Msc Thesis

Green with Guilt

H. C. Bruins
November 2011

WAGENINGEN UR
For quality of life

Wageningen University - Department of Social Sciences

Communication Strategies

Green with guilt

The influence of guilt on green consumption behaviour

November 2011

Author: Henrieke Bruins

Registration nr. 870503-138-050

Study: Management, Economics and Consumer Studies

Specialisation: Consumer Studies

Supervisor: Anne Marike Lokhorst

Course: COM-80433

Preface

During my master I became interested in consumer behaviour and how consumers' make choices. Why do they choose for product A instead of product B and which factors do influence their choices. What also took my interest was sustainability. We do not live alone on this planet and we have the responsibility to keep it in a good state for the future. One final aspect which attracts me is how men and women respond to the world around them and how they make decisions. Men and women observe the same world in another way which really interests me.

For the last 6 months I worked on this study. I combined my interests to the subject of my thesis - the influence of guilt on green consumption behaviour and whether men and women experience this in another way. As the time passed by I learned a lot and I am proud of presenting you the final study which now lies in front of you.

I would like to thank Anne Marike Lokhorst for her guidance, her critical view and the new insights she brought me. She learned me a lot and helped me through this process. Furthermore, I would like to thank all my friends (especially my library mates and my boyfriend) and family who supported me during this time.

Enjoy reading!

Abstract

This study explored the effect of guilt on green consumption behaviour. Also tested was whether this effect would be moderated by gender and whether this moderating effect was mediated by emotional orientation. The hypotheses were tested by means of an experiment with two conditions - a guilt against a control condition. Green consumption behaviour appeared not to be affected by the amount of guilt participants experienced. Gender also did not moderate any effects so emotional orientation could not be tested. However, it appeared that women had a higher intention to consume green than men. Possibly guilt is not able to directly influence green consumption behaviour but only indirectly, mainly through responsibility feelings. A reflection of these results and implications for future research are discussed.

Content

1. Introduction

The environment is changing and human are mainly responsible for this change. Inappropriate human behaviour causes a degradation of the environment (Grob, 1995). For example waste disposal, consumption, and the use of energy in the household are all behaviours which influence the environment (Nordlund & Garvill. 2002). In order to continue living on this planet without severe consequences for the future, our lifestyles need to become more sustainable (Seri, 2009). To positively change the environment, several activities can be done such as consuming sustainable products, recycling of materials and/or efficient use of energy. Pro-environmental behaviour focussed on consumption is also called 'green consumption behaviour' (Peattie, 2010). Green consumption entails choosing between environment-friendly and environment-damaging options. For instance buying a hybrid car over a conventional one or buying organic meat instead of normal. But, how can consumers' be influenced to consume more green?

In the past decade, a lot of research has been done on the impact of human behaviour on the environment (e.g. Stern, 2000; Nordlund & Garvill, 2002; Vining & Ebreo, 2002; Kaiser, Hübner & Bogner, 2005; Carrus, Passafaro & Bonnes, 2008). Several psychological variables predicting pro-environmental behaviour, like attitude, intentions and past behaviour have been studied. However, some variables are less researched. One of these variables is the effect of emotional appeals on such behaviours (Vining & Ebreo, 2002; Han, Lerner, & Keltner, 2007; Carrus et. al., 2008; Peattie, 2010). In relation to other variables, like attitude, only a few examples of studies examining the relationship between emotion and pro-environmental behaviour can be found. See for instance Grob (1995) and Carrus et al. (2008) who, next to other predictors as past behaviour and desire, studied the influence of negative as well as positive emotions on the intention to behave pro-environmental.

According to Bagozzi, Gopinath and Nyer (1999), an emotion is a mental state of readiness that arises from cognitive appraisals of events or thoughts which a consumer observes. This observation leads to a direct and intuitive experience of phenomenon's and is accompanied by physiological processes. It is often expressed physically and may result in specific actions to affirm or cope with the emotion, depending on its nature and meaning for the person having it. So, the experience of emotions leads to a specific action, a specific behaviour, to cope with the emotion. Emotions therefore are likely to influence behaviour. In case of pro-environmental behaviour, negative emotions seem most useful when comparing to positive emotions. For example, Carrus et al. (2008) showed that positive emotions had no direct or mediating effect upon the intention to behave pro-environmentally. Negative emotions, on the other hand, showed to influence pro-environmental behaviour such as using public transportation or recycle household waste. People anticipate on experiencing negative

emotions upon not engaging in environmental behaviours. These negative emotional experiences lead to changes in their behaviour in favour of the environment. Therefore, negative emotions are believed to motivate pro-environmental and moral behaviour. Especially feelings of guilt about not acting right for the environment may prompt pro-environmental behaviour (Carrus et al., 2008). However, the influence of emotions on behaviour might differ for men and women. Men and women differ in their emotional responses. Women express their emotions faster and feel more freedom to express negative as well as positive emotions, regardless of the social setting (Fisher & Dubé, 2005). Women also experience emotions in another way than men. Women focus more on what other people think which influences how they experience emotions. Men are more focussed on themselves and the experience of emotions is less influenced by their environment (Cross & Madson, 1997). Men and women might thus respond differently to guilt appeals.

The main aim of the current study is to investigate whether the experience of guilt leads to green consumption behaviour and whether there is a difference in how men and women are influenced by such guilt.

2. Theoretical Overview

2.1 Green consumption as moral behaviour

It has been argued that green consumption can be seen as a form of moral behaviour, as it is a type of behaviour that people feel morally responsible to carry out (Kaiser & Shimoda, 1999; Tanner & Kast, 2003). The moral standards of a person are partly determined by universal laws and partly by culture and society. However, people do on occasion behave imperfectly even though they know such behaviour, like lying or cheating, is wrong by moral and societal norms (Tangney, Stuewig, & Mashek, 2007). From a philosophical perspective, a situation is viewed as morally relevant when self-interest and the interest of others conflict with each other (Manstead, 2000; Aertsens, Verbeke, Mondelaers, & Van Huylenbroeck, 2009). In case of the consumption of environmental resources, individuals have to make decisions where they face choices between consequences that are positive for themselves but negative for the environment or the other way around (Nordlund & Garvill, 2002). Consumption decreases the amount of resources available and it influences the environment. The consumption of these resources increases our quality of life, but, at the same time, it decreases the situation of others. When we look at our behaviour we can say that it is not always in line with what we think is important or morally right. Especially when it comes to sustainability, people's actions are less in line with the general intuition of how we need to act. Often people's attitude does not match with their behaviour (Kolmuss & Agyeman, 2002). For example, people can feel the urge and moral responsibility to behave sustainable to help saving the world but their actions are not always so green. When people become aware of the consequences, the gap between thoughts and actions starts to create personal, moral norms. These norms are experienced as feelings of what is right and wrong (Thøgersen, 2006) and lead to 'reparative' actions to remove or decrease the gap people experience (Verhoef, 2005), for example consume more green. But, how can moral behaviours such as green consumption be promoted?

2.2 Theories for predicting consumer behaviour

2.2.1 Theory of Planned Behaviour

From a psychological and marketing perspective, several theories can be used to explain behaviour. A dominant theory used in the area of predicting behaviour is the Theory of Planned Behaviour (TPB; Ajzen, 1991). Classic research has focused on determinants of behaviour as proposed by the TPB and it is one of the most widely researched models in understanding and predicting consumers' attitudes and behaviour (Armitage & Conner, 2001; Hargreaves, 2011).

The TPB posits that the individual's intention to perform a given behaviour is the immediate antecedent of behaviour. The intention to engage in certain behaviour must be strong in order to have a good result. Behavioural intention is determined by three factors: attitude toward the behaviour, subjective norm and perceived behavioural control (see Figure 1) (Ajzen, 1991; Vermeir & Verbeke, 2008). People's attitudes are influenced by their favourable or unfavourable evaluation or appraisal of behaviour, subjective norms refer to how people they care about will view their behaviour and perceived behavioural control is influenced by whether the consumer can easily consume a certain product or whether the consumption is difficult or impossible (Vermeir & Verbeke, 2008). In case of green consumption, attitude can be changed through the provision of information about green consumption; subjective norm can be targeted by making salient what important others think of green consumption and perceived behavioural control can be increased by training people to develop needed skills to consume green such as how to handle the household waste and how to cook green.

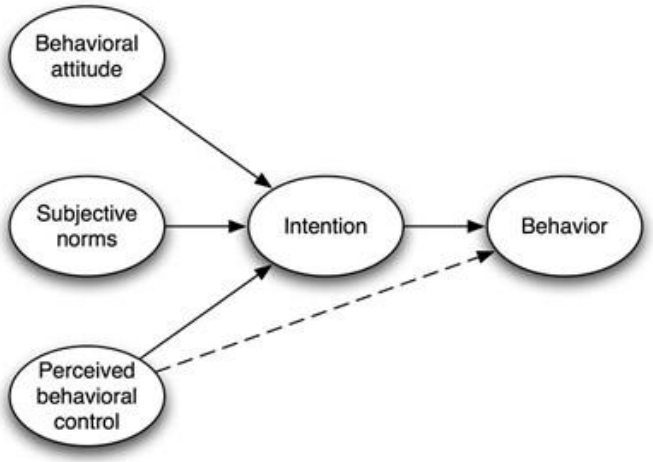

Figure 1: Theory of Planned Behaviour (Ajzen, 1991)

The theory is used in a wide range of different social behavioural domains (Hardeman, Johnston, Johnston, Bonetti, Wareham & Kinmonth, 2002; Nisbet and Gick, 2008) and meta-analysis has shown that this theory is useful for predicting consumers' intentions and behaviour in different domains like searching for a job, playing videogames, cheating and losing weight (Armitage & Conner, 2001). Moreover, the theory is often used in understanding green consumption behaviour, such as the consumption of organically produced food (Sparks & Shepherd, 1992), sustainably produced foods (Robinson & Smith, 2002) and sustainable dairy products (Vermeir & Verbeke, 2008). These studies have shown that consumer behaviour can be partly predicted using the TPB. For example, Vermeir and Verbeke (2008) measured the determinants of the TPB (perceived behavioural control, social norm and attitude) on consumption behaviour of sustainable dairy products. They found a strong positive effect of attitude on intention and also a strong positive effect of social norms and perceived behavioural control on purchase intention. People's intention to buy and consume sustainable dairy

products was strongly affected by the determinants of the TPB. However, they also found that personal values and personal moral norms strongly influenced the attitude and intention to consume green. They showed that the TPB partly predicts green consumption behaviour but also ignores some factors. For instance, the TPB neglects moral considerations, which is a major limitation of the theory (Manstead, 2000). If green consumption is to a large extent driven by moral extent, how can this be explained?

2.2.2 Personal, moral norm

Different studies (e.g. Harland, Staats, & Wilke, 1999; Nordlund & Garvill, 2002; Tanner & Kast, 2003; Bamberg & Möser, 2007; Vermeir & Verbeke, 2008; Aertsens et. al., 2009) have shown that besides the factors of the TPB, personal moral norm is an important predictor of pro-environmental behaviour such as consuming less meat, consuming sustainable dairy products and using energy-efficient light bulbs.

Schwartz (1977) defines a personal norm as a self-expectation of specific actions in a particular situation, experienced as a feeling of moral obligation. He also mentions that the formation of a personal norm depends on the perceived ability to help, the expected moral consequences of the action and whether responsibility is ascribed to oneself or others (Thøgersen, 2002). Personal norms are, in terms of moral theory, conceptions of right and wrong, good and bad (Thøgersen, 2006), which predict pro-environmental behaviour (Thøgersen, 2002) and which are experienced as feelings of strong moral obligations which an individual can experience for themselves to act to protect to whatever is threatened and to engage in pro-environmental behaviour (Bamberg & Möser, 2007). When people for example feel morally obliged to carry out green behaviours, they are more likely to do so (Harland et al., 1999).

