Motivating the choice for anti-food waste restaurants; how emotions can play a role.

Index

Abstract

Self-conscious emotions have shown to be able to motivate consumer behaviour. This research examined in two studies how the self-conscious emotions guilt and anticipated pride could be used to motivate consumers to make a more sustainable restaurant choice. Specifically, the anti-food waste restaurant was researched as this new type of sustainable restaurant, which uses food waste to create their dishes with, tries to reduce the amount of food waste at the consumption level. Both studies were designed as an online experiment and showed that only anticipated pride was able to motivate consumers to choose for the anti-food waste restaurant. The choice for an anti-food waste restaurant and the emotion of anticipated pride both showed to be positively related to consumer's attitude towards the anti-food waste restaurant. The second study added that the emotion of anticipated pride was also able to take away the negative effect of disgust, that might be experienced towards the consumption of food waste, on the consumers restaurant choice.

Keywords: *self-conscience emotions, guilt, anticipated pride, food waste, anti-food waste restaurant.*

Preface

This thesis is part of the Master's programme "Management, Economics and Consumer Behaviour" at the Wageningen University and is written within the Marketing and Consumer Behaviour Group. The outcomes contribute to the research program of this group, focussing on the area of marketing and consumer behaviour in the domain of agribusiness and the food industry. Surprised by the lack of support for the many recent initiatives in hospitality that aim to reduce the amount of food that is wasted, I became enthusiastic about researching one of these initiatives: the anti-food waste restaurant. Writing this thesis was a challenging, but very instructive and satisfying process. Therefore, I am very proud to present you my master thesis.

This way I would like to express my acknowledgement to my supervisor, Ilona de Hooge, for her helpful feedback and the interesting ideas during the past couple of months while writing my thesis. Her positivity and support provided me with confidence when I needed it. I would also like to thank my second reader Erica van Herpen, for her useful comments and critical feedback. Her supervision helped me to improve my theoretical framework and methodology before conducting the two studies. Furthermore, I would like to thank my fellow students Jelmar, Lisa and Thom, for their interest and useful insights throughout the research process. Our discussions have been very helpful as we encountered similar difficulties that we could unravel together. Last but not least, I would like to thank my friends, boyfriend and family for the fun social distractions when needed and for their moral support during, sometimes, difficult times.

1. Introduction

The increasing amount of food waste in developed countries is problematic. Roughly one-third of all edible food produced for human consumption is wasted (Gustavsson, Cederberg, Sonesson, Otterdijk & Meybeck, 2011), which has serious environmental consequences as it goes together with the depletion of natural resources and causes for 10% of the greenhouse gas emissions (Hall, Guo, Dore & Chow, 2009; Papargyropoulou, Lozano, Steinberger, Wright & bin Ujang, 2014). The food waste issue also implies social and economic consequences as developed countries have to deal with overproduction and diseases related to overconsumption (e.g. obesity), while nearly 800 million people suffer from food shortage in underdeveloped countries (FAO, IFAD & WFP, 2014). A sustainable solution for the food waste issue is needed, either by preventing food from being wasted or to reuse it for human consumption (Ladder of Moerman: Dutch Ministry of Economic Affairs, Agriculture and Innovation, 2014).

The increasing amount of food waste is such a large-scale problem since it occurs at many points along the supply chain (i.e. during production, processing, distribution and consumption), influenced by high quality product standards (Bio Intelligence Service, 2010; Parfitt, Barthel & Macnaughton, 2010; Smil, 2004). The largest amount of food is wasted at the final point of the supply chain; by the consumer (Lipinski et al., 2013; Soethoudt & Timmermans, 2013). A promising way to reduce the amount of food waste is therefore to encourage consumers towards more sustainable, food related, consumption behaviour, whereby they waste less food. Currently, consumers predominantly waste food within the household (Gjerres & Gaiani, 2013), which accounts for 70% of the food waste at the consumption level (WRAP, 2017). However, consumers also contribute indirectly to the food waste issue by their choice behaviour in the supermarket environment and in hospitality (Bio Intelligence Service, 2010; Sundt, 2012). Consumers are unwilling to buy suboptimal or imperfect foods in the supermarket (De Hooge et al., 2017) and exert influence on the amount of food that is wasted in food services in hospitality, such as restaurants, by their expectations and alternating consumption behaviour (Filimonau, Lemmer, Marshall & Beijani, 2017).

The food waste issue at the consumption level is given attention to by many scholars, yet mainly focussing on the household and the supermarket environment (e.g. Buzby, Wells, Axtman & Mickey, 2009; Mena, Adenso-Diaz and Yurt, 2011; Scholtz, Eriksson & Strid). Resulting, for example, in governed guidelines for the consumer on how to prevent and handle food waste (by the Netherlands Nutrition Centre, 2014). Specific research on reducing food waste in hospitality however is limited, but is needed as it is a popular industry among consumers where a lot of food is wasted (Tan & Yeap, 2012). The hospitality industry already causes for 9% of the food waste at the consumption level (WRAP, 2017) and is expected to keep growing in the coming years (Pirani & Arafat, 2016). According to Parfitt et. al. (2010, p. 3079) "The greatest potential for the reduction of food waste in the developed world lies with retailers, food services and consumers". A reduction of food waste in hospitality would

consequently lead to reduction of food waste at the consumption level. Therefore, to be able to fully cover the food waste issue at the consumption level, this gap in research must be addressed.

Soethoudt and Timmermans (2013) show that many initiatives are emerging in hospitality, that look into the valorisation of food waste; converting food waste streams into marketable products. Along these lines, new types of restaurants pop-up using waste streams from suppliers and retailers to create their dishes (e.g. InStock, Restlos Glucklich). These food waste reducing restaurants (i.e. anti-food waste restaurants) create awareness for the food waste issue among consumers, by making a business of surplus and suboptimal foods; foods produced beyond our nutritional needs or foods that do not look optimal but for which intrinsic quality is not reduced, compared to optimal looking foods (De Hooge, 2014; Papargyropoulou et al., 2014). These initiatives in hospitality could be an important addition to society for reducing the amount of food waste as they reuse the wasted food for human consumption. Moreover, they tend to reduce food waste at the consumption level, where most of the food waste occurs, by simultaneously tackling the food waste problem at the retail level.

For these anti-food waste restaurants to be successful, and to actually add value to the food waste issue, consumers' choice for these restaurants, over normal restaurants, is of importance. First, because the anti-food waste restaurants are still left with unconsumed foods if consumers do not choose these restaurants. Second, because the experience with the anti-food waste restaurant could (positively) influence the consumer's attitude towards these restaurants (Kelman, 1974; Regan & Fazio, 1977). Following the existing attitude-behaviour models, a positive attitude could predict future behaviour and lead to adoption of the anti-food waste restaurant (Ajzen, 1991). Thus, both consumers restaurant choice and their attitude towards the anti-food waste restaurant are of importance for the success of these restaurants, which is necessary to generate long term effects on reducing food waste.

Choosing a restaurant is guided by a large range of factors, such as price, quality and type of food (Auty, 1992; Kivela, Inbakaran & Reece, 1999; Namkung & Jang, 2007; Okeiyi, Finley & Postel, 1994; Steptoe, Pollard & Wardle, 1995). The majority of the consumers (7 out of 10) have the intention to waste less food (Netherlands Nutrition Centre, 2014), which might induce the choice for an anti-food waste restaurant. However, consumers do not always behave consistent with their intentions (Vermeir & Verbeke, 2006) and therefore might base their decision on other factors present. Moreover, in sustainable consumption behaviour it has been shown that other factors, then the sustainability concern, often prevail as the sustainability concerns are perceived as psychologically distant and abstract at the moment of choice (Lorenzoni & Pidgeon, 2006). Solely providing information on the sustainability concerns to stimulate sustainable consumption behaviour is therefore not the most efficient strategy. This could be explained, since the moment of receiving information and the actual (food waste) behaviour are too far apart (Thonissen, 2010). Thus, the negative consequences of food waste are forgotten and the behaviour will be based on other, for the consumer important, factors.

A more promising strategy to stimulate sustainable consumption behaviour could be found in addressing the unconscious associative system (Manning, 2009), by focussing on consumer emotions.

It is known that emotions play a role in guiding consumer behaviour (Gardner & Vandersteel, 1984; Lin, Yen & Chuang, 2006; Weinberg & Gottwald, 1982; Westbrook, 1980). They provide the consumer with the motivation to perform a certain behaviour (Gifford, 2002), and thus might be able to motivate consumers for making a more sustainable restaurant choice. Therefore, this research proposes that emotions should be incorporated in the anti-food waste restaurant's marketing strategies to guide the consumers' restaurant choice.

It has been shown that most consumers experience a feeling of guilt when they engage in wasteful behaviour (Evans, 2012). Guilt is a negative emotion that has the ability to motivate people to repair the negative feeling they experience, since people do not feel comfortable with a feeling of guilt (Burnett & Lunsford, 1994). Therefore, guilt could be seen as a useful motivator for people to make a more sustainable restaurant choice. On the other hand, a positive emotion that people often experience when engaging in sustainable behaviour is pride (Corral-Verdugo, 2012), since they feel good about themselves when their behaviour has a positive outcome (Lewis, 2000). Anticipated pride is the feeling that you will experience a feeling of pride in the future, as a result of specific behaviour. This emotion could therefore be seen as a motivator for a more sustainable restaurant choice as it is able to guide behaviour that leads to future feelings of pride (Tracy, Shariff, & Cheng, 2010). Anticipated pride could be seen as complementary to guilt as they are, respectively, positive and negative. Furthermore, guilt and anticipated pride are both self-conscious emotions that are able to stimulate pro-social behaviour, such as sustainable consumption behaviour, as individuals like to feel good about themselves (Tracy & Robins, 2004). This makes it interesting to look at the effects of these two specific emotions on guiding consumers behaviour into a more sustainable restaurant choice.

Additionally, an emotion that is often associated with waste products, is disgust. Most people see waste as something that you throw away and not as something to consume. The level of disgust people experience towards the consumption of food waste cannot be ignored when researching consumer's sustainable restaurant choice, since disgust is a strong negative emotion that is able to withhold consumers from consumption (Rozin & Fallon, 1987). Therefore, the level of disgust consumers experience, towards the consumption of food waste, is expected to have influence on the consumer's restaurant choice, motivated by the emotions guilt and anticipated pride.

For the anti-food waste restaurant to become a successful food waste reducing initiative, adding to a solution for the food waste issue, research on how the restaurant should be marketed is needed, for consumer adoption. Taking into account the existing research on the motivational function of the emotions guilt and anticipated pride, and the possible existence of disgust towards the consumption of food waste by the consumer, the following research questions are formulated;

Research question: *How can the emotions guilt and anticipated pride be used as a motivation for consumers to choose the anti-food waste restaurant over normal restaurants?*

Sub question 1: *How does the emotion of disgust, towards the consumption of food waste, moderate the relationship between the emotions guilt and anticipated pride, and the consumer's restaurant choice?*

Sub question 2: *How do the emotions guilt and anticipated pride, and the consumer's restaurant choice, influence the consumer's attitude towards the anti-food waste restaurant?*

The knowledge on how consumers can be motivated best for choosing the anti-food waste restaurant over a normal restaurant is predominantly useful for the anti-food waste restaurant itself, to set up their marketing strategy in the best possible way. Furthermore, the success of the anti-food waste restaurant could stimulate the rise of more anti-food waste restaurants, or give normal restaurants the motivation to become more sustainable. Eventually, this shift in hospitality towards a more sustainable system, could reduce the amount of food waste at the consumption level and consequently reduce the food waste problem in general. The knowledge gained by this research adds to the existing literature on emotions, since emotions are, to my best of knowledge, not yet previously researched in combination with food waste related consumption behaviour. This knowledge is of added value as guilt is experienced when people engage in wasteful behaviour (Evans, 2012), pride is evoked through sustainable behaviour (Corral-Verdugo, 2012) and feelings of disgust might arise by the thought of consuming food waste.

