggest that participants had more positive evaluations about organic chips (vs. neutral chips) and also consume more organic chips than neutral chips.

Willingness to receive the product

To test whether participants' willingness to receive the product was influenced by our two manipulations crosstabs were created with puzzle (neutral vs. moral) and label (neutral vs. organic) as independent variables and email provided (yes vs. no) as dependent variable. In total 99.0% participants answered this question, 2 participants (1.0%) did not answer this question. Results indicated that 93 participants were willing to receive the product, 46,3% of the participants answered 'yes' and 52,7% answered 'no' to this question which is equal to 106 participants.

In this study we used a 2x2 contingency tables, meaning that the Chi square is biased upwards, which tends to make results lager than they should be (Yates, 1934), because the Chi square distribution is continuous and the 2x2 contingency table is dichotomous. The Yates correction is usually recommended for our study, because the cell frequencies are below 10. Therefore the Yates Correction for Continuity is used to explore if these differences were of significant value.

When focussing on the labelling manipulation, there were differences in the willingness to receive the product with regard to the different manipulations. As shown in Figure 3, participants were less willing to provide their email address when the label was neutral. However, the corrected value for the moral chips label is $X^2 = 0.094$ ($p = .758$) and was thus not significant ($p > .05$). The neutral condition had a corrected value of $X^2 = 0.028$ with a non-significant level of $p = .868$. Meaning that participants that read organic label were not significantly more willing to leave their email address than participants that read a neutral label.

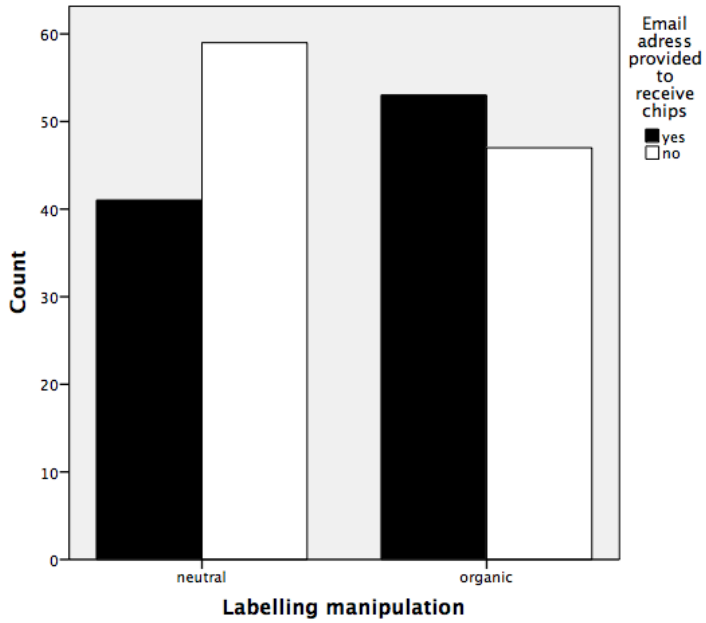

Figure 3. Email address provided for labeling manipulation.

The corrected value for the overall puzzle manipulation was $X^2 = 2.212$ with an associated significance level of $p = .137$, which is not significant ($p > .05$). The neutral puzzle manipulation had a corrected value of $X^2 = 0.792$ with significant level $p = .373$ and the moral puzzle manipulation had a corrected value of $p = 1.021$ with significance level $p = .312$. The difference in scores as seen in Figure 4 was not significant. Meaning, that participants that solved a moral puzzle were not significantly different in their willingness to receive the products from participants that solved a neutral puzzle.