Harland et al. (1999) showed that when the personal moral norms are added to the TPB, the theory is able to explain moral behaviour in a better way. They argued that personal norms have never been studied directly in addition to the TPB. They studied several environmental studies and indicated that the influence of personal moral norms increased the understanding of environmentally friendly behaviour. They performed an experiment to explore whether adding personal moral norm to the TPB truly led to a better understanding of pro-environmental behaviour. Results explained additional variance in the intention to behave pro-environmental when adding personal moral norm to the TPB. This is consistent with a study from Thøgersen (2002) on green consumption behaviour. Thøgersen studied the role of personal norms in choosing organic wine against normal wine. He found that personal norms influenced the choice for organic wine, so personal norms influenced the choice for green products. It is likely to mention that decisions to behave pro-environmentally are based partly

on moral considerations and Harland et al. (1999) and Thøgersen (2002) showed the importance of personal moral norms when predicting pro-environmental behaviour, such as green consumption behaviour.

2.2.3 Norm Activation Model

A theory which takes personal norms as predictors of pro-environmental behaviour is the Norm Activation Model (NAM; Schwartz, 1977). The basic premise of the NAM is that personal moral norms are direct determinants of pro-environmental behaviour. As discussed in paragraph 2.2.2, personal norms can be seen as moral obligations to protect the environment. Pro-environmental actions occur as a response to personal moral norms about such actions. Individuals believe that their actions have consequences for other people, other species or the biosphere and the individual accepts responsibility for producing those actions (Stern, Dietz, Abel, Guagnano & Kalof, 1999). So the NAM includes three types of variables to predict pro-social behaviour. First of all the personal norm which is seen as direct determinant in predicting pro-environmental behaviour and as a moral obligation to act from specific actions. The second variable is awareness of consequences, defined as whether a person is aware of the negative consequences for other persons or other things one values in case of not acting pro-social. The third and last variable in the NAM is ascription of responsibility which is described as feelings of being responsible for the negative consequences of not acting pro-social (deGroot & Steg, 2009).

In short, the NAM explains that a personal norm in a pro-environmental way is activated by the awareness of consequences of one's actions and the ascription of personal responsibility for them. Thus, according to the NAM, when people feel the moral obligation to consume green, because they are aware of the consequences of not consuming green, and take responsibility for this, their personal norm for green consumption will be activated which leads to green consumption behaviour such as choosing organic products over normal products.

Several studies provided evidence to support the applicability of the NAM to a range of pro-environmental behaviours like energy conservation (Black, Stern & Elworth, 1985), recycling (Guagnano, Stern & Dietz, 1995) and pro-environmental buying (Thøgersen, 1999).

2.2.4 Value-Belief-Norm Theory

A theory extending the NAM which has been successfully applied and tested in different domains of pro-environmental behaviour, like green consumption behaviour (Stern, 2000), social movements (Stern et al., 1999) and energy use (Poortinga, Steg, & Vlek, 2004; Abrahamse & Steg, 2011) is the Value-Belief-Norm theory (VBN; Stern et al., 1999). The VBN theory combines personal values and

a person's ecological worldview, assessed by the New Environmental Paradigm (NEP; Van Liere & Dunlap, 1978) with the Norm-Activation theory (Schwartz, 1977). It links values to the norm-activation theory by generalizing the latter.

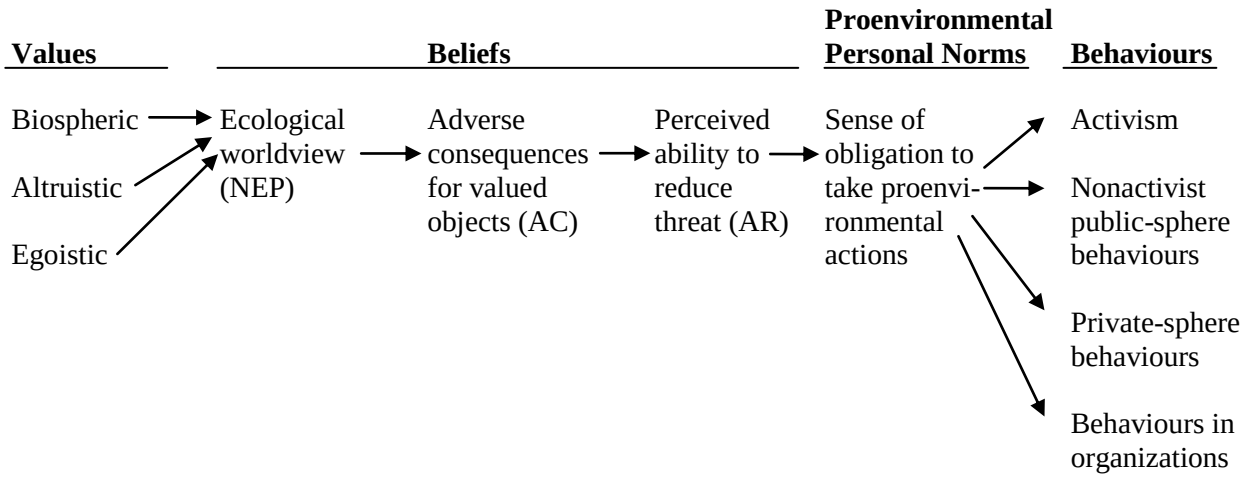

Figure 2: A schematic representation of variables in the VBN theory of environmentalism (Stern, 2000)

The VBN theory posits a causal chain of different variables leading to personal norms to pro-environmental behaviour. This causal chain is related from previous studies and it moves from relatively stable beliefs about personality to more focused beliefs about ecological worldview (NEP), consequences and responsibility of the individual to take corrective action. Each variable affects the next and can also affect variables further in the chain (see Figure 2) (Stern, 2000).

First of all, the theory includes personal values. According to the VBN theory, personal values are related to a person's environmental concern. The values people hold indicate how they see themselves in relation to the environment (Abrahamse & Steg, 2011). The theory assumes that people who value something highly, for example threatened animals, will be concerned about environmental conditions that threaten those animals. The theory posits that there are 3 types of values which are relevant to environmentalism: biospheric values (concern for the biosphere), altruistic values (concern for other people in relation to the environment) and egoistic values (concern for the self in relation to the environment). Pro-environmental behaviour is predicated upon these values (Stern et al., 1999).

Secondly, the NEP is included in the VBN theory. The NEP is developed by van Liere and Dunlap (1978) who proposed that the environmental changes are linked to a view that human actions have adverse effects on the environment. The rise of the environmental movement is linked to growing acceptance of a new ecological paradigm of worldview which resulted in the NEP (Stern, 2000). It is a theory which measures awareness of very general adverse consequences of environmental conditions, whereas most studies using the NAM, which studies more problem specific environmental

conditions. So the VBN combines the general consequences of the NEP with specific consequences of the NAM. The VBN measures a broad range of causal factors, both general and behaviour-specific, which makes it a more complete theory than the NAM (Stern, 2000).

According to the VBN theory, the ecological worldview a person has upon the environment influences the determinants of the NAM. People with a stronger environmental concern will be more aware of the impact of their actions on the environment. The more people are aware of their impact, the more likely it is that they take responsibility for environmental problems which leads to moral obligations to act pro-environmentally. Personal moral norms are activated by a person's belief that the environmental conditions pose threats to things the individual values (awareness of consequences) and that the individual can reduce or avert the threats by taking action (ascription of responsibility) (see Figure 2). Such norms lead to a predisposition which influences all kinds of pro-environmental behaviours (Stern, 2000), such as green consumption.

Finally, the theory assumes 4 types of pro-environmental behaviour as a result of an individual's values, beliefs and personal norms: *activism*, like involvement in environmental organizations and demonstrations, *nonactivist public-sphere behaviours*, like stated approval of environmental regulations, *private-sphere behaviours*, like consuming green products and services and *behaviours in organizations*, like reducing the pollution in the organization the individual belongs to (Stern, 2000; Kaiser et al., 2005).

In this study, that would mean that the values of a person in relation to green consumption would lead to a worldview that the person's actions have adverse effects on the environment. Personal norms about green consumption are activated by the awareness of consequences of not consuming green. The individual feels moral responsibility to take action which lead to a moral obligation to consume green and reduce the threats for the environment. This leads to, for example, private-sphere behaviour, like green consumption behaviour.

Evidence that the VBN is a better predictor of pro-environmental behaviour than the NAM comes from a study from Stern et al. (1999). They used the VBN theory as well as measures from the NAM, personal values and the NEP and found that the VBN was a far stronger predictor of pro-environmental behaviour than the other theories.

2.3 Emotions

But, also the VBN has some shortcomings when predicting pro-environmental behaviour, such as green consumption behaviour. Other research has shown that personal moral norms are directly

activated through emotions (Bamberg & Möser, 2007) as for example guilt and pride (Thøgersen, 2002). Bamberg & Möser (2007) stated that the internal feelings trigger emotional reactions when harmful behaviour is done. When people feel they have done something wrong, like for example behaved in a non-environment friendly way, pro-social emotions are activated. The activation of pro-social emotions leads to felt obligations, the personal moral norms, to compensate for the caused damage. These authors also found that adding moral emotions to the TPB raised the variance of intention to behave pro-environmentally. Emotions are thus likely to be an important predictor of moral norms and moral behaviour. Both the TPB and the VBN theory do not take emotions into account which limits these theories (Aertsens et al., 2009). Several studies (e.g. Holbrook & Batra, 1987; Bagozzi & Pieters, 1998; Grob, 1995; Laros & Steenkamp, 2003; Han et al., 2007) have shown the importance of emotions on consumer behaviour. However, in the field of green consumption behaviour, the role of emotions has largely been ignored (Vining & Ebreo, 2002; Carrus et al., 2008).

2.3.1 Model of Environmental Behaviour

One model using emotion as one of the predictors for consumers' environmental behaviour is the Model of Environmental Behaviour from Grob (1995). This attitude-behaviour model assumes that environmental behaviour is influenced by the following components: environmental awareness, emotions, personal philosophical values, perceived control and environmental behaviour.
Environmental awareness includes factual knowledge about the environment and recognition of environmental problems. The model proposes that the more conscious individuals are about the state of their environment, the more appropriately they will act towards the environment. As for the factual knowledge, the more knowledge people have about their environment, the better they will behave. For the recognition of environmental problems, the more a person recognizes the environmental problems, the more appropriately he or she will behave.
The emotional component assumes that the more intense the emotional reaction of individuals to a worsening state of the environment, the more appropriately they will behave. This component also assumes that the more a person is disturbed by the discrepancy between the ideal and the actual action, the better he or she will behave.
The personal philosophical value component includes two sub-components, materialistic values and open or creative thinking. The more materialistic the values of an individual, the less appropriate he or she will behave towards the environment and the more creative or open a person is, the more appropriate he or she behaves.
The perceived control component assumes that persons who attribute the causes of the environmental state to their own actions will act more appropriately towards the environment than persons who attribute the causes to external influences such as natural law or society.

The last component, the behaviour component, includes direct actions that impact the environment such as the amount of energy used or separation of the household waste.