2. Theoretical Framework

First, more specific information on the scope of the food waste problem, the meaning of an anti-food waste restaurant and emotions is given to fully understand the created framework for answering the stated research question. Furthermore, a conceptual model of the expected relations is given accompanied by theoretical substantiation.

2.1. Food waste

A distinction can be made between food loss and food waste. The current research will refer to food loss as the food that is lost, spilled or damaged in early parts of the supply chain; during harvesting, processing, distribution and storage (Aschemann-Witzel et al., 2017). Food waste will be referred to as the food that was ready for human consumption but is never consumed, as it got wasted at the final stages of the supply chain; at the retail and consumption level (Parfitt et al., 2010; Secondi, Principato & Laureti, 2015). For example, processed food that is thrown away in restaurants or foods that are left unconsumed at home are referred to as food waste. This research focusses specifically on food waste as this is stronger related to behavioural issues through the involvement of the consumer, which suits the scope of this research.

The greatest contributor to the food waste issue has shown to be the consumer, as 60% of all food waste is generated by consumers (Griffin, Sobal & Lyson, 2009). This is not expected to change in the near future since consumers are financially in the position to waste food (Harrison, Rathje & Hughes, 1975). Furthermore, consumers' contribution to food waste is driven by their high expectations of the appearance of foods, as they are unwilling to consume suboptimal or imperfect foods (De Hooge et al., 2017). Finally, shifting dietary patterns, related to consumers lifestyle, are also contributing to the amount of food waste at the consumption level (Aschemann-Witzel et al., 2017; Parfitt et al., 2010).

To make the reduction of food waste at the consumption level successful, scholars have shown that consumers have to be motivated to change their behaviour, and the surroundings have to allow them to actually carry out this behaviour change (Aschemann-Witzel et al., 2017). Also referred to as an holistic approach to the reduction of food waste (Thøgersen, 2014). As anti-food waste restaurants are already emerging, it can be stated that consumers' surroundings are already changing. However, consumers consumption behaviour did not change enough yet as the amount of food waste did not decrease according to the goal of 20% reduction, between 2009 and 2015 (Soethoudt & Timmermans, 2013). Therefore, this research will study how consumers can be motivated to alter their behaviour and act in a more sustainable way, by choosing for an anti-food waste restaurant instead of a normal restaurant.

2.2 The anti-food waste restaurant

One of the food waste reducing initiatives is a new type of restaurant that wants to raise awareness for the food waste issue by making use of (food) waste streams from suppliers and retailers to create their dishes. Foods that would otherwise have been thrown away by e.g. the local supermarket or fish shop, due to deviant appearances or surplus, are saved by the anti-food waste restaurants, and are used to cook with. Examples of these restaurants are; InStock in the Netherlands, Restlos Glucklich in Germany and The Real Junk Food Project in England. These restaurants follow the ladder of Moerman as they reuse food waste for human consumption, which is the second best sustainable option for reducing the total amount of food waste (after the prevention of food waste from happening) (Soethoudt & Timmermans, 2013).

The anti-food waste restaurants are designed to operate in a more sustainable manner compared to normal restaurants. Anti-food waste restaurants make use of waste streams for their dishes, plan their product purchases very subsequent, keep in mind the portion size and try to prevent unnecessary food spillage to reduce their own waste. On the contrary, normal restaurants do not use waste streams for their dishes but use newly purchased and perfectly looking products to cook with. Moreover, they do not pay any extra attention to their own food spillage and waste. The most interesting difference between the two restaurants, for this research, lays in the origin of the products they use for their dishes. Using waste products to create restaurant quality dishes could evoke strong emotions by the consumer, such as disgust towards the consumption of waste (Aschemann-Witzel, De Hooge, Amani, Bech-Larsen & Oostindjer, 2015; Rozin & Fallon, 1987) or pride towards sustainable behaviour (Corral-Verdugo, 2012), that are able to motivate behaviour. Therefore, this research distinguishes the normal restaurants and anti-food waste restaurants from each other based on the origin of the products they use; if the products are 'new' or derived from waste streams.

2.3. Emotions

2.3.1 Why emotions?

To be able to alter consumers' restaurant choice, a change in behaviour needs to be generated. This could, among others, be achieved by the use of cognitive determinants (Ajzen, 1991). However, according to the dual process theory (e.g. Epstein, 1993; Kahneman, 2003), people use both a cognitive (rational) and an affective (emotional) system to form their attitudes and behaviour. Therefore, merely relying on cognitive determinants for predicting behaviour might not be sufficient. As the affective system has shown to act faster and delivers output earlier, the non-cognitive determinants cannot be neglected for predicting behaviour (Shiv & Fedorikhin, 1999). Furthermore, the cognitive system is not always used, which could lead to attitudes or behaviour fully based on non-cognitive determinants such as emotions (e.g. Griffin, Dunwoody & Neuwirth, 1999; Lazarus, 1991; Lerner & Keltner, 2000). Many scholars agree on this as they found that emotions have influence on decision making and behaviour (Graham-Rowe, Jessop & Spark., 2014; Triandis, 1977; Weiss & Beal, 2005), and some even argue

that behaviour is solely determined by affective and automatic processes (e.g. Bamberg & Moser, 2007; Quested, Marsh, Stunell & Parry 2013).

More recent research shows that non-cognitive determinants (habits and emotions) are also important drivers for pro-environmental behaviour. More specific, emotions play an important role in determining food waste behaviour, with research showing that negative emotions experienced by the consumer increase the intention to reduce their food waste (Russell, Young, Unsworth & Robinson, 2017). On the other hand, positive emotions have also shown to influence sustainable behaviour (Corral-Verdugo, 2012) and increase the intention for pro-environmental behaviour (Harth, Leach & Kessler, 2013). Literature on repeated consumption in the restaurant environment shows that emotions can also serve as determinants for long-term consumer behavior, such as repeated restaurant visits (Han, Back & Barrett, 2009). The ability of emotions to increase pro-environmental behaviour, together with their ability to determine long-term consumer behaviour, makes it interesting for anti-food waste restaurants to focus on consumers' emotions in their advertising strategy (Allen, Machleit, Kleine & Notani, 2003; Anderson & Sullivan, 1993; Cronin & Taylor, 1992).

2.3.2 How do emotions work?

A consumer's food choice is often affected by emotions (Desmet & Schifferstein, 2008). If consumers are confronted with food waste, their emotional state could be altered (Lyman, 2012). In general, emotions can be defined as mental states that arise from for them relevant events or thoughts, about something or someone, guided by physiological processes and eventually resulting in behaviour to cope with the emotion (Bagozzi, Gopinath & Nyer, 1999). Moreover, emotions are momentary experiences, which differentiates them from other affective states, such as moods, that last much longer (Zeelenberg, Nelissen, Breugelmans & Pieters, 2008).

Multiple different approaches for studying emotions exist, e.g. the category approach, the cognitive appraisal approach and the dimensional approach. However, as this research is investigating the effect of specific emotions on the consumers decision making process, the specific emotions approach (e.g. feeling-is-for-doing) will be followed to study the specific emotions at stake (Zeelenberg et al., 2008). This approach regards to emotions as motivational processes that are able to trigger certain actions, based on the goals associated with the emotions. It is stated that "The emotional system is the primary motivational system for goal-directed behavior" (p. 21, in Zeelenberg et al., 2008). Meaning that there is a relevant concern for the consumer, which evokes a specific emotion and subsequently triggers behaviour that is in favor of this concern. The food waste issue could be seen as a concern that e.g. evokes an emotion of guilt, which in turn motivates the consumer to reduce their food waste and behave in a pro-environmental manner by choosing for the anti-food waste restaurant. The influence of emotions on the decision-making process relates to the urge people have to regulate their emotions (Baumeister, Vohs, DeWall, & Zhang, 2007), and needs to be studied by focussing on the specific emotions as every emotion serves a specific motivational goal.

The specific emotions that are expected to have a motivational function on the restaurant choice, are guilt and pride. Both emotions are considered as self-conscious emotions, which mainly focus on the self, and are activated through self-regulations and self-evaluations (Lewis, 1993; Tangney, 1999; Tracy & Robins, 2004). A self-conscious emotion is experienced based on how you think about yourself and how you see yourself in relation to others. These emotions are cognitively complex and have shown to play a central role in the motivation and regulation of behaviours (Baumeister, Stillwell & Heatherton, 1994; Tangney & Fischer, 1995). An important feature of self-conscious emotions is their ability of motivating pro-social behaviour. This behaviour could be described as social behaviour that benefits others (other people or society as a whole), but also includes acting conform socially accepted norms and adhering to existing rules. Pro-social behaviour also includes a trade-off, where benefits for others are chosen over personal benefits. Environmentally friendly behaviour, such as making a more sustainable and environmental friendly restaurant choice, is seen as a specific form of pro-social behaviour, also referred to as pro-environmental behaviour (Hopper & Nielsen, 1991; Onwezen, 2014). Therefore, this research expects the emotions guilt and pride to be able to motivate consumers choice for the anti-food waste restaurant.

2.4. Conceptual Model

To answer the main research question and the two sub questions, this research created a conceptual model that shows the expected relationships between the variables studied in this research. The focus of the model lays on the motivational function of the emotions guilt (H1) and anticipated pride (H2) on the choice for the anti-food waste restaurant. However, the expected moderating effect of disgust (H3 and H4), the effects of the restaurant choice (H5), and the emotions guilt (H6) and anticipated pride (H7), on the attitude towards the anti-food waste restaurant, are also incorporated.
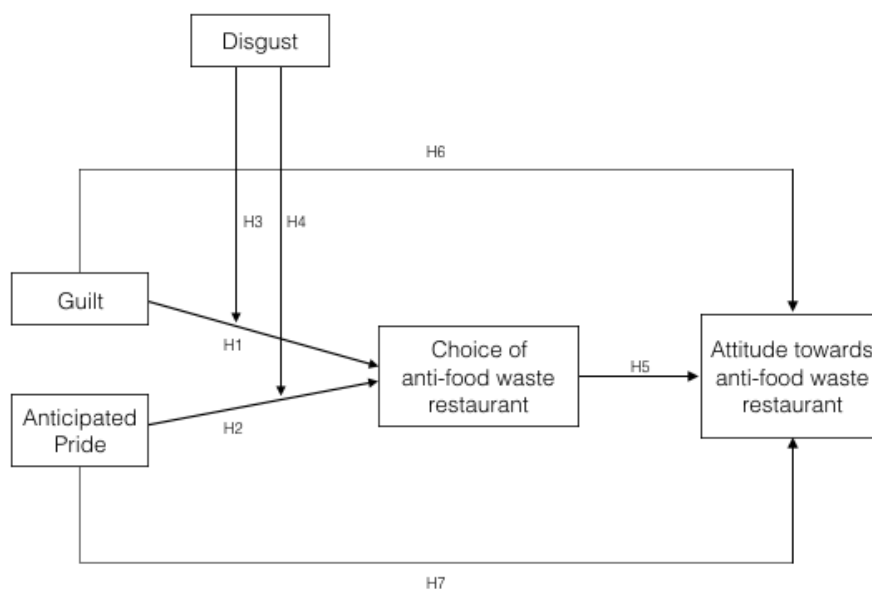

Figure 1. *Conceptual model*

2.5. Guilt and Anticipated pride

Guilt could be described as a negative emotion that is experienced when people feel responsible for a negative outcome that is violating personal or social standards (Kugler & Jones, 1992). A feeling of guilt will arise when is realized that you caused harm to someone else, by your behaviour. This will make you feel responsible for the harm (Lewis, 1971; Tangney & Dearing, 2002). For example, consumers might feel guilty for wasting food as they know that it has bad consequences for the environment. When people experience guilt, they are in a negative emotional state and want to repair the harm that they caused (Smith & Lazarus, 1990).