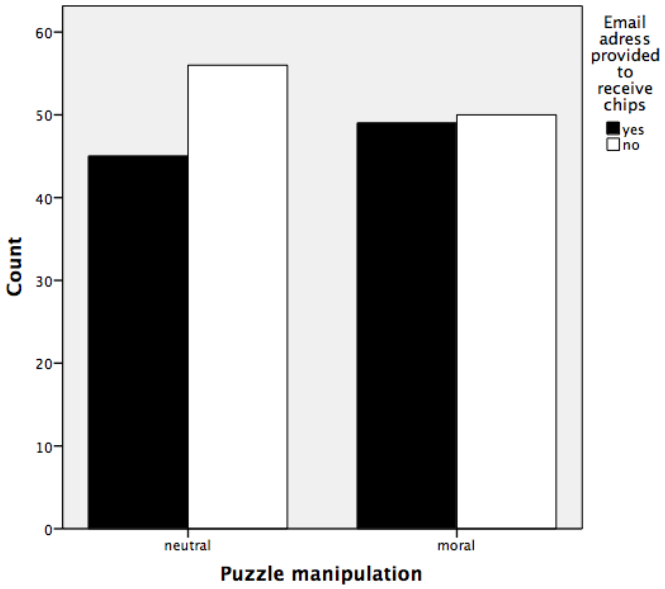

Figure 4. Email address provided for puzzle manipulation.

Additional analyses

BMI

Including BMI as a covariate in the main analyses did not influence the main results or the interpretation thereof. More specifically, BMI did not significantly influence participant's consumption behaviour, $F(1,195) = 0.146$, $p = .702$, $\eta_p^2 = .001$, or attitudes towards the chips, $F(1,187) = 0.098$, $p = .754$, $\eta_p^2 = .001$.

Next, we divided participants into groups to test whether attitude was influenced by low or high BMI. Three groups were created; the 'low BMI' group existed of participants with a BMI of 19 and under, the 'average BMI' group contained participants with BMI between 19 and 25 and the 'high BMI' group were participants with BMI 25 or above. A three-way ANOVA showed no significant three-way interaction between puzzle, chips and BMI scales, $F(2,189) = 0.407$, $p = .666$, $\eta_p^2 = .004$. Meaning that participants' BMI did not significantly influence consumption behaviour.

Gender effects

Men in general consume more and need more calories when compared to women; therefore their consumption behaviour can differ from the consumption behaviour of women. To compare if the consumption behaviour scores for men and women differ, a three way ANOVA, with consumption behaviour as dependent variables and puzzle, labelling and gender as independent variables, was conducted. The results show that males consumed more (M = 13.45, SD = 8.62) than females (M = 9.89, SD = 7.23), a significant difference, $F(1,198) = 8.696$, $p = .004$, $\eta_p^2 = .042$.

However, this three way ANOVA yielded that there was a non-significant three-way interaction between puzzle, labelling and sex, $F(1,196) = 0.397$, $p = .530$, $\eta_p^2 = .002$. This means that although gender influenced consumption behaviour, the different manipulations did not differ for gender.

Willingness to pay

We anticipated that if people had a more positive attitude toward the product and consumed more of the product, they would be willing to pay more for the product. Participants were willing to pay between 0 and 3.50 euros. Most people, 47 participants in total, indicated wanted to pay 1euro, which was also average preferred (M = 1.02 SD = .47). To test whether the willingness to pay was influenced by our two manipulations we performed an ANOVA with puzzle (neutral vs. moral) and labelling (neutral vs. moral) as independent variable, willingness to pay as dependent variable.

Participants in the moral labelling condition were willing to pay more (M = 1.092, SD = .501) than in the neutral labelling condition (M = .955, SD = .432), which was a significant difference, $F(1,196) = 4.251$, $p = .041$, $\eta_p^2 = .021$. This indicated that people wanted to pay

more for a sustainable product after a moral label compared to what they wanted to pay after they read a neutral label.

Contrary, the puzzle manipulation was not significant $F(1,196) = 0.424$, $p = .516$, $\eta_p^2 = .002$, meaning that people are not willing to pay more after they solved a moral puzzle when compared to when they solved a neutral puzzle.