Grob performed a study to test the influence the effects of the components on each other and on environmental behaviour. He used a questionnaire to test all the components. For the emotional component, he studied negative emotional reactions, like being upset. He used 6 items measured on Likert 1-7 scales. For example, he asked how upset people were about the destroying of the environment. Higher scores indicated greater upset, so greater emotional experience. From the results, it appeared that, next to personal values, the experience of negative emotions is a strong predictor of environmental behaviour. The more intense the emotions were as response to environmental degradation, the more the participants were willing to engage in pro-environmental behaviour. He also found that the direct influence of awareness and perceived control on environmental behaviour were less important in comparison to the influence of personal values and emotions. So, from this study, it appeared that the strongest effect on environmental behaviour stemmed from personal values and negative emotions.

So, based on the literature review and on this model, I believe that a promising new approach for promoting green consumption lies in using emotional appeals. But how can emotional appeals be used to increase green consumption behaviour?

2.3.2 Emotions and Marketing

Emotions can be and are used in different domains. Research (Bagozzi et al., 1999) has proven that emotions are very effective in the domain of advertisements. Advertisements give information and can influence consumers' awareness. Consumers' are confronted daily with advertisements from companies or organisations, which may cause an overkill to these type of messages. It is therefore important for companies to design their advertisements in such a way that they attract consumers' attention. An advertisement can have different tones of expression and two of these are the rational versus the emotional advertisement (Leonidou, Leonidou, Palihawadana & Hultman, 2010). A rational advertisement focuses on the facts and details of a product which is often used for pro-environmental marketing, such as green consumption. An emotional advertisement uses emotions to convince the consumer (De Pelsmacker, Geuens, & van den Bergh, 2005. Mehta and Purvis (2006) showed that an advertisement containing emotions is more effective than advertisements without emotions. They mention that, whatever emotion is used, highly emotional advertisements enhances recall of the product. So when consumers experience emotions, they are more likely to recognize and remember the products than when neglecting emotions. The emotion revealed through a message can

be determining for the attitude a consumer creates towards the advertised product or service (Devrome, 2007).

In the area of green consumption behaviour, the effect of emotions in advertisements is less researched and little research is done linking emotions to sustainable consumption and the responses of consumers' (Bagozzi et al., 1999; Vining & Ebreo, 2002; Han et al., 2007; Peattie, 2010). This is surprising when we consider that work by Carrus et al. (2008) has shown that emotions, particularly negative ones, drive pro-environmental intentions. Their work showed that people anticipate on experiencing negative emotions upon not engaging in environmental behaviours, and that these anticipated negative emotions lead them to alter their behaviour.

Emotions are thus likely to be a powerful tool for environmental behaviour change, whereby negative emotions seem most useful. Negative emotions are believed to motivate moral behaviour and one of the negative emotions shown to be the most moral of emotions is guilt (Eisenberg, 2000; Bamberg & Möser; 2007; Tangney et al., 2007; deHooge, Nelissen, Breugelmans, & Zeelenberg, 2011). Therefore, in this study, I wish to study the effect of guilt specifically.

2.4 Guilt

In social psychology, guilt is often linked to regret over wrongdoing. Different studies (Ghingold, 1980; Pinto & Priest, 1991; Coulter & Pinto, 1995) have shown the importance of guilt appeals in influencing consumers' responses to advertisements. However, research to the influence of guilt-induced messages on moral behaviour, like green consumption, is less available and requires more research (Verhoef, 2005). One study from Jiménez & Yang (2008) showed that low guilt messages might work better than high guilt messages. They found that high guilt appeals negatively influenced consumer's feelings towards green consumption because it might be perceived as an attack on their own behaviour. In their study, consumers' preferred the low guilt appeals over the high ones. However, they only researched what feelings guilt invokes and not how these feelings influence green consumption behaviour. Other research (Kaiser & Shimoda, 1999) has shown that if people feel guilty for what they do or fail to do in relation to the environment, they feel morally responsible for the environment. The current study will investigate whether guilt-induced marketing can increase moral behaviour like green consumption.

Consumers' can experience feelings of collective guilt or personal guilt. Collective guilt refers to the negative emotion people experience when their group as a whole is seen as responsible for the harm done. It is derived from the individual's social identity and from their sense of collective responsibility. Personal guilt on the other hand refers to the negative emotion an individual

experiences when he or she as individual feels the responsibility for harm-doing. Personal guilt is derived from a personal identity and from their sense of personal responsibility (Ferguson & Branscombe, 2009). Research (Ferguson & Branscombe, 2009) already showed that collective guilt influences pro-environmental behaviour. This study will extend their work by focussing on personal guilt and how this influences guilt consumption.

Guilt is most of the times experienced as an unpleasant emotional state linked to individuals' actions or intentions that influences other people. It can be seen as something interpersonal linked to the relationships between people. It is a phenomenon that happens between people, rather than just inside them (Baumeister, Stillwell & Heatherton, 1994). As soon as a person learns moral standards, feelings of guilt occur which lead to self-evaluation (Baumeister et al., 1994). When, according to Tangney et al. (2007), a person reflects upon himself, moral emotions provide an immediate punishment of the behaviour. He says that guilt functions as a so-called emotional moral barometer and that guilt provides immediate feedback on our social and moral acceptability. It forms social dilemmas which involve conflicts of norms, values and morality about how a person should or ought to behave (Lange & Kuhlman, 1994). When we do the right thing, positive feelings of pride and self-approval occur but when we do wrong, feelings of guilt and shame are likely to result (Tangney et al., 2007). Especially feelings of guilt influence our moral norms (Bamberg & Möser, 2007). It causes bad feelings which motivate people to solve the problem and repair the damage done (Baumeister et al., 1994; Tangney et al., 2007). This motivates people to choose moral paths in life (Tangney et al., 2007) and it leads to moral and pro-social behaviour (Baumeister et al., 1994; Eisenberg, 2000). As such, guilt stimulates pro-social behaviours: acts that do not directly benefit the self, but rather the collective. Green consumption is such a pro-social pattern of behaviour. Therefore, I expect that *guilt leads to increased green consumption* (Hypothesis 1).

2.5 Gender differences

While it is established that guilt and morality probably are related to each other, their interrelations might vary as a function of gender. Hoffman (1975) already showed that girls have a stronger proclivity to guilt than boys but what does this mean for their behaviour? In this study, what does that mean for the effect on green consumption behaviour?

Overall, boys and girls learn different display rules but they do not necessarily learn to experience and express emotions differently (Fisher & Dubé, 2005). However, in reality, men and women experience and express emotions differently. This can influence the effect of guilt on green consumption behaviour. The last purpose of this research is to investigate whether gender differences in green consumption behaviour occur when using guilt in advertisements.

Several studies (e.g. Hoffman, 1975; Cross & Madson, 1997; Fisher & Dubé, 2005) have shown gender differences in experiencing and expressing emotions. Men may be more hesitant than women to express their emotions because of the fact that sharing their feelings and emotions may endanger their dependent and autonomous feeling. They are less willing to show their negative emotions, such as depression and fear, than women (Cross & Madson, 1997). Women feel more freedom to express their feelings, regardless of the social setting of the emotion displayed (Fisher & Dubé, 2005). Showing emotions means foster intimacy in relationships which is necessary for women. Compared to men, women share their emotions in general also with more people and have a greater confidence in showing negative emotions, for example fear and sadness. Women are also more expressive in showing their emotions nonverbally than men (Cross & Madson, 1997; Fisher & Dubé, 2005).

Women also experience emotions different than men. Specifically for guilt, women tend to experience a feeling of guilt faster than men and they are more likely to experience guilt as a result of violating norms of mercy and interpersonal trust (Hoffman, 1975; Cross & Madson, 2007). In contrast to men, women are also more likely to mention that for example lying results in feelings of guilt. Women are more likely to apologize repeatedly when they did something wrong because they experience higher levels of guilt than men (Cross & Madson, 1997). When experiencing guilt, women think a lot about how other people think about them and that is also the reason why they apologize more than men (Cross & Madson, 1997). The gender differences in guilt may reflect the gender differences in interpersonal concerns and patterns (Baumeister et al., 1994). The variable which causes this difference is emotional orientation – which can be self versus other-oriented. Women are more sensitive to the emotional states of others and more likely than males to think about other people's opinion (Hoffman, 1975; Baumeister et al., 1994). Men on the other hand who tend to experience feelings of guilt focus more on their own feelings, beliefs and attitudes rather than on how other people view their behaviour (Cross & Madson, 1997). Men can thus be thought as more self-oriented where women are thought to be more other-oriented.

I expect that *the effect of guilt in advertisements on green consumption behaviour is stronger for women than for men* (Hypothesis 2). Because women are more focussed on the other, they are probably more willing to sacrifice something for the other, so behave more pro-social as a result of feeling guilty, than men. Therefore I expect that *the gender difference in experiencing guilt is caused by emotional orientation – self versus other oriented: because women are more other oriented than men, they are more likely to be influenced by guilt in advertisements* (Hypothesis 3).

2.6 Research model

Figure 3 presents the research model. The hypotheses, based on the literature, are graphically described in this model.

Hypothesis 1: Guilt leads to increased green consumption

Hypothesis 2: The effect of guilt in advertisements on green consumption behaviour is stronger for women than for men

Hypothesis 3: The gender difference in experiencing guilt is caused by emotional orientation – self versus other oriented: because women are more other oriented than men, they are more likely to be influenced by guilt in advertisements

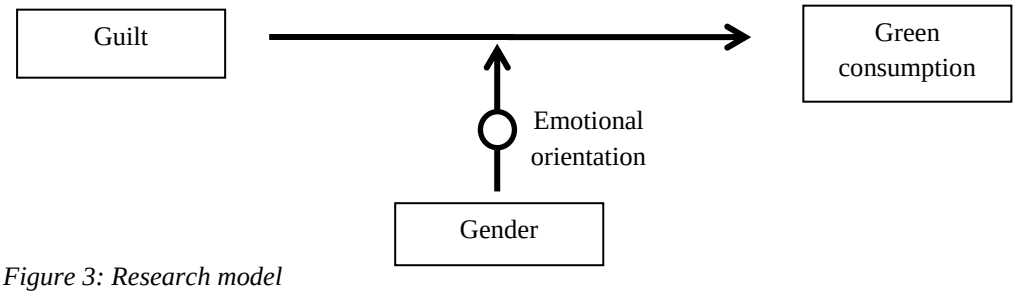

Figure 3: Research model

3. Methodology

3.1 Participants and study design

The study involved 90 participants, half men and half women. 2 participants were removed from the analyses because of missing values. This resulted in 45 participants in the guilt condition and 43 participants in the control condition (see Table 1). Age ranged between 17 and 29 (M = 21.44, SD = 2.60). Education level was 'university degree' for the majority (96.6%). Participants were recruited at Wageningen University.

Table 1

Distribution of participants

Gender / Condition	Men	Women
Guilt	22	23
Control	22	21

Participants first had to read a text. Two different texts were made to create two conditions; a guilt condition and a control condition. A 2x2 questionnaire design was used, in which 'gender' (men vs. women) and 'guilt' (guilt vs. control message) served the independent variables. Both gender and guilt varied between subjects. Data about the socio-demographic characteristics, like age and education, was also gathered.

3.2 Procedure

The experiment was done in a normal classroom at the university and the students were randomly recruited to join the experiment. Participants were randomly assigned to either the guilt or the control condition. They received a short text which they had to read first and after reading they had to fill in the paper-and-pencil questionnaire. Afterwards they got a debriefing which explained that the experiment was meant to study the influence of guilt on green consumption behaviour. The study took about 10 minutes to complete and as a reward participants received €2,00.