Pride could be described as a positive emotion that is experienced when people feel responsible for positive outcomes that reach or exceed personal or social standards (Mascolo & Fischer, 1995). This positive emotion goes accompanied by a feeling of achievement and is related to the accomplishment of goals. When people reach their goal, a feeling of pride is experienced (Tracy & Robins, 2007). It is a positive emotion that people desire to experience and maintain. Pride within a food context can also refer to the extent of which consumers are proud of what they consume, such as a special food or a food that contributes to a good cause (Desmet & Schifferstein, 2008). In light of this research, pride will be seen as anticipated pride as the actual feeling of pride will only be experienced after the consumer has reached their goal, i.e. after they have visited the anti-food waste restaurant.

Both the emotions guilt and anticipated pride are expected to be able to motivate consumers choice for an anti-food waste restaurant over a normal restaurant. This expectation derives from previous studies focussing on the link between these two emotions and pro-social and pro-environmental behaviour, because they are considered as self-conscious emotions (Bamberg & Moser, 2007; Bissing-Olson, Fielding & Iyer, 2016; Onwezen, 2014). Moreover, further literature has shown that guilt and anticipated pride are able to increase the perceived consumer effectiveness (i.e. how effective the consumer believes their individual behaviour is for the bigger problem), which subsequently leads to more sustainable consumption choices (Kinnear, Taylor & Ahmed, 1974; Antonetti & Maklan, 2014). Consumers are more likely to behave in a pro-environmental manner when they feel that their behaviour makes a difference (Rice, 2006; Roberts, 1996).

Looking at the aim of this study, the choice for an anti-food waste restaurant can be seen as pro-social behaviour as it benefits others, such as the environment and the society as a whole, next to possible personal benefits (Hopper & Nielsen, 1991; Onwezen, 2014). Both negative and positive self-conscious emotions have shown to stimulate pro-social behaviour. Several studies have shown that guilt motivates pro-social behaviour, to compensate for the negative feeling (e.g. De Hooge, Zeelenberg & Breugelmans, 2007; Eisenberg, 2000; Haidt, 2003; Ketelaar & Au, 2003; Tangney & Dearing, 2002). Also, because guilt is a form of self-blame, accompanied by an unpleasant negative feeling, people are unlikely to continue the harmful behaviour in the future (Wallington, 1973). This shows that the emotion of guilt is able to result in behaviour change. The same accounts for anticipated pride, as an important possible outcome is the pro-social behaviour that is executed as a motivation to reach the

feeling of pride (Gifford, 2002; Michie, 2009; Tracy & Robins, 2007). Moreover, pride also encourage behaviour change as people are more likely to behave pro-environmental when satisfaction and pleasure could be derived (Pelletier, Tuson, Green-Demers, Noels & Beaton, 1998). Since pro-environmental behaviour could be seen as a form of pro-social behaviour, this study expects that the self-conscious emotions guilt and anticipated pride will be able to motivate consumers for engaging in pro-environmental behaviour, and thus for choosing the anti-food waste restaurant over a normal restaurant. The following is hypothesized.

H1. *Guilt will increase the likelihood of choosing an anti-food waste restaurant above a normal restaurant, compared to a situation where no specific emotion is evoked.*

H2. *Anticipated pride will increase the likelihood of choosing an anti-food waste restaurant above a normal restaurant, compared to a situation where no specific emotion is evoked.*

2.6 Disgust

An emotion that is often associated with (food) waste, is disgust (Graham-Rowe, Jessop, Sparks, 2014; Hamilton, Deniss & Baker, 2005; Watson & Meah, 2012). This study defines disgust as a food related emotion, and follows a narrowed and adjusted version of Rozin and Fallon's (1987) definition that describes disgust as a feeling of aversion or dislike that arises at the prospect of, or at the actual intake of, a distasteful or unsafe food object. The concepts distasteful and unsafe are used in the definition as consumers have shown to perceive the consumption of food waste (e.g. leftovers) as both distasteful and unsafe (Aschemann-Witzel et al., 2015). Disgust is considered a basic emotion (Darwin, 1872/1965), that is accompanied by a strong unique facial expression (Ekman & Friesen, 1975). Even though it is mainly aroused by actually seeing, smelling or touching the object, disgust can also be evoked by the imagination of it as it is a pre-cognitive response to these images, smells or touches (Royzman & Sabini, 2001). For example, the thought of consuming foods that have passed the best before date could already make you experience a feeling of disgust, without seeing, smelling or actually tasting the food.

Disgust is expected to negatively influence consumer's choice for the anti-food waste restaurant as consumers experience the thought of the consumption of food waste as disgusting. This negative emotion is expected to have influence on the decision-making process of the consumer, since consumers try to get rid of negative emotions and aim for positive ones (Bagozzi et al., 1999; Zeelenberg et al., 2008). By choosing for a normal restaurant, the consumption of food waste, and therefore the emotion of disgust, can be avoided, since normal restaurants do not use food waste for their dishes. Therefore, it is expected that the likelihood of choosing an anti-food waste restaurant will be lower when a high level of disgust is experienced by the consumer.

Despite the positive effects of both guilt and pride on motivating consumers choice for the anti-food waste restaurant, the negative effect of disgust cannot be ignored. Therefore, the effect of disgust will be taken into account as a moderating effect on the relationship between guilt and restaurant choice, and pride and restaurant choice. When strong emotions are evoked, it can be expected that the consumer will process the information by using mental shortcuts (Griffin et al., 1999; Nabi, 1999). Moreover, disgust reactions have shown to be difficult to adjust (Borg, Bosman, Engelhard, Olatunji, & de Jong, 2016). Therefore, it is expected that when a strong emotion of disgust is experienced by the consumer, the restaurant choice will be determined by the emotion of disgust instead of by the feeling of guilt or pride. More specific, a strong emotion of disgust will lead to the choice for a normal restaurant, since behaviour associated with disgust is avoidance of the disgusting situation or object (Rozin, Haidt & McCauley, 1999), nonetheless the experienced feeling of guilt or pride. Therefore, the following is hypothesized.

> H3. *The stronger (less strong) the emotion of disgust is towards the consumption of food waste, the lower (higher) the likelihood of guilt motivating consumers choice for an anti-food waste restaurant.*

> H4. *The stronger (less strong) the emotion of disgust is towards the consumption of food waste, the lower (higher) the likelihood of pride motivating consumers choice for an anti-food waste restaurant.*

2.7 Attitude

Attitude is a concept widely studied in combination with consumer behaviour. Disagreement exist on the role of attitude as (early) scholars argue that attitude is able to predict behaviour (Allport, 1935; Campbell, 1950; Green, 1954)), which is in line with the popular attitude-behaviour theory (i.e. Theory of Planned Behaviour) from Ajzen (1985), while others have shown that attitude (change) can follow from (prior) behaviour (e.g. Festinger & Carlsmith, 1959; Kiesler, Nisbett, & Zanna, 1969; Norman & Smith, 1995). Due to this disagreement, also numerous different definitions of attitude exist. This current research follows the line of research that expects prior behaviour (i.e. choice for the anti-food waste restaurant) to be able to influence consumer's attitude. Accordingly, this research defines attitude as follows; "… simply the categorization of an object along an evaluative dimension. In other words, an attitude is the evaluative feeling that is evoked by a given object" (Fazio & Zanna, 1981, p. 162). Thus, the attitude towards an anti-food waste restaurant is seen as the positive or negative evaluation of the anti-food waste restaurant.

Depending on the consumer's restaurant choice, the evaluation of the anti-food waste restaurant could be different. The choice for the anti-food waste restaurant is expected to have a positive influence on the attitude towards the anti-food waste restaurant as this allows the consumer to actually experience

the restaurant. Therefore, possible negative expectations (e.g. due to disgust towards the consumption of food waste) could be counteracted, since consumer attitudes are partially based on the actual experience compared to their expectations (Bolton & Drew, 1991; Oliver, 1980). This would lead to a positive disconfirmation as the actual experience was better than expected. The positive effect of the choice for the anti-food waste restaurant on the consumer's attitude, is expected irrespective of what emotion (guilt or anticipated pride) is used to motivate the consumer's restaurant choice. Additionally, contrasting effects are expected when consumers choose for the normal restaurant and thus do not have the experience at the anti-food waste restaurant. This choice is expected to have a negative influence on the attitude towards the anti-food waste restaurant. Thus, the following is hypothesized.

H5. *The choice for an anti-food waste restaurant will positively influence the attitude towards the anti-food waste restaurant, whereas the choice for a normal restaurant will negatively influence the attitude towards an anti-food waste restaurant.*

The beliefs and expectations that are used for evaluating an object (i.e. forming an attitude), are demonstrated to be subjected to both cognition and affect (emotions) (e.g. Allen, Machleit, Kleine & Notani, 2003; Ajzen, 2001; Eagly & Chaiken, 1993). Therefore, it can be assumed that the attitude of consumers towards anti-food waste restaurants is also partially determined by emotions, and thus might also be influenced by the use of the specific emotions guilt and anticipated pride. Since guilt is considered a negative emotion, which goes accompanied by avoidance behaviour, and anticipated pride is a positive emotion, that people want to experience and maintain (Tracy & Robins, 2007), different effects from guilt and anticipated pride on the consumer's attitude towards anti-food waste restaurants are expected. It could be argued that consumers that are motivated by a feeling of pride for choosing an anti-food waste restaurant, will form a more positive attitude towards the anti-food waste restaurant than consumers that are motivated by a feeling of guilt. Consumers motivated by guilt will be more likely to have negative associations by the anti-food waste restaurant, which is expected to result in a negative effect on the attitude towards the anti-food waste restaurant. Therefore, the following is hypothesized.

H6a. *The consumer's attitude towards anti-food waste restaurants will be more positive when motivated by a feeling of pride, then when motivated by a feeling of guilt*

H6b. *The consumer's attitude towards anti-food waste restaurants will be more positive when motivated by a feeling of pride, then when not motivated at all.*

H7b. *The consumer's attitude towards anti-food waste restaurants will be more negative when motivated by a feeling of guilt, then when not motivated at all.*

The outcomes of these last hypotheses (H6a, H6b and H7) are of practical importance as a satisfied customer, with a positive attitude towards the product or brand, will lead to customer retention, meaning that customers will stay at the same company for their next purchase (Mittal & Kamakura, 2001; Oliver, 2014). This marketing concept has also shown to be true for the hospitality sector, where customer satisfaction and positive attitudes result in the intention of revisiting a restaurant (Han & Back, 2007; Han, Back & Barrett, 2009; Han & Kim, 2010; Phillips & Baumgartner, 2002). Moreover, attitudes formed based on prior behaviour (i.e. the consumers experience at the anti-food waste restaurant) have shown to be more consistent predictors for future behaviour than attitudes formed by other means (Regan & Fazio, 1977). The consumers restaurant revisits will contribute to the success of the anti-food waste restaurant as it brings more financial security and as it makes the restaurant become more renown. This is important nowadays as restaurants are competing with each other in crowded and undifferentiated markets (Morgan, Rapp, Glenn, Richey & Ellinger, 2014). The success of the anti-food waste restaurant in this current competitive restaurant industry is necessary to be able to help reducing the amount of food waste at the consumption level.

3. Study 1

The main aim of study 1 was to test if the emotions guilt and anticipated pride were able to motivate consumer's restaurant choice in the direction of an anti-food waste restaurant, and to influence consumer's attitude towards the anti-food waste restaurant. This was tested by use of an experiment. A manipulation was used to evoke the emotions guilt and anticipated pride. This manipulation consisted of different advertisements designed to evoke either a feeling of guilt or a feeling of anticipated pride, including a neutral advertisement as a control condition.