Discussion

Our goal in this research was to investigate how to increase the consumption of sustainable products. We reasoned that the salience of morality might help to increase this consumption. In our laboratory study we investigated two methods that made morality salient. Participants first solved a word-finding puzzle with either moral or neutral words and afterwards read a chips label either moral or neutral. We expected that priming one's moral identity with a moral puzzle would increase consumption behaviour, the attitude towards the product and the willingness to receive the product. However, the findings did not support for all of our hypotheses. Although this is the first time the puzzle manipulation has been used to trigger morality in this context, it was innovative. A possible explanation for our finding is that the puzzle manipulation was not effective.

Nevertheless, past research has shown that words can heighten the salience of a particular social identity (Chatman & von Hippel, 2001; Forehand, Deshpandé, & Reed, 2002; Hong, Morris, Chiu & Benet-Martinez, 2000). It may be that participants have to consciously think about the moral words, instead of unconsciously priming, as is the case in this study, in order to achieve moral behaviour. It is also possible that we found that words are only effective in certain situations and for example not in word finding puzzles. This may be a boundary effect and further research is necessary to explore this.

Nevertheless, in line with our expectations when focussed on the second manipulation, this study demonstrated that consumption behaviour increased when the product was labelled as sustainable, although this effect was small. Additionally, we found that attitude towards the sustainable product was more positive in the moral labelling condition than in the neutral medium condition, as expected. The attitude effect was medium.

The finding that the label 'organic' increases consumption behaviour may be relevant for manufactures, retailers and companies. This means that consumers' choices are not only influenced by price and quality nowadays; social and moral values are also reflected (Mazar & Zhong, 2010). Consumers realized that their consumption behaviour directly impacts many ecological problems and consumers adapted to this situation by considering environmental issues when consuming (Laroche, Bergeron, & Barbaro-Forleo, 2001).

Puzzles: degree of difficulty

Several participants noted that it was hard to find all moral words in the puzzle; even despite our effort to match the words in the neutral puzzle condition in length and abstraction level to the words in the moral puzzle condition. On average people in the moral puzzle condition found 9.72 words and in the neutral puzzle condition 9.87 out of the 10 words that could have been found in both conditions, a small and non-significant difference, $F(1,197) = 0.302$, $p = .583$, $\eta_p^2 = .002$. This means that although participants indicated that the moral puzzle was difficult, they found the same amount of words in 10 minutes time.

These puzzles were first versions but because we concluded that the puzzle was not too difficult, something else might have been primed by solving the puzzles, such as effort invested or frustration by not finding words despite effort. Therefore, for further use of these puzzles it is important to check for difficulty and other priming. If necessary these puzzles

could be modified. The disadvantage of using and developing innovative manipulations, is that these are sometimes are not effective.

Effect of BMI

Additionally we investigated whether abnormal eating behaviour such as dieting and obesity, influenced our results. People with higher BMI did not differ in consumption behaviour from individuals with a low BMI. We thus concluded that BMI did not influence our results.

Difference in gender

Gender influenced the consumption behaviour such that men ate more chips than women. A possible explanation for this finding is that men in general weigh more and additionally eat more than women (Bell and Zucker, 1971. They additionally state that males of many mammalian species are larger and eat more than their female counterparts especially at maturity. Additionally, there is evidence that 'bigger may be better' for men (Raudenbush & Zellner, 1997). Therefore it is not surprising that men consume more in general. The difference in gender was not relevant for this study, however it might be relevant that there is no interaction with gender and consumption behaviour. This means that moral labels thus have the same influence on men and women. So to speak, when a sustainable product is morally labelled, people will consume more of it than when it is neutrally labelled, regardless of their gender. This finding suggests that moral labelling influence men and women equally.

Taken together, our results demonstrated that only labelling effectively increased consumption behaviour. This means that participants ate more chips and were more positive about the chips when they read a moral label than when they read a neutral label beforehand, which was in line with our hypotheses.