3.3 Measures

The questionnaire measured three main variables (behavioural intention, emotional orientation and price difference) to test the hypotheses. Also an emotional manipulation check was done. The

questionnaire was based on a text, specially made for this study. Half of the texts contained a guilt message and the other half did not contain a guilt message. The text contained information about the treatment of bio-industry chicken compared with organic chicken. Guilt was invoked by telling worse stories about how chicken are treated in the bio-industry against more positive stories about the treatment of organic chicken. It was meant to create feelings of guilt about the treatment of bio-industry chicken when comparing the treatments of bio-industry and organic chicken with each other. The guilt condition also contained pictures with a small text which displayed the worse cases from the life of a bio-industry chicken to increase the guilt experience. The control condition contained also information about the treatment of both types of chicken but this version did not contain the worse stories and also no pictures. The control condition only gave information and did not respond to guilty feelings. Both conditions and the questionnaire can be found in the Appendix.

The manipulation check was done by using four items adopted from deHooge and Nelissen (2011). As an emotion manipulation check, the participants indicated how much guilt, fear, shame and regret they felt after reading the text on a seven-point scale ranging from 1 (not at all) to 7 (completely). The manipulation check was done to assess whether the participants in the guilt condition really felt guiltier than the participants in the control condition and to check whether the text invoked only guilt or also other emotions. Furthermore, fear, shame and regret were also tested to counteract that participants would see through that the experiment was about guilt.

The first main variable, which has shown to be a good predictor of consumers' behaviour, is behavioural intention. I used this variable in this study to see how the intention of green consumption would be influenced when people feel guilty. Two bipolar adjectives, adopted from Vermeir and Verbeke (2007), measured the behavioural intention towards buying organic products after reading the advertisement on a seven point scale (little vs. good chance and unlikely vs. likely). The reliability of these items was considered satisfactory with a Cronbach's α of .97 so the scores of these items were averaged to create a score on behavioural intention.

The second main variable, which relates to behavioural intention, is the difference in price people were willing to pay for organic chicken compared to bio-industry chicken. One of the characteristic facts from organic products is that it is often more expensive than normal products. Also organic chicken is more expensive than chicken from the bio-industry. When consumers' choose between products, price may be a purchase barrier and conflicts with the interest to buy organic products over bio-industry products. I measured what people wanted to pay for organic chicken and what they wanted to pay for bio-industry chicken and made the variable price difference by subtracting the price for bio-industry chicken from the price for organic chicken. I also expected that women were more influenced by guilt which, I thought, would lead to a higher difference in price. The price difference

was measured by two open questions: ‘How much would you pay for 1 pound organic chicken’ and ‘How much would you pay for 1 pound bio-industry chicken’.
The third main variable was emotional orientation. It was measured to test if the possible moderating effect from gender on the effect of guilt on green consumption was mediated by emotional orientation. To the best of our knowledge, emotional orientation is not a variable measured before. In this study it was measured with the following items: ‘I need to fix something’ and ‘I am in debt with my environment’. The reliability of these items was very low so I decided to continue with only one item: ‘I need to fix something’.

The questionnaire was finished with some demographic issues including age, gender and education. Because participants were Dutch, the questionnaire was phrased in their native language. The questionnaire can be found in the Appendix.

3.3 Pilot test

A pilot test was conducted to ensure that the guilt condition would contain more guilt than the control condition. The first pilot test was done among 10 participants. Participants were asked to indicate how much guilt/fear/shame/regret they felt after reading the text. The results from this test were negative. The text invoked more of the other emotions and less guilt. A new text was made, pictures were included and a new pilot test was done, also among 10 participants. The results from this pilot test showed that guilt was more experienced than the other emotions. This was what I wanted so this pilot test material became our guilt condition material.

4. Results

4.1 Correlations

First of all, I explored the correlations between our variables. What we see is that the experience of guilt correlates with intention and emotional orientation (see Table 2). Besides the experience of guilt, intention correlates also with the price difference.

Table 2

Pearson correlation of guilt, price difference, intention and emotional orientation

	M	**SD**	**1**	**2**	**3**
1. Guilt	3.99	1.56			
2. Intention	4.19	1.59	.205*		
3. Price difference	1.36	1.45	.006	.202*	
4. Emotional Orientation	3.10	1.18	.504**	.111	.159

Two-tailed, *****=p<.05, **=p<.01

4.2 Guilt-manipulation check

Before I tested the hypotheses, I first tested whether the manipulation of guilt was successful. A Multivariate Analysis of Variance (MANOVA), with the condition (guilt versus control) as independent variable and the emotional experiences of fear, regret, shame and guilt as dependent variables, was done to test whether the guilt condition invoked more guilt than the control condition and whether guilt was more experienced than the other emotions. The 45 guilt participants on average reported more guilt (M = 4.27, SD = 1.56) than the 43 control participants (M = 3.70, SD = 1.54), $F(1,86) = 2.98$, $p = 0.09$. The participants also experienced more guilt than all the other emotions. Table 3 shows how much the participants experienced of the emotions after reading the text.

The effect on guilt was marginally significant. The effect was in the expected direction: Those that read the guilt message experienced more guilt than those in the control condition (see Table 3).
The condition also had a marginal significant effect on shame, $F(1,86) = 3.35$, $p = .07$. The guilt participants reported more shame (M = 3.80, SD = 1.73) than the control participants (M = 3.14, SD = 1.66). The effect on the amount of fear a person experiences was significant, $F(1,86) = 7.92$, $p < .01$. Fear was more experienced by participants in the guilt condition (M = 3.09, SD = 1.52) than by participants in the control condition (M = 2.21, SD = 1.41). There was no effect on the amount of regret experienced after reading the text, $F(1,86) = 1.11$, $p = .30$.

In this study the focus was on guilt so the other emotions will be disregarded. I will discuss this further in the discussion.

Table 3

Descriptive of the experience of emotions

	Guilt or control condition	**Mean**	**Std. Deviation**
Guilt	Guilt	4.27	1.56
	Control	3.70	1.54
Fear	Guilt	3.09	1.52
	Control	2.21	1.41
Shame	Guilt	3.80	1.73
	Control	3.14	1.66
Regret	Guilt	3.31	1.44
	Control	2.98	1.54

4.2 Guilt, gender and green consumption

I first tested Hypothesis 1 and 2. The first hypothesis concerned the influence of guilt in advertisements on green consumption behaviour. The second hypothesis stated that the effect of guilt in advertisements on green consumption behaviour would be stronger for women than for men.
To test these hypotheses, I did a Multivariate Analysis of Variance (MANOVA) with gender and the condition (guilt versus control) as independent variables and price difference and behavioural intention as dependent variables. First I will discuss results for Hypothesis 1 and second the results for Hypothesis 2.

4.2.1 The influence of guilt in advertisements on green consumption

I expected that the participants in the guilt condition would have a higher intention to consume green than participants from the control condition. However, the results from the MANOVA showed that there was no effect of the condition on the intention to consume green, $F(1,83) = .57$, $p = .45$. The intention from participants in the guilt condition to consume green ($M = 4.28$, $SD = .23$) did not differ that much from the intention from participants in the control condition ($M = 4.04$, $SD = .23$).

In relation to the price of chicken, I expected that the more guilt a person would experience, the more he or she would like to pay for organic chicken in comparison with bio-industry chicken to

compensate the guilty feeling. So I expected that the participants from the guilt condition were willing to pay more for organic chicken in comparison with bio-industry chicken than the participants from the control condition so that the price difference in the guilt condition would be bigger than in the control condition. However, the results from the MANOVA showed that there was no effect from the condition on the price difference, $F(1,83) = 2.04$, $p = .16$ (see Table 4). So the expectation that the higher the amount of guilt, the more people were willing to pay was not right.

Table 4

Price difference

	Mean	**Std. deviation**
Guilt	€1,14	0.22
Control	€1,58	0.22

To conclude, there is no effect found from guilt on green consumption behaviour. Hypothesis 1 is rejected.

4.2.2. The effect of guilt in advertisements in stronger for women than for men

I tested the interaction effect from guilt and gender on the behavioural intention in order to test whether the effect of guilt would be stronger for women than for men. However, there appeared to be no effect of the interaction on the intention to buy organic products, $F(1,83) = 1.76$, $p = .19$. This means that, in this study, gender does not moderate any effect of guilt on behavioural intention. However, I found that women had a higher intention to consume green than men. The results from the MANOVA showed a significant main effect from gender on behavioural intention. $F(1,83) = 4.95$, $p < .05$. Women's intention to consume green was higher ($M = 4.53$, $SD = .23$) than the intention of men ($M = 3.80$, $SD = .23$).

The effect of gender and guilt on the price difference was also tested. I expected that women would have a higher price difference than men because of the experience of guilt which was supposed to be higher for women than for men. However, results from the MANOVA showed that there was no moderating effect of gender on the effect of guilt on the price difference, $F(1,83) = .00$, $p = .99$.

To conclude, no difference between men and women was found from the effect of guilt on green consumption behaviour. So, gender did not moderate an effect from guilt on green consumption behaviour. Hypothesis 2 is also rejected. Women, however, showed a higher intention to consume green than men. This will be discussed in the discussion.

4.4 Emotional orientation

Finally, our third hypothesis stated that, if gender would moderate the effect of guilt on green consumption behaviour, this would be mediated by the emotional orientation of men and women. However, gender did not moderate effects from guilt on green consumption behaviour so mediation cannot be tested. Hypothesis 3 is also rejected.

However, I can still test if the emotional orientation between men and women really differs and if effects of gender can be mediated by emotional orientation. The reliability of this variable was too low ($\alpha = .54$) so I decided to test only the item 'I need to fix something' to study whether the results of this item were different for men and women.

In both conditions, women experienced more feelings of 'fixing something' than men. Expected was that women would feel more that they had to fix something than men. However, a Univariate Analysis of Variance (ANOVA) with gender as independent variable and 'I need to fix something' as dependent variable showed no effect of gender on the feeling of fixing something, $F(1,86) = 1.34$, $p = .25$. Women experienced more feelings of fixing something in comparison to the amounts men experienced but the differences were not that big (see Table 5). So, emotional orientation, or the feelings of 'fixing something', did not differ much for men and women.

Table 5

Feelings of 'I need to fix something'

Gender	**Mean**	**Std. Deviation**	**N**
Men	3.16	1.54	44
Women	3.52	1.41	44

5. Discussion

5.1 Summary of results

The aim of the study was to investigate if the experience of guilt would lead to green consumption behaviour and whether there would be a difference in how men and women are influenced by guilt. Based on the literature it was hypothesized that experiencing guilt would lead to green consumption. However, the hypothesis was rejected. The results showed that, in this study, guilt did not affect the behavioural intention to consume green. So, the intention to consume green was in this study not influenced by how guilty participants felt. Another dependent variable was the price difference participants were willing to pay for organic chicken as compared to bio-industry chicken. Also here, guilt did not affect this price difference. What participants were willing to pay more for organic chicken was not influenced by the amount of guilt they experienced.

The second hypothesis stated that the effect of guilt on green consumption behaviour would be stronger for women than for men. This hypothesis was also rejected. There was however a main effect of gender on the intention to consume green: Women showed a higher intention to consume green than men.

The third and final hypothesis stated that the interaction effect of gender*guilt on green consumption behaviour would be mediated by the emotional orientation of a person. However, the expected interaction of gender*guilt on green consumption behaviour was not found. Also, men and women did not differ in their emotional orientation. Therefore, mediation could not be tested and this hypothesis was rejected.

To conclude, in this study, no effect was found of guilt on green consumption behaviour. Also I did not found a moderating effect of gender on the relation between guilt and green consumption. Women were more likely to consume green than men, but this finding could not be attributed to a difference in emotional orientation.