3.1 Methods study 1

3.1.1 Participants and design

For study 1, an online experiment was conducted with a 6 (guilt 1 vs. guilt 2 vs. pride 1 vs. pride 2 vs. control 1 vs. control 2) factorial between-subjects design, with restaurant choice and attitude towards the anti-food waste restaurant as dependent variables. The respondents were collected via a convenience sampling method, where they voluntarily select to be part of the sample. There was no reward for participating in the experiment. The respondents were approached mainly by the use of the researcher's own network. The experiment was distributed through email, social media channels (e.g. Facebook) and online survey platforms. In total, 194 respondents joined the experiment. However, only 180 respondents fully completed it. The final sample consisted of 32% men (N = 58) and 68% women (N = 122), with a total average age of 29,9 years old (SD = 11,4). Table 1 gives an overview of the demographic information of the sample used.

Table 1. *Demographic information respondents study 1*

		Age		Gender (%)	
Condition	***n***	***M***	***SD***	**Male**	**Female**
Guilt 1	*31*	*28,2*	*1,6*	22,6	77,4
Guilt 2	32	32,3	2,0	40,6	59,4
Anticipated pride 1	31	30,9	2,3	29,0	71,0
Anticipated pride 2	31	31,9	2,8	29,0	71,0
Control 1	22	27,9	1,4	40,9	59,1
Control 2	33	27,9	1,6	33,3	66,7

3.1.2 Manipulation

This study tried to evoke the emotions guilt and anticipated pride by the use of advertisements. The design of an advertisement can have different effects on the receiver (e.g. Cutler, Javalgi & Krishna, 1992; Lynch & Schuler, 1994; George, Antigone & Kyrousi, 2015). Therefore, two different designs were used to test which design was better in evoking the emotions. For every design, three types of advertisements were present, one for evoking a feeling of guilt, one for evoking a feeling of anticipated pride and one neutral advertisement as a control condition. This resulted in a total of six advertisements.

To make a distinction between a normal restaurant and the anti-food waste restaurant, two fictive restaurants were used in the experiment and in the advertisements (Soupy = the anti-food waste restaurant, The Soup Kitchen = the normal restaurant). They were both introduced in the beginning of the experiment. See Appendix 1 for the complete experiment and the advertisements.

Design

The first three advertisements were designed very simplistic and consisted of an image of vegetables and text. There has been made use of a simple and calm image to put the focus on the text (Lewis, Whitler & Hoegg, 2013). However, the image did comply with the text as the text referred to the (good looking) vegetables that were visible. The second three advertisements were designed to be more attractive to the respondent and included, next to an image and text, also a spokesperson (Priester & Petty, 2003). The advertisement showed a woman eating soup, who was telling a message to the respondent (a different message in every condition). These advertisements were more direct as the message was directly focussed on the receiver and the words 'guilt' and 'pride' were used explicitly.

Guilt

The emotion guilt is objected towards the food waste problem. To evoke a feeling of guilt by the respondents, both guilt advertisements (guilt 1 and guilt 2) focussed on the negative consequences of choosing a normal restaurant. The choice for a normal restaurant would include violating social (and possibly also personal) standards, since they do not help reducing the food waste issue but contribute to it by wasting food. Therefore, people might experience a feeling of guilt when this violation is emphasized in the advertisement, by focussing on the negative consequences. See Table 2 for the complete text used in the advertisements.

Table 2. *Text used in guilt advertisements*

Advertisement	Text
Guilt 1	"All this food is thrown away by normal restaurants"
Guilt 2	"I always feel so guilty for all the food that gets wasted in normal restaurants. But at Soupy I don't have to feel guilty anymore!"

Pride

The emotion anticipated pride is objected towards visiting an anti-food waste restaurant in the (near) future. Both anticipated pride advertisements (pride 1 and pride 2) focussed on the positive outcomes of visiting an anti-food waste restaurant, since this shows the consumer that they can actually contribute to solving the food waste problem, by visiting such a restaurant. The consumer's belief of their contribution to reducing the food waste problem, will evoke a feeling of achievement and anticipated pride. See Table 3 for the complete text used in the advertisements.

Table 3. *Text used in anticipated pride advertisements*

Advertisement	Text
Anticipated pride 1	"All this food can be saved by eating with us"
Anticipated pride 2	"I'm always so proud of myself when I go out for dinner at Soupy, I'm really happy that I can help fighting food waste!"

Neutral

The two neutral advertisements (neutral 1 and neutral 2) only showed what an anti-food waste restaurant is, no specific emotions were targeted. See Table 4 for the complete text used in the advertisements.

Table 4. *Text used in control advertisements*

Advertisement	Text
Control 1	"The food we cook with in our restaurant"
Control 2	"I'm really happy with the new anti-food waste restaurant Soupy, they serve delicious food!"

3.1.3 Procedure

Before the respondents could start with the experiment they first had to agree on participating in the research. The first page provided the respondent with information on their rights as a respondent and showed them the estimated duration of experiment. After they have clicked on "agree", the experiment started. First, a short introduction into the research was given, including the definition of both an anti-food waste restaurant and a normal restaurant together with the introduction of Soupy and The Soup Kitchen. After the introduction, the respondents were exposed to one of the six advertisements, depending on what condition they were in. Subsequently, the respondent's level of guilt and their level of anticipated pride were measured. Moreover, the respondent's restaurant choice and their attitude towards the anti-food waste restaurant was measured. Finally, the respondents were asked about their demographic information (age and gender), had the option to give any comments about the research and were thanked warmly for their participation.

3.1.4 Variables

Guilt & Anticipated pride

The levels of guilt and anticipated pride were both measured by the use of a 5-item scale. The measures were based on items previously used by Onwezen (2014), combined with two extra items based on synonyms for either guilt or pride. The respondents had to indicate how much they agreed on the five items measuring guilt (Table 5) and the five items measuring anticipated pride (Table 6). All items were

measured on 7-point Likert agreement scales with endpoints 1 = 'strongly disagree' and 7 = 'strongly agree'.

The five items measuring guilt were taken together to create one new variable; *Guilt*. The requirements for a factor analysis were met, KMO is above .5 (= .818). The factor analysis showed that only one component can be extracted (Eigenvalue= 3.546), which explains 70,9% of the variance. The internal consistency of the guilt scale was α= 0.893 and could be increased by deleting item 4 ("…feel like I am doing the wrong thing") to α = .903. However, this was not necessary as Cronbach's alfa of .893 is already indicated as good to excellent (Bland & Altman, 1997).

Table 5. *Items measuring Guilt*

Guilt items	Factor loadings
"Visiting a normal restaurant would make me…"	
1. …feel guilty	.879
2. …feel remorseful	.870
3. …feel responsible	.869
4. …feel like I am doing the wrong thing	.728
5. …have a bad conscience	.856

The five items measuring anticipated pride were taken together to create one new variable: *Anticipated pride*. The requirements for a factor analysis were met, KMO= .681. The factor analysis showed that two factors could be extracted; component 1 has an eigenvalue of 2,453, explaining 49% of the variance and component 2 has an eigenvalue of 1.025, explaining 20,5 % of the variance. However, since the inflexion point in the scree plot showed that only one factor could be extracted, and no meaningful explanation could be given for combining the items belonging to the second component ("… I would feel proud" and "… I would feel superior"), the researcher decided to combine all items and form one component. The internal consistency of the scale was α = .722, but could be increased to α = .733 by deleting the third item ("…I would feel superior"). Deleting this item was not necessary as a Cronbach's alfa of .722 is already indicated as satisfactory (Bland & Altman, 1997).

Table 6. *Items measuring Anticipated pride*

Anticipated pride items	Factor loadings
"Visiting the anti-food waste restaurant Soupy…"	
1. …would make me feel proud	.651
2. …would make me feel worthy	.752
3. …would make me feel superior	.526
4. …would make me feel good about myself	.749
5. …is something I would like to tell other people about	.816

Restaurant choice

The respondent's (intended) choice between visiting a normal restaurant and visiting an anti-food waste restaurant was measured in two different ways. First of all, the respondent's likelihood of choosing for the anti-food waste restaurant, and their likelihood of choosing for the normal restaurant were measured. A situation sketch was given to the respondents before they had to indicate their likelihood; "Imagine that it is Saturday night and you want to go out for dinner with your friends. There is a table available for you at Soupy (the anti-food waste restaurant) / The Soup Kitchen (the normal restaurant)". In both situations, the respondents were asked how likely they were to have dinner at the restaurant mentioned in the situation sketch. This was measured on a 7-point Likert likeability scale, with endpoints 1 = 'extremely unlikely' and 7 = 'extremely likely'.

Secondly, the respondent's restaurant choice was measured by one question with dichotomous answer possibilities; 0 = The Soup Kitchen (the normal restaurant), 1 = Soupy (the anti-food waste restaurant). For this question, a similar situation sketch was used; "If both Soupy and the Soup Kitchen have a table available for you, which restaurant would you choose? Note. the two restaurants have similar atmosphere, price-range, location and interior".

Attitude towards the anti-food waste restaurant

The attitude towards the anti-food waste restaurant was measured by use of a 6-item semantic differential scale, based on the four bipolar adjective pairs (i.e. good-bad, favourable-unfavourable, likeable-dislikeable, positive-negative) from Holbrook & Batra (1987), combined with two extra pairs (i.e. pleasant-unpleasant, satisfied-dissatisfied) from Halstead (1989). All items were measured using a 7-point bipolar rating scale. The requirements for a factor analysis were met, KMO= .884. The factor analysis showed that one component can be extracted (Eigenvalue = 4.337), which explained 72% of the variance. The internal consistency of the attitude scale was indicated as excellent (α= .923) (Bland & Altman, 1997) and cannot be increased by deleting one of the items. The high percentage of explained variance and high Cronbach's alpha can be explained since existing scales for measuring attitude were used (Holbrook & Batra, 1987; Halstead, 1989).

3.2 Results study 1

Before any statistical analyses could be done, all variables needed for the analysis (*Guilt*, *Anticipated pride*, *Restaurant choice*, *Likelihood of visiting the anti-food waste restaurant*, *Likelihood of choosing a normal restaurant*, *Attitude towards the anti-food waste restaurant*, *Age* and *Gender*) were checked for outliers and missing values. The frequencies tables of the variables did not show any missing values, and the scatterplot did not show any data points that deviated markedly from the other observations. The absence of missing values and outliers could be explained, since the design of the experiment did not leave much room for error; all questions had to be answered on a scale or were set to minimum and

maximum answer possibilities because values outside these boundaries that did not have any meaning. This was done to prevent the dataset from any errors and meaningless data.

3.2.1 Manipulation check

A manipulation check was executed to check if the manipulation of the stimulus material (i.e. the advertisements) was successful. This was done through a one-way ANOVA, to compare the effect of the different advertisements on the level of guilt and the level of anticipated pride experienced by the respondent. The analysis of variance shows that there is no statistical significant difference in *Guilt* between the respondents that saw different advertisements, $F (5, 174) = 1,514$, $p = .188$. Also, there is no significant difference found between *Anticipated pride,* for the different advertisements, $F (5, 174) = 1,469$, $p = .202$.

Furthermore, a paired sample t-test was conducted to compare the level of guilt and the level of anticipated pride per condition. For all six conditions, there were significant differences found in the scores for the *Guilt* and *Anticipated pride*. However, the score on *Anticipated pride* showed to be higher than the mean score on *Guilt* in all six conditions (Table 7, Figure 2). Meaning that respondents experienced more anticipated pride than guilt, regardless the condition they were in. Therefore, it could be concluded that the manipulation only worked for the conditions anticipated pride 1 and anticipated pride 2, as in these conditions the mean score on *Anticipated pride* was intended to be higher than the mean score on *Guilt*.