Impulsive buying

There has not been much research about the influence of labelling, although this affects consumption behaviour and hence is important for marketers. In the current food retailing, consumers are exposed to thousands of messages and other information on packs (Nancarrow, Tiu Wright, & Brace, 1998). Although packs have many functions, some of them present marketers with the opportunity to gain competitive advantage. Especially, when considered that 51 per cent of purchases are unplanned (Philips & Bradshaw, 1993) and nine out of ten consumers occasionally buy impulsively (Welles, 1986). This makes effective communication about the products relevant, because when a product positively stands out it is more likely to be bought.

The study of Nancarrow et al. (1998) shows that the importance of effective communication, labelling and visual stand out has become more important in the current competitive environment. The Howard – Ostlund model (1973) shows that packaging design will affect consumer's search behaviour in store and catch attention, resulting in more consumption of the product. When competitive advantage is gained through effective communication such as labelling or packaging, it might be that consumption behaviour will increase accordingly. Therefore, when labelling affects consumption behaviour, this could be relevant for companies. Especially when wanting to encourage consumption of sustainable products. Future research about this topic should expand in order to achieve maximal use of labelling.

Influence of price

The findings suggest that people were not more willing to receive any leftovers after a moral manipulation either in the word finding puzzle method or the labelling method. Neither puzzle solving nor labelling influenced the willingness to receive the product. It is possible

that the willingness to receive leftovers is not influenced by moral identity. It might be that the willingness to receive free products is high in general, meaning that this is not influenced by a minimal manipulation such as the manipulations in our study. Based on our manipulations we conclude that there was no difference between the willingness to receive the products for our moral and neutral manipulations. This could be because of a ceiling effect (Clarke & Belk, 1979), meaning that the willingness to receive the product is already as high as it can get and the moral conditions can raise this level no higher. Another possible explanation is that some people rather have something than have nothing (Dhurandhar, Schoeller, Brown, Heymsfield, Thomas, Sørensen, & Allison, 2015) and therefore wanted to receive the product for free and left their email address with hope to receive something.

On the other hand, this non-significant effect may have been caused by the fact that they could receive the product for free and people find free gifts attractive (Lewis & Bingham, 1991). It might also be that participants who did not leave their email address wanted to receive the product, but had other reasons not to leave their email address. It may be that people are not eager to leave their private data and are cautious about their privacy, which could explain why the majority, almost 53%, of the participants indicated not to be willing to receive the product.

Limitations

We argued that the identification with an object occurs by choosing the products you use (Beggan, 1992; Scott & Lane, 2000). However, in this study participants were not able to choose a product of a range of products. Therefore, this identification with a product might not occur and hence did not result in triggering the moral identity. It is necessary to conduct future research to gain greater insight into the mediating process underlying the effect of choice on the identification with a product.

Another limitation of our study is that we did not consider other influences on consumption behaviour. This study focuses on the product, not on the company that sells the product. It may be that the overall image of the company that provides the products also influences consumption behaviour. Therefore, the product itself may not only influence the attitude towards that product. Future research is necessary to further investigate what factors influence the perception of the brand.

Conclusion

The aim of this master thesis was to study how to increase consumption behaviour of products that are sustainable yet not appealing to consumers. Although sustainable products may not always be as attractive and appealing to consumers, this study shows that labelling can increase the consumption of these products. The importance for products to communicate effectively and in an appealing way increases because of the more competitive environment and also because society needs sustainable consumption. The effectiveness of word finding puzzles, to stimulate moral self-concept, are not proven to increase consumption behaviour.

When dealing with labelling, manufacturers, retailers and companies should be careful about the influence of labelling of sustainable products. Specifically while earlier research has shown that people react negative towards deviant products. Mazar and Zhong (2010) conclude that their studies show that consumption is more strongly connected to social and ethical behaviours than previously thought. Our study adds knowledge of consumption behaviour by showing that consumers may increase consumption behaviour when the product is labelled as organic. Concluding, consumption behaviour can be influenced by effective communication such as labelling.

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