5.2 Reflection on results

Previous studies have shown the importance of emotions on consumer behaviour (e.g. Holbrook & Batra, 1987; Bagozzi & Pieters, 1998; Grob, 1995; Han et al., 2007). However, in the field of pro-environmental behaviour like green consumption, emotions are largely ignored (Vining & Ebreo, 2002; Carrus et al., 2008). Our literature research showed that green consumption behaviour can be

seen as moral behaviour. Also shown is that moral behaviour can be predicted by emotions, especially by negative emotions like guilt (e.g. Eisenberg, 2000; Bamberg & Möser, 2007; Tangney et. al, 2007; deHooge et. al, 2011). So I tested whether guilt also affected green consumption behaviour.

Unfortunately, in our study, the amount of guilt experienced did not affect green consumption behaviour. The intention to consume green was almost the same in both conditions. This result is in agreement with studies who found a weak relationship between other pro-environmental behaviour and guilt-feelings (e.g. Lascu, 1991; Verhoef, 2005). Also Kollmuss & Agyeman (2002) mentioned that guilt is less likely to trigger pro-environmental behaviour than for example other emotions like fear. Even if we are experiencing guilt, we might still not act green. However, our results are in contrast with studies that showed that guilt influenced pro-environmental behaviour (e.g. Kaiser & Shimoda, 1999; Bamberg & Möser, 2007). But, the studies which say that guilt predicts pro-environmental behaviour only showed indirect effects. They showed that guilt feelings influence moral norms and responsibility feelings and these norms and feelings influence moral behaviour, for example green consumption. Kaiser and Shimoda found that guilt feelings explain 44% of the variance of responsibility feelings for the environment, which, in turn, explain 45% of the variance of a person's responsibility judgement, which, in turn, predicts 55% of the variance of a person's pro-environmental behaviour. A possible explanation is that guilt feelings cannot influence green consumption behaviour directly but only through moral norms and responsibility feelings. This is also confirmed by several other studies (e.g. Van Liere & Dunlap, 1978; Hopper & Nielsen, 1991**;** Kals, Schumacher & Montada, 1999) which found that a (moral) feeling of responsibility is the most prominent predictor of pro-environmental behaviour, in this case green consumption. This, combined with the results that guilt motivates individuals to accept responsibility and take reparative action (Tangney et al., 2007) leads to the question if guilt is capable to directly influence green consumption or that first responsibility feelings have to be activated. For the results of this study, this can explain why guilt did not affect the intention to consume green. Responsibility feelings have to be activated and probably in this study, guilt was not able to activate those feelings what resulted in the fact that guilt could not activate the intention to consume green, directly or indirectly. Ascription of responsibility shows to be very important when predicting green consumption, so it is necessary to investigate in how responsibility feelings can be activated before using guilt appeals. When having clear how responsibility feelings work and how those can be activated for green consumption behaviour, more research can be done to guilt appeals in relation to responsibility feelings.
In this study, I also tested the influence of guilt on responsibility feelings. But, no correlation was found between guilt and responsibility feelings. How can this be interpreted? Kaiser and Shimoda stated that people feel morally responsible as soon as they realize that the distress of the environment or another person harmed by the environmental hazards was intentionally caused by their behaviour based on freely made decisions. When people feel they did something wrong through which they

influences the environment or others, they feel responsible. In this study, people read a text and the guilt group also saw some pictures. However, they did not do anything wrong. They read something on a normal day during their normal activities so possibly they were not in the mood to be aware of their influence when filling in the questionnaire. Besides, they were not confronted with their own behaviour afterwards because they had not bought anything for real. They only filled in some answers but they did not truly use organic or bio-industry chicken. So they could feel (a bit) guilty but because it was not for real, they did not do something wrong and they did not feel like anyone or anything was influenced. They had no urge to feel responsible so their responsibility feelings were not activated. Guilt did not influence these feelings.
Also in line with responsibility feelings is that I found some correlations between the experience of guilt and the intention to consume green. I can interpret this as an indication that the experience of guilt and intention to consume green does correlate but that the correlation is not strong enough to cause an effect from guilt on green consumption. Perhaps people feel guilty and think about consuming green but this does not affect them enough to truly consume more green. Maybe the experience of guilt alone is not strong enough to truly change behaviour. Related to what I just said, maybe guilt and intention can correlate, but when responsibility feelings are not activated, possibly the use of guilt makes no sense because it is too weak to separately affect green consumption.

Furthermore, the results between the control and the guilt condition were not very different. This can be explained by the fact that the manipulation of guilt was too weak. The control condition invoked less guilt than the guilt condition, however the difference in the amounts of guilt experienced between both conditions was less than expected. Several studies working with guilt manipulations (e.g. Basil, Ridgway and Basil, 2006; Jiménez & Yang, 2008) showed that the amount of guilt experienced can influence the way people behave. High amounts of guilt influence consumers' behaviour in another way than low amounts of guilt. So the fact that my conditions did not resulted in different behaviours can be the results of a weak manipulation. Probably, based on these results, when the guilt condition invoked more guilt and the control condition invoked no guilt, or a really low amount of guilt, the results of guilt on green consumption behaviour would differ between both conditions.

Another explanation why guilt in our study did not lead to an increase in green consumption is that guilt possibly leads to reactance, a motivational state of the person whose freedom is threatened (Clee & Wicklund, 1980). It occurs when a person is heavily pressured to accept a certain view or attitude. It can cause the person to adopt or strengthen another view or attitude that is contrary to what was intended and also increases resistance to persuasion. Some previous studies working with guilt (e.g. Coulter & Pinto, 1995; Jiménez & Yang, 2008) showed that high guilt appeals often have negative influences on consumers' feelings because it might be perceived as an attack of one's self or own behaviour. As soon as consumers' think that a message is trying to force a certain response, they tend

to respond unfavourably because they feel limited in their freedom of choice. The higher the amount of guilt invoked, the lower people feel like consuming green (Coulter & Pinto, 1995; Jiménez & Yang, 2008). Probably the feelings invoked in the guilt condition worked negatively on the intention to consume green. Possibly participants felt like they were forced to choose organic chicken and consume green which caused them to choose the bio-industry chicken instead. So, probably, guilt leads to reactance but, as discussed above, the manipulation in my study was too weak so I cannot say much more about reactance. For further research, guilt appeals have to be tested on this reactance.

Another interesting outcome is that, next to the experience of guilt, in our results also the emotions fear and shame were invoked. Lascu (1991) mentioned that emotions interact with each other. Emotions activate each other. I only focussed on guilt because that was the emotion I investigated in but possibly other emotions are more useful in affecting green consumption. Or possibly the interaction of emotions lead to more intense intentional experiences which lead to green consumption. From our results it appeared that shame and guilt were closely related in the amount of how much people experienced them. This is in line with previous studies showing that shame and guilt are both considered as the so called moral emotions (Eisenberg, 2000; Tangney et al., 2007). They are often taken together when measuring emotions influencing moral behaviour. Also Lascu (1991) mentions that guilt and shame are a frequently measured interaction. Both shame and guilt creates a sense of anxiety which explains why shame and guilt are closely related in the experienced amount. Possibly the experience of shame correlated also with intention and maybe, when guilt and shame are activated together, an effect on green consumption arises. Maybe, when addressing both shame and guilt, people experience more feelings of moral obligation which can activate green consumption when only measuring guilt. This would be in line with our study that showed that guilt and shame were closely related. Because of time reasons, I have not measured the effects of shame and guilt together on intention, so I cannot state that shame and guilt together leads to higher green consumption. Research to the influence of shame, and the effect of shame and guilt together can make clear if shame and guilt together are able to activate green consumption behaviour or not.
Another emotion I tested in the manipulation check was fear. From our results, it appeared that the effect of the condition on the experience of fear was significant. This is in line with a study from Verhoef (2005) who showed that the experience of fear strongly impacts consumption behaviour of organic meat, stronger than guilt. However, he also mentioned that fear only influences buying organic meat when people are aware of the consequences and take responsibility for their actions. Possibly, fear strongly influences green consumption behaviour but when we look at the results of Verhoef, responsibility feeling again is an important predictor which could link fear to green consumption. Possibly, fear is a better predictor than guilt. Or, possibly, when fear is activated more, guilt can also be experienced more intense which can lead to responsibility feelings. However, as mentioned earlier and what we see here again, first research have to be done to find out how

responsibility feelings can be activated when using emotions. When this is made clear, research can be done to the effect of fear on responsibility feelings and the effect of fear and guilt together. Guilt also involves feelings of regret and the other way around (Berndsen, Pligt, Doosje and Manstead, 2004). This is striking because the results of this study showed that both conditions did not affect the amount of regret experienced. An explanation for these results is that people maybe do not experience regret because they did not do something wrong. Regret occurs when people realize that the outcome after making a decision would have been better if chosen differently (van Dijk & Zeelenberg, 2002). In this case, that did not happen. People read a text, thought about it and answered the question where they choose bio-industry or organic chicken but after this, they went on with their activities. They were not confronted anymore with their choice so they never felt like doing anything wrong. Regret could not occur because the outcome was not real life for them. Possibly, when people feel regret when they realize another decision would have been better, in this case for the chicken and the environment, they feel guilty for not choosing that. Maybe the experience of guilt becomes more intense and together with regret this can lead to green consumption. Further research needs to be done. For example, when you give participants the chosen chicken to bring home and let them come back the next day to answer how they feel and if they would make the same choice again, it is possible that the participants who choose the bio-industry chicken feel regret and guilt because they were confronted afterwards with their choice. Maybe then the bio-industry group feels regret over making their choice. Possibly this can lead to feeling guilty and responsibility feelings which, in turn, leads to green consumption.

Another result showed that women had a higher intention to consume green than men. This is in line with other studies that found that women had a higher green consumption in comparison to men (Davies, Titterington and Cochrane, 1995; Lockie, Lyons, Lawrence and Mummer, 2002). Possibly women are more willing to buy organic products because organic products are seen as more healthy and women are more concerned with health topics and environment than men (Urena, Bernabéu & Olmeda, 2007). For future research on predictors of green consumption behaviour between men and women, health related issues have to be taken into account in order to find out if health is an important factor which causes differences in how men and women intent to consume green.

In contrast to my expectation that the relationship between guilt and green consumption would be stronger for women than for men, it appeared that gender did not affect this relation. First of all, in this study, there was no effect from guilt on green consumption behaviour, but second, the experience of guilt in this study was also not different for men and women. This is in contrast with previous studies which found that women tend to experience guilt faster and more intense than men (e.g. Hoffman, 1975; Baumeister et. al, 1994; Cross & Madson, 2007). However, a meta-analysis by Jaffee and Hyde (2000) showed that the gender difference in moral emotions has been rather weak and

inconsistent. This is in agreement with the results of this study. One interpretation can be that I focussed on a difference in emotional orientation while this is not the factor which causes a difference in how men and women experience guilt. Shown is that women are more caring in the nursing way and that man are willing to help when it can be seen as a heroic act (Silvfer & Helkama, 2007). Possibly when the experiment focussed more on this 'caring for others' a difference in emotional experience was found. Women have shown to feel responsible for their own health but also for the health of persons in their environment (e.g. Basil et al., 2006; Silvfer & Helkama, 2007; Aertsens et al., 2009). So women can experience guilt faster when not taking good care of someone because they feel responsible to help. For example, when asked what people would choose when they had to cook for their whole family women could feel guiltier when not chosen the organic chicken than men. Again the feelings of responsibility show here to be an important factor. So when responsibility feelings are activated, differences in gender can occur. Question arises if and how these responsibility feelings differ for men and women and how guilt can be used to activate as well men and women to feel responsible and act green.