Table 7. *Mean scores on Guilt and Anticipated pride per condition*

Condition	Mean score on *Guilt*	Mean score on *Anticipated pride*	*p*
Guilt 1	3.68	5.15	$< .001$
Guilt 2	3.57	4.91	$< .001$
Anticipated pride 1	3.04	4.64	$< .001$
Anticipated pride 2	3.06	4.71	$< .001$
Neutral 1	3.06	4.75	$< .001$
Neutral 2	3.16	4.75	$< .001$
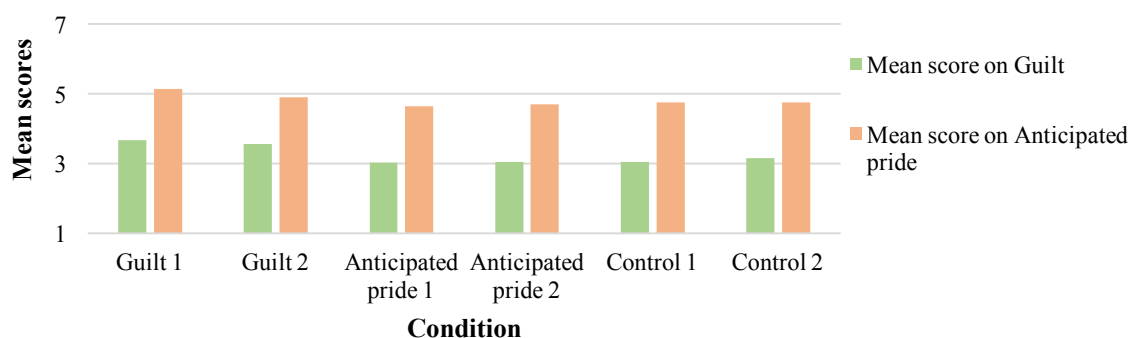
Figure 2. *Mean scores on Guilt and Anticipated pride per condition*

3.2.2 Hypothesis testing

To test the hypotheses stated in the theoretical framework, several analyses are conducted. The results of these analyses are shown in the following sections. Both control variables (i.e. age and gender) were included in all the analyses, to test their possible influence on the outcomes.

Restaurant choice

To test if the manipulation had any effect on the respondent's restaurant choice, both a chi-square test (with *Restaurant choice* as dependent variable) and two one-way ANOVA's (with the *Likelihood of choosing the anti-food waste restaurant* and the *Likelihood of choosing the normal restaurant* as dependent variables) were done. The results of the chi-square test showed that 6 cells (50%) have expected count less than 5, while the minimum expected count was 1.96. This means that one of the assumptions for the chi-square test was violated and the results of the Likelihood ratio were interpreted instead of the results from the Pearson Chi-square (Özdemir & Eyduran, 2005). This showed that there was no significant difference in *Restaurant choice* between the six conditions, $G = 4.039$, $p = 0.544$. Similarly, the one-way ANOVA's showed no significant differences between the six different conditions and the *Likelihood of choosing the anti-food waste restaurant* ($F_{(5,174)} = 1.384$, $p = 0.233$) and the *Likelihood of choosing the normal restaurant* ($F_{(5,174)} = 0.230$, $p = 0.949$).

Hypothesis 1 and 2 stated that both *Guilt* and *Anticipated pride* will increase the likelihood of choosing an anti-food waste restaurant over a normal restaurant, compared to a situation where no specific emotion is evoked. Therefore, it was tested if *Guilt* and *Anticipated pride* had any effect on the respondent's restaurant choice. This was tested in two different ways. First, by comparing the levels of *Guilt* and *Anticipated pride* with the dependent variable *Restaurant choice* by use of a Binary Logistic Regression. Second, by comparing the levels of *Guilt* and *Anticipated pride* with the dependent variables *Likelihood of choosing for an anti-food waste restaurant* and the *Likelihood of choosing the normal restaurant*, by use of a Multiple Linear Regression.

The results of the Binary Logistic Regression showed that the model explained 11,5% (Nagelkerke R^2) of the variance in restaurant choice and correctly classified 91,1% of the cases. More important, *Guilt* showed to be a marginal significant predictor for the respondent's restaurant choice, $b = 0.454$, $p = .081$. Meaning that when *Guilt* increased with one unit, the *Restaurant choice* also increased (The Soup Kitchen = 0, Soupy = 1). Thus, when more guilt is experienced, respondents will be more likely to choose for Soupy, the anti-food waste restaurant. Therefore, hypothesis 1 could be accepted, however hypothesis 2 has to be rejected.

The results of the Multiple Linear Regression showed that a significant regression equation was found for the effects on the *Likelihood of choosing the anti-food waste restaurant*, $R^2 = 0,227$, $F_{(4,175)} = 12,836$, $p < .001$. The results show that only *Anticipated pride* significantly predicted the *Likelihood for choosing the anti-food waste restaurant*, $b = 0,545$, $t_{(180)} = 5,116$, $p < .001$. Meaning that when *Anticipated pride* increased, the *Likelihood of choosing the anti-food waste restaurant* also increased.

There was no significant effect found from *Guilt* on the *Likelihood for choosing the anti-food waste restaurant*. Furthermore, there was a significant regression equation found for the effects on the *Likelihood of choosing a normal restaurant*, $R^2 = 0,087$, $F(4,175) = 4,147$, $p = .003$. However, both *Guilt* and *Anticipated pride* have not shown to have any significant effect on the *Likelihood of choosing a normal restaurant*. This is in line with the expectations as the two emotions were only expected to influence the choice for the anti-food waste restaurant. All in all, contrary to the results of the Binary Logistic Regression, hypothesis 1 has to be rejected as *Guilt* has not shown to increase the *Likelihood of visiting an anti-food waste restaurant*, and hypothesis 2 could be accepted as *Anticipated pride* has shown to increase the *Likelihood of choosing the anti-food waste restaurant*.

Attitude

Hypothesis 5 stated that the choice for an anti-food waste restaurant would positively influence the *Attitude towards the anti-food waste restaurant*, whereas the choice for a normal restaurant would negatively influence the *Attitude towards an anti-food waste restaurant*. This was tested by an independent t-test. The results showed that the respondents who would choose the anti-food waste restaurant to go out for dinner, had a statistically significant more positive attitude towards the anti-food waste restaurant (M = 5,898, SD = 0,990) than the respondents who would rather choose a normal restaurant to go out for dinner (M = 4,708, SD = 1,001), $t(178) = 4,585$, $p < .001$ (See Figure 3). Therefore, hypothesis 5 could be accepted. However, it must be noted that nothing can be concluded about the causality of this relationship as both *Restaurant choice* and *Attitude towards the anti-food waste restaurant* were measured at the same time.
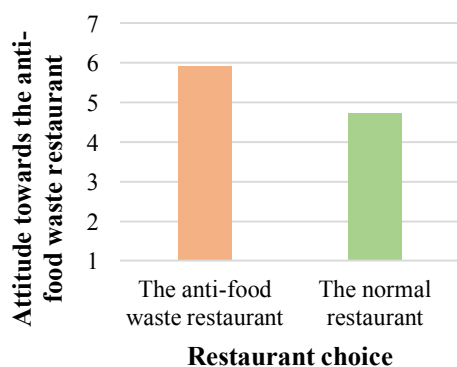
Figure 3. *Attitude towards the anti-food waste restaurant*

Hypothesis 6 and 7 tested the effect of *Guilt* and *Anticipated pride* on the *Attitude towards the anti-food waste restaurant*. This was tested by use of a Multiple Linear Regression analysis. The model has shown to be significant, $F(4,175) = 6,137$, $p < .001$. Therefore, the model could be used to predict the consumer's attitude. However, the prediction was only moderate as only 12% of the differences in attitude could be predicted, $R^2 = 0,123$. *Anticipated pride* has shown to be able to significantly predict

the attitude towards the anti-food waste restaurant, $b = 0,325$, $t(180) = 3,312$, $p = .001$, whereas *Guilt* did not seem to have any significant effect on the respondent's attitude. Thus, for every extra point that respondents scored on *Anticipated pride*, their *Attitude towards the anti-food waste restaurant* increased by 0,325. All in all, these results indicate that hypothesis 6a and 6b were supported by the data and thus could be accepted, however hypothesis 7 was not supported by the data and thus must be rejected.

Other outcomes

Overall the majority of the respondents chose to visit the anti-food waste restaurant (91,1%) for dinner, compared to the respondents that choose to visit the normal restaurant (8,89%). Moreover, the average attitude of the respondents towards the anti-food waste restaurant was very high, $M = 5,80$, $SD = 1,05$ (on a scale ranging from 1 to 7). Furthermore, the control variables *Age* and *Gender* showed to have significant effects on the respondents' restaurant choice and their attitude towards the anti-food waste restaurant. First of all, age was a significant predictor for the *Likelihood of choosing the anti-food waste restaurant* ($b = 0,029$, $t(180) = 4,006$, $p < .001$). Moreover, *Age* showed to have a marginally significant effect on *Restaurant choice* ($b = 0,074$, $p = .084$). Meaning that the older respondents were, the more likely they were to choose for the anti-food waste restaurant. Secondly, *Gender* showed to be a significant predictor for *Attitude towards the anti-food waste restaurant*, $b = 0,361$, $t(180) = 2,220$, $p = .028$ (0 = male, 1= female). Meaning that females had a more positive attitude towards the anti-food waste restaurant than males.

3.3 Discussion study 1

The main aim of study 1 was to test if the emotions guilt and anticipated pride are able to motivate consumer's restaurant choice (in the direction of an anti-food waste restaurant) and to influence their attitude towards the anti-food waste restaurant. This study found evidence for the expectation that the emotions guilt and pride are able to motivate consumer's restaurant choice, in the direction of the anti-food waste restaurant. The emotion guilt was especially able to motivate the choice for the anti-food waste restaurant in a situation where the consumer solely has the option between the anti-food waste restaurant or a normal restaurant. The emotion anticipated pride was able to positively influence consumer's intention of visiting the anti-food waste restaurant. Furthermore, there was evidence found for the positive effect of the emotion anticipated pride on the consumer's attitude towards the anti-food waste restaurant. The attitude was also more positive when consumers were more likely to visit an anti-food waste restaurant then a normal restaurant. However, the advertisements that were used to evoke feelings of guilt and anticipated pride, did not have enough power to increase the consumer's guilt feeling towards the food waste problem, or their feeling of anticipated pride towards visiting the anti-food waste restaurant. Therefore, the outcomes of this study were based on the basic levels of guilt and anticipated pride the consumer already experienced.

A second study was conducted to overcome some of the weaknesses of study 1 and to enlarge the scope of the research by taking into account the level of disgust consumers experience towards the consumption of food waste. The setup of study 2 was similar to the first study and used the same questions where possible, to improve the reliability of the study by measuring the same thing at different moments in time with different respondents (Carmines & Zeller, 1979). The method for evoking the emotions guilt and anticipated pride was different in study 2, since the advertisements in study 1 were not successful in evoking the emotions. This could be explained by the lack of expertise in designing emotion evoking advertisements. However, as this is not the aim of this research it is not seen as problematic. Study 2 used a different emotion evoking method, which has shown to be effective in previous emotion research. Furthermore, different measures for the emotions were used, since the measures in study 1 have shown to be steering in the direction of anticipated pride. Additionally, the level of disgust consumers experience towards the consumption of food waste was taken into account as this shows to be present by many consumers (Graham-Rowe, Jessop, Sparks, 2014; Hamilton et al., 2005).

4. Study 2

The main aim of study 2 was similar to the aim of study 1; testing if the emotions guilt and anticipated pride are able to motivate consumer's restaurant choice in the direction of an anti-food waste restaurant, and to test their influence the consumer's attitude towards the anti-food waste restaurant. Additionally, this second study aimed to enlarge the scope of the first study by testing if the feeling of disgust consumers experience towards the consumption of food waste, has a moderating effect on the expected relationship between the two emotions and the consumer's restaurant choice. Similar to study 1, an experiment was used to test these expectations. The manipulation consisted of a situation description that encouraged the respondents to recall either a feeling of guilt, a feeling of pride or no specific emotion to evoke these specific emotions.

4.1 Methods study 2

4.1.1 Participants and design

Similar to study 1, an online experiment was conducted. This experiment had a 3 (guilt vs. anticipated pride vs. control) factorial between-subjects design by a continuous variable (disgust), with restaurant choice and attitude towards the anti-food waste restaurant as dependent variables (see Appendix 2 for the complete experiment). The participants were collected via a convenience sampling method, where participants voluntarily select to be part of the sample. They did not receive any reward for participating in the experiment. To avoid reaching the same respondents as participated in the first study, the researcher used different channels to approach the respondents. The respondents were partly approached through online fora about food waste and the restaurant industry, and partly by handing out flyers (containing a QR-code leading directly to the online experiment) on the campus of Wageningen University. In total, 154 respondents joined the experiment, of which 150 respondents fully completed all the questions. The final sample consisted of 33% man and 67% women, with a total average age of 26,4 years old (SD= 8,6). The respondents were randomly assigned to one of the three conditions. Table 8 gives an overview of the demographic information of the sample used per condition.

Table 8. *Demographic information respondents study 2*

		Age		Gender (%)	
Condition	*n*	*M*	*SD*	**Male**	**Female**
Guilt	44	25,7	1,2	40,9	59,1
Pride	51	27,5	1,3	29,4	70,6
Control	55	25,9	1,3	29,1	70,9

4.1.2 Manipulation

A different manipulation is used in study 2, then in study 1, to evoke the emotions guilt and anticipated pride. An emotion-induced manipulation is used, which asks the respondents to recall or imagine a

situation in which they experience(d) guilt or anticipated pride related to food waste. Previously, this type of manipulation has shown to be able to evoke specific emotions (i.e. guilt and shame) (De Hooge, Zeelenberg & Breugelmans, 2007; Ketelaar & Au, 2003). The manipulation consisted of a short text and a question where the respondents was asked to describe the specific situation. The short text was used to introduce the question and the emotion used in that question. The manipulation for this research consisted of three different conditions; guilt, anticipated pride and a neutral condition.

Guilt

The respondents in the guilt condition were exposed to a text about the negative consequences of food waste, focussing on the consumer as the largest contributor to the problem (See Box 1). This text was preceding the question where the respondents were asked to remember, or imagine, and describe a situation that made them feel guilty about their own behaviour related to food waste. Respondents mentioned, for example, situations in which they had to throw away leftover food because of bad planning, cooking too much food for dinner, or not being able to cook all the food from the fridge before the 'best before date'.

Box 1. *Text in guilt condition study 2*

The negative consequences of Food Waste

Most of the food waste is produced by **the consumer**. However, the negative consequences of food waste are often **not directly visible** for the consumer.

The food that consumers throw away in their garbage bin does not disappear, but ends up in **landfill**. The large amount of methane that landfills produce makes food waste **the third largest producer of greenhouse gas emissions**, after the USA and China, which causes global warming.

Moreover, the **wastage of natural resources** during the production process of food is also invisible for the consumer. However, resulting in a large impact on the environment. The same accounts for the **pollution of fresh water** as a result of using pesticides during food production.

As the consumer is the largest contributor to food waste, it is important to **reconsider our own behaviour related to buying, preparing and throwing away food**, given the impact on the world we live in.

Anticipated Pride

In the anticipated pride condition, the respondents were exposed to a text about how consumers can help reducing the food waste problem (See Box 2). This text was preceding the question where they were asked to remember, or imagine, and describe a situation that made them feel proud about their own behaviour related to reducing food waste. Examples of respondent's answers were; situations in

which they bought suboptimal foods at the supermarket, saved leftover food for the next day to eat as lunch, or planned their groceries accurately to avoid throwing away food.

Box 2. *Text in Anticipated pride condition study 2*

Consumers can help reducing food waste

As consumers play such a large role in the food waste issue, it is important that they help reducing the amount of food that is thrown away.

Within the household consumers are able to reduce their food waste in many possible ways, such as; making use of **leftovers**, **meal planning**, better **storage, preservation** and judging the quality of the food yourself, instead of following **best before dates**.

Neutral

In the neutral condition, no specific emotion had to be evoked. Therefore, a neutral manipulation was used. This manipulation asked the respondents to give a description of a normal weekday and their eating behaviour during such a day. This question was only shortly introduced, see Box 3 for the complete question. Almost all respondents answered this question by giving an (extensive) overview of their daily routine including what they ate at what moment of the day.

Box 3. *Question in neutral condition study 2*

Food waste in your daily life

The amount of food consumers waste can be related to their daily habits and routine. Depending on your daily activities you can be throwing away more or less food.

Therefore, we would like you to give a description of what a normal weekday for you looks like. Most important, try to mention what you eat on a day like this.

4.1.3 Procedure

Similar to the experiment in study 1, the respondents had to agree on participating in the research before they could start. Again, after they had read the first page with practical information they had to click on "agree" to the experiment. First, a short introduction into the research was given, including an introduction intro the food waste problem followed by an explanation of a possible solution to this problem; the anti-food waste restaurant. Just as in study 1, the difference between a normal restaurant and an anti-food waste restaurant was explained, however no fictive restaurants were used. The introduction was followed by a question measuring the level of disgust respondents experience towards the consumption of food waste. Next, the respondents were exposed to one of the three emotion-inducing manipulation questions, depending on what condition they were in. Subsequently, the

respondent's level of guilt and their level of anticipated pride were measured. Furthermore, the respondent's restaurant choice and their attitude towards the anti-food waste restaurant were measured. Finally, the respondents were asked about their demographic information (age and gender), had the option to give comments about the research and were thanked warmly for their participation.

4.1.4 Variables

Guilt & Anticipated pride

Measuring the emotions guilt and anticipated pride was done differently than in study 1. The respondents were asked how they feel about the food waste problem (measuring guilt towards the food waste problem) and how they would feel about visiting an anti-food waste restaurant (measuring anticipated pride towards visiting an anti-food waste restaurant) (see Table 9). To avoid the steering character of the scales used for measuring *Guilt* and *Anticipated pride* in study 1, the second study used a selection of ten, both positive and negative, basic emotions including the items 'guilty' and 'proud', see Table 10 (Shaver, Schwartz, Kirson & O'connor, 1987; Storm & Storm, 1987). All ten items were used in both the question for measuring *Guilt* and the question for measuring *Anticipated pride*. The respondents had to indicate how much they agree on all ten items, all items were measured on 7-point Likert agreement scales with endpoints 1 = 'strongly disagree' and 7 = 'strongly agree'. The results on the item 'guilty' for the guilt question were used to indicate the respondents level of *Guilt* towards the food waste problem, and the results on the item 'proud' for the anticipated pride question were used to indicate the respondents level of *Anticipated pride* towards visiting an anti-food waste restaurant.

Table 9. *Questions measuring Guilt and Anticipated pride in study 2*

Emotion	Question
Guilt	"Now you are aware of the food waste problem, please indicate **how you feel about the food waste problem**. It makes me feel ..."
Anticipated pride	"Now you are aware of a possible solution for the food waste problem, the anti-food-waste restaurant, please indicate **how you feel about visiting an anti-food waste restaurant.** It would make me feel ..."

Table 10. *Items measuring Guilt and Anticipated pride in study 2*

	Items
Positive	Hopeful, Surprised, Proud, Enthusiastic, Happy
Negative	Afraid, Guilty, Ashamed, Angry, Sad

Disgust

The variable disgust was measured by asking the respondents "How do you feel towards the consumption of food waste?". The respondents were asked to indicate, for six items, how much they agreed on every item. Three of the six items (disgusting, gross and dirty) were used to measure the amount of disgust the respondents have towards the consumption of food waste (Argo, Dahl & Morales, 2006). The other three items (delicious, tasty and enjoyable) represent the opposite of disgust, and were added to create a neutral scale, which prevented for response bias. The items were measured on a 7-point Likert agreement scale, with endpoints 1 = 'strongly disagree' and 7 = 'strongly agree'. The disgust variable was measured before the manipulation took place, to avoid any influence from the manipulation on the amount of disgust the respondents experienced.

The three items measuring disgust could be taken together to form the new variable *Disgust*. The requirements for a factor analysis were met, KMO is above .5 (= .75) and the results showed that only one component could be extracted (Eigenvalue= 2.51), which explained 84% of the variance. The internal consistency of the disgust scale was very high (α= .90) and could not be increased by deleting any of the items.

Restaurant choice

The respondents' restaurant choice between visiting a normal restaurant and visiting an anti-food waste restaurant was measured in the same way as in study 1. Again, their choice was measured in two different ways. First by asking about their *Likelihood of choosing for the anti-food waste restaurant* and their *Likelihood of choosing for the normal restaurant*. These questions needed to be answered on a 7-point likeability scale, with endpoints 1 = 'extremely unlikely' and 7 = 'extremely likely'. Secondly, their *Restaurant choice* was measured by asking which restaurant they would choose to have dinner at. This was a dichotomous question that could only be answered by either; 0 = normal restaurant and 1= the anti-food waste restaurant. As study 2 did not use a fictive restaurant, the terms normal restaurant and anti-food waste restaurant were used.

Attitude towards the anti-food waste restaurant

The attitude towards the anti-food waste restaurant was measured in the exact same way as in study 1. The same 6 items were used, and were able to form one new variable *Attitude towards the anti-food waste restaurant*. The requirements for a factor analysis were met, KMO= .92. The factor analysis showed again that only one component could be extracted (Eigenvalue = 5.01), which explained 84% of the variance. The internal consistency of the attitude scale was indicated as excellent (α= .96) (Bland & Altman, 1997) and could not be increased by deleting any of the items.

4.2 Results study 2

Before any statistical analyses could be done, all variables needed for the analysis (*Guilt*, *Anticipated pride*, *Restaurant choice*, *Likelihood of visiting the anti-food waste restaurant*, *Likelihood of choosing a normal restaurant*, *Attitude towards the anti-food waste restaurant*, *Disgust*, *Age* and *Gender*) were checked for outliers and missing values. Only the frequency tables for *Guilt* and *Anticipated pride* showed missing values, respectively two and four missing values. The corresponding respondents were deleted from the data set, since they represented less than 5% of the sample. These missing values could be explained by technical problems in the design of the experiment. Furthermore, no outliers were detected when looking at the scatterplots for the variables used in study 2.

4.2.1 Manipulation check

A manipulation check was executed to check if the manipulation of the stimulus material (i.e. the advertisements) was successful. A one-way ANOVA is executed for both the question measuring *Guilt* and the question measuring *Anticipated pride*. The results show that there was a statistical significant difference in *Guilt* between the respondents in the different conditions, $F (2, 147) = 7.15$, $p = .001$. The respondents in the guilt condition (M= 5.43) experienced significantly more *Guilt* than respondents in the pride (M = 4.19, $p = .001$) or neutral (M = 4.76, $p = .097$) condition. Moreover, the respondents in the pride condition experienced significantly less *Guilt* than the respondents in the neutral condition, $p = 0.16$. Thus, this indicates that the manipulation for evoking a feeling of guilt was successful. The level of *Anticipated pride* did not significantly differ per condition, $F (2, 147) = 0.80$, $p = .450$. This means that all respondents experienced a similar amount of *Anticipated pride*, regardless the condition they were in. This is in contrast with the goal of the manipulation and thus shows that the manipulation did not work for evoking a feeling of anticipated pride, but did work for evoking a feeling of guilt.

Furthermore, a paired sample t-test was conducted to compare the level of *Guilt* and the level of *Anticipated pride* per condition. Only the guilt and the anticipated pride condition showed to have significant differences on the scores for *Guilt* and *Anticipated pride* (Table 11, Figure 4). In the guilt condition, the score on *Guilt* showed to be higher (M= 5.43, SD= 1.19) than the score on *Anticipated* pride (M= 4.73, SD= 1.74)*, t*= 2.30*, p*= .026). In the anticipated pride condition, the score on *Anticipated pride* (M= 5.18, SD= 1.63) showed to be higher that the score on *Guilt* (M= 4.20, SD= 1.58), *t*= -3.68*, p*= .001). This showed that both the guilt and the anticipated pride condition were able to evoke the intended emotions. Furthermore, the respondents in the control condition did not significantly differ in the level of *Guilt* and *Anticipated pride* they experienced. These results are in line with the expectations as the neutral condition was not supposed to evoke any particular emotion. All in all, it could be concluded that the manipulation was successful for all three conditions.