5.3 Limitations of the current study

This study has some limitations. First, I worked with 2 conditions, one guilt condition and one control condition. The results in the control condition did not differ much from results in the guilt condition. From these results I can conclude that our guilt condition did not invoke enough guilt as wanted and that our control condition also invoked guilt although that was not supposed to be. So it can be said that the manipulation was too weak. For further or new research, recommended is to test both conditions before finalize them. I only tested the guilt condition but in case of new research, I would test both conditions to ensure that the guilt condition invoked enough guilt and the control condition would invoke no guilt or at least a really low amount of guilt. I would also change the text of the control condition a bit. Now I mentioned more negative aspects of the treatment of bio-industry chicken and more positive aspects of the treatment of biological chicken. When doing the research again I would change this to mention the same amount of positive as well as negative aspects of both treatments in order to give an equal image of both situations with advantages as well as disadvantages.

Second, because of time reasons, I only took one moral emotion into account and could not study further what the effect of other emotions was. Possibly, when more emotions are activated, the emotional experience is more intense which leads to a higher moral obligation which finally can lead to green consumption behaviour. In case of doing the research again or for further research, I would study more emotions to test the interrelations between them. Maybe when studying more emotions and the influence on each other, more and/or other effects on green consumption behaviour are invoked.

Third, this study only focused on buying chicken. However, consumers' who do not wish to consume chicken/meat, vegetarians, have other strategies to consume green and will not buy chicken at all. They are not influenced by the amount of guilt, because they often already know these facts and have already thought about it which has led to being vegetarian. Their behaviour will only be confirmed and negative emotions like guilt are unlikely to occur. The weak point of the results in this study was that these people choose for organic chicken but not because they felt guilty. They choose for the best treatment because it is important for them that animals are treated in a human way. The influence of guilt did not affect them so the manipulation of guilt made no sense. In this study, there were a few participants who were vegetarian who influenced the results. In case of doing the research again, I would start to ask whether a person is vegetarian or not. Vegetarians can then be excluded from the results.

Finally, the external validity in this study is low. I focussed on one target group, students. Generalization from this study should be limited to student population only. This means that the results of our study cannot be used for predicting behaviour in general. Students are a specific target group which differs from for example families or elderly. For example, shown is that families with children were more likely to buy organic products. Also found is that when children are born, mothers changed their feeding patterns. The need to secure the health of their own children or other family members led to an increased consumption of organic products. When they do not feed their family or children healthy they can feel guilty for not taking good care (Aertsens et al., 2006). So, when focussing on other target groups as well, the results probably differ. Probably experiencing guilt would influence green consumption behaviour in other target groups, for example the mothers with children who experience guilt faster because of feelings of not taking good care for their children.

5.4 Implications for future study

Our study represents a small insight in the influence of guilt on green consumption behaviour amongst students. A few recommendations can be made for further research.

The most important recommendation is to study the effects of responsibility feelings. As discussed, guilt probably cannot influence green consumption behaviour directly but only indirectly, mainly through responsibility feelings. As discussed in paragraph 5.3, responsibility feelings are important in predicting green consumption behaviour so it is necessary to study how the activation of responsibility feelings works before using guilt. When it becomes clear how responsibility feelings work and how those can be activated, more research can be done to guilt and the influence on responsibility feelings and whether guilt is useful for activating responsibility feelings or not. So, in case of using guilt, first the materials have to be tested on responsibility feelings in order to test

whether these materials influence the feelings of responsibility. When this is the case, it can be studied whether and how green consumption can be influenced indirectly by using guilt.

A second recommendation is to study the influence of reactance. Does more guilt always lead to negative intentions and if so, is it then a useful measure to increase green consumption behaviour or is it better not to use it? Recommended is to study at what level guilt starts to influence behaviour in a negative way. Guilt can influence pro-environmental behaviour positively (e.g. Kaiser & Shimoda, 1999; Bamberg & Möser, 2007; Carrus et al., 2008) but at which level is the turning point that guilt influences behaviour negatively? When this is known, guilt can be used without creating reactance.

A third recommendation is to explore other target groups to better understand whether and how different populations respond to guilt messages in green advertising. Like discussed above, target groups can respond differently on guilt. Mothers are a good example of a target group which probably is more influenced by guilt feelings than students. When making advertisements for products, it is important to know how to reach your target group in order to be effective. Maybe students are less amendable than other target groups. Maybe guilt is not a useful measure to reach students but it can be a useful measure for other target groups.

Fourth, further investigation to the interrelationship amongst emotional responses to determine the influence of other emotions next to guilt is recommended. Maybe guilt alone is not able to influence behaviour, maybe more emotional experiences are necessary in order to affect behaviour. For example when guilt is combined with other moral emotions, like shame, the moral obligation maybe becomes stronger and behaviour can change. When people feel ashamed and guilty for something they have done which contrasts with their own norms and values, they can be more willing to change behaviour than when they only feel guilty. The same for regret, when people are confronted with something they have done wrong, they feel regret over their made decision. Possibly they also feel guilty and together this can lead to a change in behaviour. But, guilt is than the second experienced emotion which results from feelings of regret. So, maybe other emotions are better predictors of green consumption behaviour or possibly, when guilt is combined with other emotions, more intense moral obligations are felt than by using guilt only.

Finally, I did not study motivational factors of buying behaviour. For example health issues have shown to be a motivational factor for women to buy organic products (Urena et al., 2007; Aertsens et al., 2009). Women can choose to buy organic products because of the safety of their children's health or their own health but not because of environmental reasons. It is likely that the motivation to consume green not only depends on whether a person feels guilty and/or responsible for the environment but also other factors can be decisive. Possibly, in this study, participants also choose the

organic chicken for other reasons then I expected. Recommended is to study also motivational factors to find out what factors influence green consumption behaviour most instead of assume that people will consume green because of environmental concerns. Maybe green consumption behaviour can better be increased by focussing on other factors than on the environment or animal welfare.

5.5 Implications for practice

The present research is explorative, and there is much more to find out before specific measures can be discussed. However, with the results of this study, it can be mentioned that guilt alone is not likely to be an effective measure to convince consumers' to consume green. First responsibility feelings have to be activated before guilt can be effective. When tested how responsibility feelings can be influenced and what the implications are for green consumption, good guilt appeals have to be worked out and have to be tested on the activation of responsibility feelings in order to know if guilt indirectly, through ascription of responsibility, can influence green consumption. Also important for designing marketing strategies is whether the influence of guilt differs per target group. When the influence of advertisements differs per target group, the advertisements needs to focus on aspects which fit the target group.

5.6 Conclusion

The results of this study indicate that guilt does not directly affect green consumption behaviour. No effect was found of guilt on the intention to consume green. When reflecting the results, studies were found which mention that ascription of responsibility is an important predictor of green consumption behaviour. It is likely that guilt feelings have to activate responsibility feelings before activating green consumption behaviour in order to be effective. Likely is that guilt does not influence green consumption behaviour directly but only through responsibility feelings. Also no effect was found from gender on the effect of guilt on green consumption behaviour. It is likely that men and women differ in their guilt experience but more research is needed.

So, to conclude, it is likely to mention that guilt does not directly influence green consumption behaviour and that gender does not moderate any effects of guilt on green consumption behaviour.

References

Aertsens, J., Verbeke, W., Mondelaers, K. & Van Huylenbroeck, G. (2009). Personal determinants of organic food consumption: a review. *British Food Journal,* Vol. 111, No. 10, pp. 1140-1167

Abrahamse, W. & Steg, L. (2011). Factors related to household energy use and intention to reduce it: The role of psychological and socio-demographic variables. *Human Ecology Review,* Vol. 18, No. 1, pp. 30-40

Ajzen, I. (1991). The theory of planned behaviour. *Organizational behaviour and human processes,* Vol. 50, pp. 179-211

Armitage, C.J. & Conner, M. (2001). Efficacy of the Theory of Planned Behaviour: A meta-analytic review. *British Journal of Social Psychology* , Vol. 40, pp. 471–499

Bagozzi, R. P.& Pieters, R. (1998). Goal-directed emotions. *Cognition and Emotion,* Vol. 12, pp. 1–26.

Bagozzi, R. P., Gopinath, M. & Nyer, P.U. (1999). The role of emotions in marketing. *Journal of the academy of marketing science,* Vol. 27, No. 2, pp. 184-206

Bamberg, S. & Möser, G. (2007). Twenty years after Hines, Hungerford, and Tomera: A new meta-analysis of psycho-social determinants of pro-environmental behaviour. *Journal of Environmental Psychology,* Vol. 27, pp. 14-25

Basil, D. Z., Ridgway, N. M. & Basil, M. D. (2006). Guilt appeals: The mediating effect of responsibility. *Psychology and Marketing,* Vol. 23, No. 12, pp. 1035-1054

Baumeister, R.F., Stillwell, A.M. and Heatherton, T.F. (1994). Guilt: An Interpersonal Approach. *Psychological Bulletin,* Vol. 115, No. 2, pp. 243-267

Berndsen, M., Pligt, J., Doosje, B. & Manstead, A. S. R. (2004). Guilt and regret: The determining role of interpersonal and intrapersonal harm. *Cognition and Emotion,* Vol. 18, No. 1, pp. 55-70

Black, J. S., Stern, P. C., & Elworth, J. T. (1985). Personal and contextual influences on household energy adaptions. *Journal of Applied Psychology,* Vol.70, No. 1, pp. 3-21

Carrus, G., Passafaro, P. & Bonnes, M. (2008). Emotions, habits and rational choices in ecological behaviour: The case of recycling and use of public transportation. *Journal of Environmental Psychology,* Vol. 28, pp. 51-62

Clee, M. A. & Wicklund, R. A. (1980). Consumer Behaviour and Psychological Reactance. *Journal of Consumer Research,* Vol. 6, No. 4, pp. 389-405

Coulter, R. H. & Pinto, M. B (1995). Guilt Appeals in Advertising: What Are Their Effects? *Journal of Applied Psychology,* Vol. 80, No. 6, pp. 697-705

Cross S.E. & Madson L. (1997). Models of the self: Self-construals and gender. *Psychological Bulletin,* Vol. 122, No. 1, pp. 5-37

Davies, A., Titterington, A. & Cochrane, C. (1995) Who buys organic food: A profile of the purchases of organic food in Northern Ireland. *British Food Journal,* Vol. 10, pp. 17–23

deGroot, J. I. M. & Steg, L. (2009). Morality and Prosocial Behaviour: The Role of Awareness, Responsibility, and Norms in the Norm Activation Model. *The journal of Social Psychology,* Vol. 149, No. 4, pp. 425-449

deHooge, I. E., Nelissen, R. M. A., Breugelmans, S. M. & Zeelenberg, M. (2011). What is moral about guilt? Acting "prosocially" at the disadvantage of others. *Journal of Personality and Social Psychology,* Vol. 100, No. 3, pp. 462-473

De Pelsmacker P., Geuens, M. & van den Bergh, J. (2005). Marketingcommunicatie. *Tweede editie, Prentice Hall*

Devrome, U. (2007). Het effect van gevoelens in de reclame: onderzoek naar de verschillende dimensies van emoties. *Scriptie Universiteit Gent – Faculteit Economie en bedrijfskunde*

Eisenberg, N. (2000). Emotion, regulation, and moral development. *Annual Review of Psychology,* Vol. 51, pp. 665–697.

Ferguson, M. A. & Branscombe, N. R. (2009). Collective guilt mediates the effect of beliefs about global warming on willingness to engage in mitigation behaviour. *Journal of Environmental Psychology,* Vol. 30, pp. 135-142

Fisher, R. J.& Dubé, L. (2005). Gender differences in responses to emotional advertising: a social desirability perspective. *Journal of Consumer Research,* Vol. 31, pp. 850-858

Ghingold, M. (1980). Guilt arousing marketing communications: An unexplored variable. *Advances in consumer research,* Vol. 8, pp. 442-448

Grob, A. (1995). A structural model of environmental attitudes and behaviour. *Journal of Environmental Psychology*, Vol. 15, pp. 209-220.