Table 11. *Mean scores on Guilt and Anticipated pride per condition*

Condition	Mean score on *Guilt*	Mean score on *Anticipated pride*	*p*
Guilt	5.43	4.73	.026
Anticipated pride	4.20	5.18	.001
Control	4.76	4.89	.638
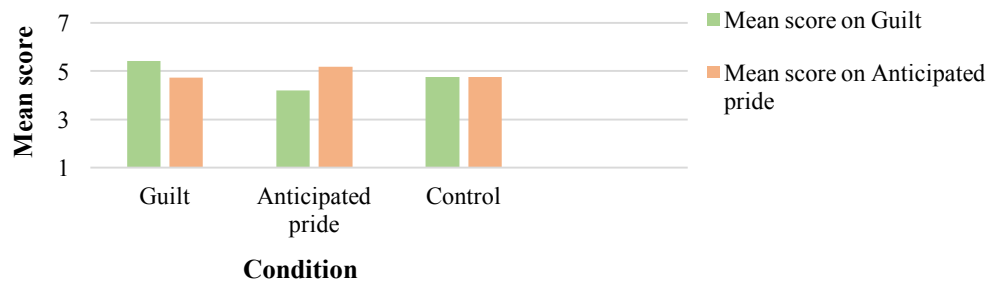
Figure 4. *Mean scores on Guilt and Anticipated pride per condition*

4.2.2 Hypothesis testing

To test the hypotheses stated in the theoretical framework, several analyses were conducted. The results of these analyses are shown in the following sections. Both control variables (i.e. *Age* and *Gender*) were included in all analyses, to test their possible influence on the outcomes.

Restaurant choice

For testing the effects on *Restaurant choice*, study 2 carried out the same analyses as study 1. First of all, to test if the manipulation had any effect on the respondent's restaurant choice, both a chi-square test (with *Restaurant choice* as dependent variable) and two one-way ANOVA's (with the *Likelihood of choosing the anti-food waste restaurant* and the *Likelihood of choosing the normal restaurant* as dependent variables) were performed. The chi-square test showed that the respondents *Restaurant choice* did significantly differ per condition, $X^2(2) = 7.05$, $p = 0.029$. Respondents in the anticipated pride and in the control condition were more likely to choose for the anti-food waste restaurant then the respondents in the guilt condition. On the contrary, the one-way ANOVA's showed no significant differences between the three different conditions and the *Likelihood of choosing the anti-food waste restaurant* (F (2,147) = 0.715, $p = 0.491$) and the *Likelihood of choosing the normal restaurant* (F (2,147) = 0.119, $p = 0.888$).

Secondly, related to hypothesis 1 and 2, it was tested if *Guilt* and *Anticipated pride* had any effect on the respondent's restaurant choice. Similar to study 1, this was tested in two different ways. First, by comparing the levels of *Guilt* and *Anticipated pride* with the dependent variable *Restaurant choice* by use of a Binary Logistic Regression. Second, by comparing the levels of *Guilt* and *Anticipated*

pride with the dependent variables *Likelihood of choosing for an anti-food waste restaurant* and the *Likelihood of choosing the normal restaurant*, by use of a Multiple Linear Regression.

A Binary Logistic Regression was performed to test the third and fourth hypothesis: the effects of *Guilt* and *Anticipated pride* on the respondent's *Restaurant choice*. The model explained 24,1% (Nagelkerke R^2) of the variance in *Restaurant choice* and correctly classified 81,4% of the cases. The results showed that *Anticipated pride* (b = 0.242, p = .050) significantly predicted the respondent's restaurant choice when going out for dinner. The odds ratio for anticipated pride was 1,274, meaning that every unit increase on the *Anticipated pride* scale was associated with an increase of 27,4% in restaurant choice (0 = normal restaurant, 1 = anti-food waste restaurant). Thus, when a higher level of anticipated pride was experienced, respondents were more likely to choose the anti-food waste restaurant, instead of a normal restaurant, to go out for dinner.

The results of the Multiple Linear Regression showed that there was only a significant regression equation found for the effects on the *Likelihood of choosing the anti-food waste restaurant*, R^2 = 0,375, F (5,139) = 15,415, p < .001, and not for the effects on *Likelihood of choosing the normal restaurant*. This is in line with the expectations, since the two emotions were only expected to influence the choice for the anti-food waste restaurant and not the choice for a normal restaurant. The results of the regression analysis showed that *Anticipated pride* (b = 0.400, t (150) = 6.108, p < .001) significantly predicted the *Likelihood for choosing the anti-food waste restaurant*. Meaning that when *Anticipated pride* increased, the *Likelihood of choosing the anti-food waste restaurant* also increased. There was no significant effect found from *Guilt* on the *Likelihood for choosing the anti-food waste restaurant.* All in all, based on the results from both regression analyses, hypothesis 1 could be rejected, since *Guilt* has not shown to increase the *Likelihood of visiting an anti-food waste restaurant* and hypothesis 2 could be accepted, since *Anticipated pride* showed to increase the *Likelihood of choosing the anti-food waste restaurant*.

Moderating effect of Disgust

The variable *Disgust* was expected to have a moderating effect on the relationship between the emotions *Guilt* and *Anticipated pride* and the respondent's restaurant choice (i.e. *Restaurant choice* and *Likelihood of choosing the anti-food waste restaurant/normal restaurant*). To test these effects, a logistic and a linear regression by use of the PROCESS model of Hayes (2017) were performed.

First of all, the results of the logistic regression showed that only the model for the effect of *Disgust* on the relationship between *Anticipated pride* and *Restaurant choice* was significant (chi-square (df = 5) = 26.5068, p =.0001). The model for the effect of *Disgust* on the relationship between *Guilt* and *Restaurant choice* did not show any significant results. The significant model, for the relationship between *Anticipated pride* and *Restaurant choice*, did however not show a significant effect found for the interaction between *Anticipated pride* and *Disgust*. Therefore, the conditional effects could not be interpreted and thus nothing can be said about the influence of *Disgust* on the relationship between *Anticipated pride* and *Restaurant choice*.

Furthermore, the results for the linear regression showed that only the model for the effect of *Disgust* on the relationship between *Anticipated pride* and the *Likelihood of choosing an anti-food waste restaurant* was significant, $F(3,146) = 12,04$, $p < .001$, $R^2 = 0,39$. Meaning that almost 40% of the variance in the *Likelihood of choosing the anti-food waste restaurant* was due to the level of *Anticipated pride*, the level of *Disgust,* a combination of those two (i.e. *Anticipated pride x Disgust*), *Age* and *Gender* (Table 12). The model showed that *Disgust*, next to *Anticipated pride*, had a main effect on the *Likelihood of choosing an anti-food waste restaurant*, b = -0.3259, p < .001. This indicates a direct negative effect of disgust on the respondent's likelihood of choosing the anti-food waste restaurant. However, more important, the interaction between *Anticipated pride* and *Disgust* also showed to be significant, b = 0.1135, *p* = .0016. Thus, a moderating effect of *Disgust* on the relationship between *Anticipated pride* and *Likelihood of choosing the anti-food waste restaurant* was present. When looking more closely, the conditional effects showed that only mean (b = 0.3695, *p* < .001) and high (b = 0.5727, *p* < .001) levels of *Disgust* significantly (positively) influenced this relationship. Thus, the positive relationship between *Anticipated pride* and *Likelihood of choosing the anti-food waste restaurant* was stronger when respondents experienced more *Disgust* (Figure 5). In other words, *Anticipated pride* had a larger effect on the *Likelihood of choosing the anti-food waste restaurant*, when the respondents experienced more disgust towards the consumption of food waste.

Table 12. *Linear model of the predictors of Likelihood of choosing the anti-food waste restaurant.*

	b	**SE B**	*t*	*p*
Constant	4.60	0.440	10.47	< .001
Age	0.02	0.011	1.34	.182
Gender	0.38	0.262	1.46	.146
Disgust	-0.32	0.065	-4.87	< .001
Anticipated pride	0.37	0.082	4.47	< .001
Disgust x Anticipated pride	0.11	0.035	3.22	< .001
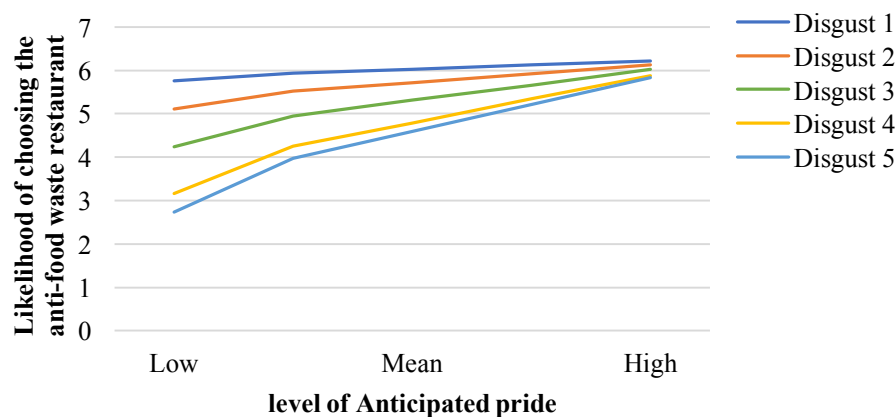
Figure 5. *Visual representation of the moderating relationship of Disgust on the relationship between Anticipated pride and Likelihood of choosing the anti-food waste restaurant.*

Finally, there are no significant effects found for the moderating role of *Disgust* on the relationships between both *Guilt* and *Anticipated pride* on the *Likelihood of choosing a normal restaurant*. This could be explained since there was also no significant model found for the main effects of the two emotions, *Disgust* and *Anticipated pride* on the *Likelihood of choosing a normal restaurant.*

All in all, the variable disgust showed to have a moderating effect. However, this effect only occurred for the existing relationships; between *Anticipated pride* and respondent's *Restaurant choice*, and between *Anticipated pride* and respondent's *Likelihood of choosing the anti-food waste restaurant*. Therefore, hypothesis 3 could be rejected as this expected *Disgust* to have an effect on the relationship between *Guilt* and the consumer's restaurant choice. Hypothesis 4, however, must also be rejected as this expected that higher levels of disgust will lead to a lower likelihood of pride motivating the consumers choice for an anti-food waste restaurant. However, striking is that the contrary was true; the relationship between *Anticipated pride* and *Likelihood of choosing the anti-food waste restaurant* was stronger when higher levels of *Disgust* were present, then when lower levels of *Disgust* were present.

Attitude towards the anti-food waste restaurant
For testing the effects on *Attitude towards the anti-food waste restaurant*, study 2 carried out the same analyses as in study 1. Both the effect of *Restaurant choice* and the emotions *Guilt* and *Anticipated pride*, on the respondents *Attitude towards the anti-food waste restaurant* were tested. First, an independent t-test was performed to test if the respondent's *Restaurant choice* had influence on their *Attitude towards the anti-food waste restaurant*. The results showed that people who chose the anti-food waste restaurant to go out for dinner, had a statistically significant more positive attitude towards the anti-food waste restaurant (M = 5,986, SD = 1,229) than people who rather chose a normal restaurant to go out for dinner (M = 4,760, SD = 1,501), t (148) = -4,856, p = 0,000. Hypothesis 5 stated that the choice for an anti-food waste restaurant would positively influence the attitude towards the anti-food waste restaurant, whereas the choice for a normal restaurant would negatively influence the attitude towards an anti-food waste restaurant. Regarding the results, hypothesis 5 could be accepted, which is in line with the results from study 1.