Guagnano, G. A., Stern, P. C. & Dietz, T. (1995). Influences on attitude-behaviour relationships: A natural experiment with curbside recycling. *Environment and Behaviour,* Vol. 27, pp. 699-718

Han, S., Lerner, J. S. & Keltner, D. (2007). Feelings and consumer decision making: the appraisal-tendency framework. *Journal of Consumer Psychology* Vol. 17, pp. 158–68

Hardeman, W., Johnston, M., Johnston, D., Bonetti, D., Wareham, N. & Kinmonth, A. L. (2002). Application of the Theory of Planned Behaviour in Behaviour Change Interventions: A Systematic Review. *Psychology & Health,* Vol. 17, No. 2, pp. 123-158

Harland, P., Staats, H. & Wilke, H. A. M. (1999). Explaining Proenvironmental Intention and Behaviour by Personal Norms and the Theory of Planned Behaviour. *Journal of Applied Social Psychology,* Vol. 29, No. 12, pp. 2505-2528

Hargreaves, T. (2011). Practice-ing behaviour change: Applying social practice theory to pro-environmental behaviour change. *Journal of Consumer Culture*, Vol. 11, pp. 79-99

Hoffman, M. L. (1975). Sex differences in moral internalization and values. *Journal of Personality and Social Psychology*, Vol. 32, No. 4, pp. 720-729

Holbrook, M. B. & Batra, R. (1987). Assessing the role of emotions as mediators of consumer responses to advertising. *Journal of Consumer Research*, Vol. 14, No. 3, pp. 404-420

Hopper, J. R., & Nielsen, J. M. (1991). Recycling as altruistic behaviour: Normative and behavioural strategies to expand participation in a community recycling program. *Environment and Behaviour*, Vol. 23, pp. 195–220.

Jaffee, S. & Hyde, J. S. (2000). Gender differences in moral orientation: A meta-analysis. *Psychological Bulletin*, Vol. 126, No. 5, pp. 703-726

Jiménez, M. & Yang, K. C. C. (2008). How guilt level affects green advertising effectiveness? *Journal of Creative Communications*, Vol. 3, No. 3, pp. 231-254

Kaiser F. G. & Shimoda, T. A. (1999). Responsibility as a predictor of ecological behaviour. *Journal of Environmental Psychology*, Vol. 19, pp. 243-253

Kaiser, F. G., Hübner, G. & Bogner, F. X. (2005). Contrasting the Theory of Planned Behaviour with the Value-Belief-Norm Model in explaining conservation behaviour. *Journal of Applied Social Psychology*, Vol. 35, No. 10, pp. 2150-2170

Kals, E., Schumacher, D. & Montada, L. (1999). Emotional affinity toward nature as a motivational basis to protect nature. *Environment & Behaviour*, Vol. 31, No. 2, pp. 178-202

Laros, F. J. M. & Steenkamp, J. B. E. M. (2003). Emotions in consumer behaviour: a hierarchical approach. *Journal of Business Research*, Vol. 58, pp. 1437-1445

Kollmuss, A. & Agyeman, J. (2002). Mind the gap: why do people act environmentally and what are the barriers to pro-environmental behaviour? *Environmental Education Research*, Vol. 8, No. 3, pp. 239-260

Lange, P. A. M. & Kuhlman, D. (1994). Social Value Orientations and Impressions of Partner's Honesty and Intelligence: A Test of the Might Versus Morality Effect. *Journal of Personality and Social Psychology*, Vol. 67, No. 1, pp. 126-141

Lascu, D. N. (1991). Consumer guilt: examining the potential of a new marketing construct. *Advances in Consumer Research*, Vol. 18, pp. 290-295

Leonidou, L.C., Leonidou, C. N., Palihawadana, D. & Hultman, M. (2010). Evaluating the green advertising practices of international firms: a trend analysis. *International marketing review*, Vol. 28, No. 1, pp. 6-33

Lockie, S., Lyons, K., Lawrence, G. & Mummer, K. (2002). Eating 'Green': Motivations Behind Organic Food Consumption in Australia. *Sociologia Ruralis*, Vol. 42, No. 1, pp. 23-40

Manstead, A. S. R. (2000). Assessing people's general ecological behaviour: A cross-cultural measure. *Journal of Applied Social Psychology*, Vol. 30, pp. 952-978

Mehta, A. & Purvis, S. C. (2006). Reconsidering recall and emotion in advertising. *Journal of advertising research,* Vol. 46, No. 1, pp. 49-56

Nisbet, E. K. L & Gick, M. L. (2008). Can Health Psychology Help the Planet? Applying Theory and Models of Health Behaviour to Environmental Actions. *Canadian Psychology*, 2008, Vol. 49, No. 4, pp. 296–303

Nordlund, A. M. & Garvill, J. (2002). Value structures behind proenvironmental behaviour. *Environment &Behaviour,* Vol. 34, No. 6, pp. 740-756

Peattie, K. (2010). Green consumption: behaviour and norms. *Annual Review of Environment and Resources,* Vol. 35, pp. 195-228

Pinto, M. B., & Priest S. (1991). Guilt appeals in advertising: An exploratory study. *Psychological Reports,* Vol. 69, pp. 375-385

Poortinga, W., Steg, L. & Vlek, C. (2004). Values, environmental concern and environmental behaviour: A study into household energy use. *Environment and Behaviour,* Vol. 36, No. 1, pp. 70-93.

Robinson, R. & Smith, C. (2002) Psychosocial and demographic variables associated with consumer intention to purchase sustainably produced foods as defined by the Midwest Food Alliance. *Journal of Nutrition Education and Behaviour,* Vol. 34, No. 6, pp. 316-325

Schwartz, S. H. (1977). Normative influences on altruism. *Advances in Experimental Social Psychology,* Vol. 10, pp. 221-279

Silvfer, M. I. A. & Helkama, K. (2007).Empathy, guilt and gender: A comparison of two measures of guilt. *Scandinavian Journal of Psychology,* Vol. 48, pp. 239-246

Sparks, P. & Shepherd, R. (1992). Self-Identity and the Theory of Planned Behaviour: Assessing the Role of Identification with "Green Consumerism". *Social Psychology Quarterly,* Vol. 55, No. 4, pp. 388-399

Stern, P. C., Dietz, T., Abel, T., Guagnano, G. A. & Kalof, L. (1999). A Value-Belief-Norm theory of support for social movements: The case of environmentalism. *Human Ecology Review,* Vol. 6, No. 2, pp. 81-97

Stern, P. C. (2000). Toward a Coherent Theory of Environmentally Significant Behaviour. *Journal of Social Issues,* Vol. 56, No. 3, pp. 407-424

Sustainable Europe Research Institute (SERI) (2009). Overconsumption? Our use of the world's natural resources. *Rapportage Global 2000*

Tangney, J. P., Stuewig, J. & Mashek, D. J. (2007). Moral emotions and moral behaviour. *Annual Review of Psychology,* Vol. 58, pp. 345-372

Tanner, C. & Kast, S. W. (2003). Promoting sustainable consumption: determinants of green purchases by Swiss consumers. *Psychology & Marketing,* Vol. 20, No. 10, pp. 883-902

Thøgersen, J. (1999). The ethical consumer. Moral norms and packaging choice. *Journal of Consumer Policy*, Vol. 22, pp. 439–460

Thøgersen, J. (2002). Direct Experience and the Strength of the Personal Norm–Behavior Relationship. *Psychology & Marketing*, Vol. 19, No. 10, pp. 881–893

Thøgersen, J. (2006). Norms for environmentally responsible behaviour: An extended taxonomy. *Journal of Environmental Psychology*, Vol. 26, pp. 247-261

Urena, F., Bernabéu, R. & Olmeda, M. (2007). Women, men and organic food: differences in their attitudes and willingness to pay. A Spanish case study. *International journal of consumer studies*, Vol. 32, No. 1, pp. 18-26

Van Dijk, W. W. & Zeelenberg, M. (2002). Investigating the appraisal patterns of regret and disappointment. *Motivation and Emotion*, Vol. 26, No. 4, pp. 321-331

Van Liere, K. D. & Dunlap, R. E. (1978). Moral norms and environmental behaviour: An application of Schwartz's norm activation model to yard burning. *Journal of Applied Social Psychology*, Vol. 8, pp. 174-188

Verhoef, P. C. (2005). Explaining purchases of organic meat by Dutch consumers. *European Review of Agricultural Economics*, Vol. 32, No. 2, pp. 245–267

Vermeir, I. & Verbeke, W. (2008). Sustainable food consumption among young adults in Belgium: Theory of planned behaviour and the role of confidence and values. *Ecological Economics*, Vol. 64, No. 3, pp. 542-553

Vining, J. & Ebreo, A. (2002). Emerging theoretical and methodological perspectives on conservation behaviour. *Chapter 35 in the New Handbook of Environmental Psychology R. Bechtel & A. Churchman (Editors).* New York: Wiley, 541-558

Appendix 1: Pretest 1

Lees deze tekst goed en zorgvuldig door.

Stel je voor: je gaat met een vriend(in) eten en jij kookt. Je wilt pannenkoeken maken en hier heb je onder andere melk voor nodig. Voor de boodschappen ga je naar de supermarkt waar je kan kiezen uit twee categorieën melk: gangbare melk en biologische melk.

Gangbare melkveehouderijen veroorzaken **de meeste broeikasgassen** van alle veehouderijen in Nederland. Een **gangbare melkkoe** produceert zo'n **13.000 kg mest per jaar** wat de uitstoot van onder andere nitraat en fosfaat oplevert. Als deze stoffen in het drinkwater terecht komen is dat gevaarlijk voor de gezondheid. Jouw keuze voor gangbare melk heeft grote gevolgen! Biologische melkveehouderijen gebruiken geen kunstmest waardoor de uitstoot hier minder is.

De brandstof die nodig is voor het produceren van kunstmest voor voedsel van de runderen levert **9% van alle CO2 uitstoot**. Deze uitstoot van mest is tevens **een derde van alle uitstoot aan methaangas in de wereld**. Methaangas is erg schadelijk voor het opwarmen van de aarde en jouw keuze voor gangbare melk bevordert deze opwarming. Biologische melkveehouderijen gebruiken geen kunstmest waardoor de uitstoot hier veel minder is.

Ook dragen **gangbare melkveehouderijen** sterk bij aan de **groei van kooldioxide**. Jij kan deze groei tegengaan door biologische melk te kopen. Daarnaast kost het produceren van krachtvoer voor de koeien erg **veel water en energie**. Kies jij voor gangbare melk dan kies jij voor een slechter milieu. Op biologische boerderijen eten koeien weinig tot geen krachtvoer. Het water en energieverbruik in de biologische sector is hierdoor stukken minder en beter voor het milieu. Als jij kiest voor gangbare melk stimuleer je een sterke groei van kooldioxide wat slecht is voor het milieu.

Als laatste is **biologische melk** ook nog eens **gezonder** voor je. Biologische melk is rijker is aan goede vetzuren, antioxidanten en vitamines en het bevat gemiddeld 60% meer gezonde vetzuren zoals Omega-3 en 50% meer vitamine E dat in het lichaam wordt omgezet in vitamine A.

Conclusie: Normale melkveehouderijen hebben een meer negatieve invloed op het milieu dan de biologische. Jouw keuze voor gangbare of biologische melk maakt dus degelijk verschil voor het milieu. Jouw eventuele aankopen van gangbare melk beïnvloeden het milieu op een negatieve manier. Daarnaast is biologische melk beter voor je eigen gezondheid. Door te kiezen voor gangbare melk doe je dus ook jezelf tekort.

Koop jij gangbaar? Denk na over de invloed die jij hebt op het milieu en op jouw gezondheid! Jouw keuze heeft grote gevolgen voor jezelf en je omgeving.

Appendix 2: Pretest 2 & Guilt-condition

Welkom bij dit keuze experiment.
Je krijgt zo een tekst te lezen over de bio-industrie tegenover de biologische sector. Lees de tekst zorgvuldig door. Het is belangrijk dat je begrijpt wat je leest. Na het lezen van de tekst krijg je een korte vragenlijst. De verzamelde data blijft anoniem. Deelname duurt ongeveer 10 minuten.

Lees deze tekst goed door en bekijk de bijbehorende plaatjes zorgvuldig.
Stel je voor: je gaat met een vriend(in) eten en jij kookt. Je wilt wraps maken en hier heb je onder andere kip voor nodig. Voor de boodschappen ga je naar de supermarkt waar je kan kiezen uit twee categorieën kip: bio-industrie kip en biologische kip.
De bio-industrie is een bedrijfstak die met de hoogst mogelijke efficiëntie veevoeder omzet in vlees, melk en eieren. Het is massaproductie van vlees en dierproducten op hoog tempo. Vleeskippen, of beter gezegd vleeskuikens, komen het meeste voor. Vleeskippen leven kort en worden snel geslacht. Het leven van de kippen in de bio-industrie is afschuwelijk. De kippen zitten dicht op elkaar en hebben elk zo'n velletje A4 aan ruimte. Ook worden de snavels afgeknipt om veren pikken te voorkomen. Door bio-industrie kip te kopen stimuleer je dit dierenleed.
Eieren worden machinaal uitgebroed. Na het uitbroeden worden de kuikens in kratten vervoerd naar een mesterij. Daar zitten de kuikentjes met duizenden bij elkaar in een dichte stal met weinig tot geen daglicht. De stal wordt niet tussendoor schoongemaakt. Het kuiken groeit explosief. Al na zes weken weegt het kuiken ruim twee kilo: een kleuter met het gewicht van een volwassene. Deze harde groei zorgt voor hart- en longproblemen en de kuikens zakken vaak letterlijk door hun poten doordat ze het gewicht niet meer aankunnen. Bij de vangst gaat het er ruw aan toe. Dit gebeurt met de hand of door een kuikenveegmachine. De meeste kippen worden gedood via de waterbadmethode. Bij deze methode worden de dieren op hun kop in een waterbak gehangen die onder stroom staat. Kies jij voor bio-industrie kip dan draag jij dus bij aan dit dierenleed.
Wat betreft dierenwelzijn loopt de biologische sector loopt. Een biologische kip loopt vrij rond en kan naar buiten wanneer ze wil. Ook heeft ze meer ruimte, ongeveer 4 m2 in plaats van het velletje A4 wat de bio-industrie kippen hebben. De snavels worden niet geknipt of gebrand en het voer is voor 80% biologisch. De kippen hebben ook legnesten, zitstokken en een stofbad. Daarnaast wordt een kip in de biologische sector op natuurlijke groeiwijze grootgebracht in plaats van het vetmesten in 6 weken.

Qua milieubelasting bestaan ook grote verschillen tussen beide industrieën. Wetenschappelijk onderzoek wijst uit dat de bio-industrie meer milieuvervuilend is dan de biologische sector. De

biologische industrie maakt geen gebruik van kunstmest en chemische beschermingsmiddelen. De bio-industrie daartegenover gebruikt dit wel veel waardoor zij meer milieuvervuilende gassen uitstoot zoals fosfaat. Ook moeten bedrijven in de biologische sector voldoen aan strenge eisen, bijv. dat het voer voor 80% biologisch moet zijn. De bio-industrie hoeft niet aan deze strenge eisen te voldoen waardoor zij het milieu zwaarder belasten. Bio-industrie kip scoort dus zowel op het gebied van dierenwelzijn als op het gebied van milieu veel slechter. Jouw keuze voor bio-industrie kip heeft dus verregaande gevolgen voor zowel het welzijn van de kippen als voor het milieu.

Nu volgt een vragenlijst die je keuzeproces in kaart zal brengen.


duizenden kippen in een dichte stal


een leven lang
in eigen poep


Geen ruimte
om de vleugels uit te slaan


Pijnlijk snavelkappen


Pijn, stress en botbreuken
bij ruwe vangst en slacht


Geen daglicht, legnest,
zitstok of stofbad


in kratten vervoerd
naar het slachthuis


Miljoenen dieren worden vernietigd
want zij brengen geen geld op

Appendix 3: Control condition

Welkom bij dit keuze experiment.

Je krijg zo een tekst te lezen over de bio-industrie tegenover de biologische sector. Lees de tekst zorgvuldig door. Het is belangrijk dat je begrijpt wat je leest. Na het lezen van de tekst krijg je een korte vragenlijst. De verzamelde data blijft anoniem. Deelname duurt ongeveer 10 minuten.

Lees deze tekst goed en zorgvuldig door.

Stel je voor: je gaat met een vriend(in) eten en jij kookt. Je wilt wraps maken en hier heb je onder andere kip voor nodig. Voor de boodschappen ga je naar de supermarkt waar je kan kiezen uit twee categorieën kip: bio-industrie kip en biologische kip.

De bio-industrie is een bedrijfstak die in massaproductie veevoeder omzet in vlees, melk en eieren op hoog tempo. Van alle dieren in de bio-industrie komen vleeskippen het meeste voor. Vleeskippen leven kort en worden snel geslacht. De dieren zitten dicht op elkaar en hebben elk zo'n velletje A4 aan ruimte. Ook worden de snavels afgeknipt om veren pikken te voorkomen.
Eieren worden machinaal uitgebroed. Na het uitbroeden worden de kuikens vervoerd naar een mesterij. Daar zitten de kuikentjes bij elkaar in een stal. De stal wordt niet tussendoor schoongemaakt. Het kuiken groeit snel. Al na zes weken weegt het kuiken ruim twee kilo.
De vangst gebeurt met de hand of door een kuikenveegmachine. De meeste kippen worden gedood via de waterbadmethode. Bij deze methode worden de dieren op hun kop in een waterbak gehangen die onder stroom staat.

In de biologische sector gaat het anders. Een biologische kip loopt vrij rond en kan naar buiten wanneer ze wil. Ze heeft ongeveer 4 m2 ruimte ter beschikking. De snavels worden niet geknipt of gebrand en het voer is voor 80% biologisch. De kippen hebben ook legnesten, zitstokken en een stofbad. Daarnaast wordt een kip in de biologische sector op de natuurlijke groeiwijze grootgebracht.

Qua milieubelasting bestaan ook verschillen tussen beide industrieën. Wetenschappelijk onderzoek wijst uit dat de bio-industrie meer milieuvervuilend is dan de biologische sector. De biologische industrie maakt geen gebruik van kunstmest en chemische beschermingsmiddelen. De bio-industrie daartegenover gebruikt dit wel veel waardoor zij meer milieuvervuilende gassen uitstoot zoals fosfaat. Ook moeten bedrijven in de biologische sector voldoen aan strenge eisen, bijv. dat het voer voor 80% biologisch moet zijn. De bio-industrie hoeft niet aan deze strenge eisen te voldoen waardoor zij het milieu zwaarder belasten. Nu volgt een vragenlijst die je keuzeproces in kaart zal brengen.

Appendix 4: Pretest questionnaire

1. **Hoeveel <u>angst</u> ervaar je na het lezen van de tekst?**

Totaal niet						Totaal wel
0	0	0	0	0	0	0

2. **Hoeveel <u>schuld</u> ervaar je na het lezen van de tekst?**

Totaal niet						Totaal wel
0	0	0	0	0	0	0

3. **Hoeveel <u>spijt</u> ervaar je na het lezen van de tekst?**

Totaal niet						Totaal wel
0	0	0	0	0	0	0

4. **Hoeveel <u>schaamte</u> ervaar je na het lezen van de tekst?**

Totaal niet						Totaal wel
0	0	0	0	0	0	0

Appendix 5: Questionnaire

1. **Hoeveel <u>angst</u> ervaar je na het lezen van de tekst?**

Totaal niet						Totaal wel
0	0	0	0	0	0	0

2. **Hoeveel <u>schuld</u> ervaar je na het lezen van de tekst?**

Totaal niet						Totaal wel
0	0	0	0	0	0	0

3. **Hoeveel <u>spijt</u> ervaar je na het lezen van de tekst?**

Totaal niet						Totaal wel
0	0	0	0	0	0	0

4. **Hoeveel <u>schaamte</u> ervaar je na het lezen van de tekst?**

Totaal niet						Totaal wel
0	0	0	0	0	0	0

5. **Ik heb iets goed te maken**

Helemaal oneens						Helemaal eens
0	0	0	0	0	0	0

6. **Ik sta bij mijn omgeving in het krijt**

Helemaal oneens						Helemaal eens
0	0	0	0	0	0	0

7. **Ik voel me persoonlijk verplicht om biologische kip te kopen in plaats van normale***

Helemaal oneens						Helemaal eens
0	0	0	0	0	0	0

8. Ik zou me schuldig voelen als ik normale kip zou kiezen in plaats van biologische*

Helemaal oneens Helemaal eens

0 0 0 0 0 0 0

9. Na het lezen van deze tekst zou ik biologische kip kiezen in plaats van normale:*

Weinig kans Veel kans

0 0 0 0 0 0 0

Onwaarschijnlijk Waarschijnlijk

0 0 0 0 0 0 0

10 Wat zou je maximaal betalen voor een pond (500 gram) bio-industrie kip?

€.....

11 Wat zou je maximaal betalen voor een pond (500 gram) biologische kip?

€.....

12 Het kopen van biologische kip helpt milieuproblemen tegengaan*

Helemaal oneens Helemaal eens

0 0 0 0 0 0 0

13 Mijn keuze voor biologische kip heeft invloed op het milieu*

Helemaal oneens Helemaal eens

0 0 0 0 0 0 0

14 Ik draag bij aan milieuvervuiling*

Helemaal oneens Helemaal eens

0 0 0 0 0 0 0

15 Ik voel mij verantwoordelijk voor het milieu*

Helemaal oneens Helemaal eens

0 0 0 0 0 0 0

16 Mijn persoonlijke bijdrage voor een beter milieu is erg klein waardoor ik mij niet verantwoordelijk voel*

Helemaal oneens Helemaal eens

0 0 0 0 0 0 0

17 Ik voel mij mede verantwoordelijk voor de milieuproblemen die momenteel spelen*

Helemaal oneens Helemaal eens

0 0 0 0 0 0 0

18 Ben je een man of een vrouw?

0 Man 0 Vrouw

19 Wat is je leeftijd?

.....

20 Wat is je opleiding?

0 HBO, ...

0 WO, ...

0 Anders, namelijk.....

* I also tested the influence of guilt on personal norm, awareness of consequences and ascription of responsibility by means of these questions. However, there were no relevant results found for this study so I disregarded them from the results of this study.

Appendix 6: Debriefing

Dit onderzoek ging over de invloed van schuldgevoel op biologische consumptie. Hiermee willen we inzicht krijgen in de keuzes die mensen maken met betrekking tot biologisch voedsel. De gegevens blijven anoniem; als je vragen hebt kun je ze stellen aan de proefleider.

Zou je zo vriendelijk willen zijn niets over dit onderzoek aan medestudenten te vertellen? Zij kunnen dan ook nog meedoen aan dit onderzoek.

Hartelijk dank voor je medewerking!