Furthermore, a multiple linear regression analysis was performed to test the effects of the emotions *Guilt* and *Anticipated pride* on the respondents *Attitude towards the anti-food waste restaurant*. The model showed to be significant F (5,139) = 9,989, p < .001, and could thus be used to predict the *Attitude towards the anti-food waste restaurant*. Moreover, 26% of the differences in attitude could be predicted by the model, R^2 = 0,264. *Anticipated pride* has shown to be able to significantly predict the *Attitude towards the anti-food waste restaurant*, b = 0,293, t (150) = 4,874, p < .001, whereas *Guilt* did not seem to have any significant effect on the respondent's *Attitude towards the anti-food waste restaurant*. Thus, for every extra point that respondents scored on *Anticipated pride*, their *Attitude towards the anti-food waste restaurant* increased by 0.29. Hypothesis 6a and 6b stated that the *Attitude towards the anti-food waste restaurant* would be more positive when consumers were motivated by

Anticipated pride, then when motivated by *Guilt,* or by no emotion at all (i.e. the control condition). Since the results showed that *Anticipated pride* was the only significant predictor for *Attitude towards the anti-food waste restaurant,* both hypothesis 6a and 6b could be accepted. However, since *Guilt* did not show to have any influence on the *Attitude towards the anti-food waste restaurant,* hypothesis 7 must be rejected. These outcomes are in line with the results from study 1.

Other outcomes

Similar to the results from study 1, the majority of the respondents in study 2 chose to visit the anti-food waste restaurant (77,33%) for dinner, compared to the respondents that chose to visit the normal restaurant (22,67%). Moreover, the average attitude of the respondents towards the anti-food waste restaurant was very high, $M = 5,71$, $SD = 1,40$ (on a scale ranging from 1 to 7). Furthermore, the control variables *Age* and *Gender* did not have any effects on the respondents' restaurant choice or their attitude towards the anti-food waste restaurant.

The previous analyses have already shown that *Disgust* had a moderating effect on the relationship between *Anticipated pride* and respondent's *Restaurant choice,* and on the relationship between *Anticipated pride* and respondent's *Likelihood of choosing the anti-food waste restaurant.* However, *Disgust* also showed to have a direct effect on both the respondents' restaurant choice and their attitude towards the anti-food waste restaurant. First of all, *Disgust* showed to be a significant predictor for the dependent variable *Restaurant choice* ($b = -.533$, $p < .001$). The odds ratio for *Disgust* was 0.587, meaning that every unit increase on the disgust scale was associated with a decrease of 58,7% in restaurant choice (0 = normal restaurant, 1 = anti-food waste restaurant). This means that the respondents that experienced more disgust towards the consumption of food waste, were more likely to choose for a normal restaurant than for the anti-food waste restaurant. In line with these results, *Disgust* also showed to significantly predict the *Likelihood of choosing the anti-food waste restaurant* ($b = -0.293$, $t(150) = -4.438$, $p < .001$). Meaning that when *Disgust* increased, the *Likelihood of choosing the anti-food waste restaurant* decreased, indicating a negative direct effect. Finally, *Disgust* also showed to have a direct negative effect on the respondents *Attitude towards the anti-food waste restaurant,* $b = -0.227$, $t(150) = -3.732$, $p < .001$. This showed that when more disgust was experienced, towards the consumption of food waste, the more negative the respondents attitude was towards the anti-food waste restaurant.

4.3 Discussion study 2

The main aim of study 2 was to test if the emotions guilt and anticipated pride were able to motivate the consumer's restaurant choice, in the direction of an anti-food waste restaurant, and to test their influence on the consumer's attitude towards the anti-food waste restaurant. Moreover, study 2 was setup to overcome some of the weaknesses from study 1.

In contrast with study 1, the second study only found evidence for the expectation that the emotion anticipated pride is able to motivate consumer's restaurant choice, in the direction of the anti-food waste restaurant. The emotion of guilt did not show to have any effect on the consumer's restaurant choice. Because the manipulation (by use of memory recall) was able to evoke the emotions guilt and anticipated pride successfully, the findings of this second study are followed for the overall conclusion. The successful manipulation showed that study 2 was able to overcome a weakness of study 1.

Similar to the results of study 1, the attitude towards the anti-food waste restaurant showed to be more positive when consumers were more likely to choose an anti-food waste restaurant then a normal restaurant. Furthermore, this second study also found evidence for the positive effect of the emotion anticipated pride on the consumer's attitude towards the anti-food waste restaurant. Also, the attitude showed to be more positive when consumers were more likely to choose the anti-food waste restaurant then when consumers were more likely to choose a normal restaurant. These similar outcomes in study 1 and 2 indicate a high reliability as the findings are consistent over time and for a different sample in the population (Carmines & Zeller, 1979).

Finally, study 2 was able to enlarge the scope of study 1 by studying the effects of disgust on the relationship between the two emotions, guilt and anticipated pride, and the consumers restaurant choice. The findings showed that the level of disgust consumers experience was only able to influence the positive relationship between anticipated pride and the consumer's restaurant choice. This relationship showed to be stronger when consumer's experienced more disgust. Meaning that the emotion of anticipated pride is able to increase the likelihood of choosing the anti-food waste restaurant, when consumer's experience a high level of disgust towards the consumption of food waste.

5. General discussion

5.1 Summary of empirical findings

The main aim of this study was to investigate the motivational function of the emotions guilt and anticipated pride for a more sustainable restaurant choice by the consumer. Additionally, the effect of consumers disgust towards the consumption of waste products and their attitude towards the anti-food waste restaurant were studied. The following research question was leading in this research: *How can the emotions guilt and pride be used as a motivation for consumers to choose anti-food waste restaurants over normal restaurants?*

Both studies showed that consumers are more likely to choose an anti-food waste restaurant to go out for dinner, than a normal restaurant. Consumers are more likely to choose an anti-food waste restaurant when they experience a feeling of anticipated pride towards visiting such a restaurant, then when this feeling is not experienced. Therefore, the emotion anticipated pride can be seen as a motivator for choosing an anti-food waste restaurant (H2). The motivating effect of this emotion is even stronger for consumers that experience a large amount of disgust towards the consumption of waste products (H4). Interesting is, that feelings of guilt towards the food waste problem did not influence consumers restaurant choice (H1). Because there is no relationship present between feeling guilty and consumer's restaurant choice, it is also not influenced by the amount of disgust they experience (H3).

When consumers choose to have dinner at an anti-food waste restaurant, instead of at a normal restaurant, their attitude towards the anti-food waste restaurant has shown to be more positive (H5). However, it could not be concluded that this positive attitude was the results of the consumers choice for the anti-food waste restaurant. The consumer's attitude towards the anti-food waste restaurant has also shown to be more positive when the consumer experiences more anticipated pride, towards visiting an anti-food waste restaurant (H7). A feeling of guilt towards the food waste problem did not seem to influence consumer's attitude towards the anti-food waste restaurant.

5.2 Theoretical contributions

As stated in the introduction, this study aimed to contribute to the existing research on emotions as motivators for sustainable consumption behaviour, focussing specifically on the emotions guilt and anticipated pride. First of all, by studying the motivational function of the specific emotions guilt and anticipated pride, this study contributes to the literature on the specific emotions approach (e.g. feeling-is-for-doing) in the emotion literature (Zeelenberg et al., 2008). The findings of this study give insight in how this approach works when consumers have to make a choice between normal and sustainable restaurants. Moreover, the findings show that the emotion anticipated pride was able to motivate a form of pro-social behaviour; choosing for the anti-food waste restaurant. This supports existing research that argues that pride is a self-conscious emotion, being able to motivate and regulate pro-social behaviour (Bamberg & Moser, 2007; Bissing-Olson, Fielding & Iyer, 2016; Onwezen, 2014). Considering pride as a self-conscious emotion, the findings also contribute to more general research on

the ability of self-conscious emotions to motivate and regulate behaviour (Baumeister, Stillwell & Heatherton, 1994; Tangney & Fischer, 1995). Furthermore, considering anticipated pride as a positive emotion, the results support research on positive emotions being able to affect behavioural intentions (Mehrabian & Russel, 1974; López-Sánchez & Mosquera, 2014).

Unexpectedly, the self-conscious emotion guilt did not show to have the motivational function of stimulating the choice for a sustainable restaurant. This gives surprising insights for the research on self-conscious emotions as it is inconsistent with existing research on the function of guilt being able to motivate pro-social behaviour (Bamberg & Moser, 2007; Bissing-Olson, Fielding & Iyer, 2016; Onwezen, 2014). Moreover, this finding for guilt is also surprising for existing research on guilt in general (Smith & Lazarus, 1990), as it shows that consumers do not always want to repair their negative feeling of guilt.

Furthermore, evoking the emotions guilt and anticipated pride, to study their motivational effects, gave new insights in the literature on how emotions can be evoked. The findings show that evoking emotions by use of memory recall (De Hooge, Zeelenberg & Breugelmans, 2007; Ketelaar & Au, 2003) works better than evoking them by use of an advertisement. It should be kept in mind that this only applies to evoking the specific emotions of guilt towards the food waste problem and anticipated pride towards visiting an anti-food waste restaurant.

The findings on the emotion of disgust showed that for people that experienced a large amount of disgust (negative emotion), the motivation of anticipated pride had more impact than for people who did not experience a large amount of disgust. This shows that they rather experience a positive emotion, anticipated pride, than a negative emotion, such as disgust. This supports existing research on how negative emotions work (Bagozzi et al., 1999; Zeelenberg et al., 2008) that shows that people want to get rid of negative emotions and aim for positive ones.

The created framework for this research also studied the relationship between behavioural intentions and consumer's attitude. Since these are both measured at the same time, no causal relationships can be concluded. However, the shown positive relationship between behavioural intention and the consumer's attitude does support existing research on attitude formation (Festinger & Carlsmith, 1959; Kiesler, Nisbett, & Zanna, 1969; Norman & Smith, 1995). Furthermore, the model also studied the relationship between the emotions guilt and anticipated pride, and the consumer's attitude towards the anti-food waste restaurant. These findings give insights in existing research on emotions playing a role in attitude formation (e.g. Petty & Cacioppo, 1986; Dubé, Cervellon & Jingyuan, 2003; Vulpe & Dafinoiu, 2011). Most of this research is mainly focusing on positive and negative emotions, which has as a result that more precise information gets lost (Bagozzi et al., 1999). This research, focusing specifically on the emotions guilt and anticipated pride, can therefore give meaningful insights.

Finally, this study provides the reader with information on one of the new initiatives that aims to reduce the amount of food waste at the consumption level; the anti-food waste restaurant. It provides

the reader with an overview of the food waste problem, extended information on the anti-food waste restaurant and how consumer can be motivated to make use of this new initiative.

5.3 Practical contributions

The findings of this study are of practical relevance for any restaurant that can relate to the definition of an anti-food waste restaurant that this study followed, or wants to become an anti-food waste restaurant. The finding that anticipated pride is able to motivate consumers to choose to go out for dinner at an anti-food waste restaurant, instead of to a normal restaurant, is very useful. This idea can be incorporated into the marketing strategies of these restaurants to encourage consumers to visit their restaurants. Additionally, a positive attitude towards the anti-food waste restaurant is important for consumers to revisit the restaurant (Han & Back, 2007; Han, Back & Barrett, 2009; Phillips & Baumgartner, 2002) and adoption of these new type of restaurants (e.g. Ajzen, 1991).

The findings of this study might also give insights for other fields of research. Because visiting an anti-food waste restaurant could be seen as environmentally friendly consumption behaviour (Hopper & Nielsen, 1991; Onwezen, 2014), it could be carefully stated that the findings of this study are also applicable to other sorts of environmentally friendly consumption choices. This makes the current findings useful for other companies or brand that sell environmentally friendly services or products.

5.4 Limitations and future research

5.4.1 Limitations

Theoretical limitations

First of all, this research only looked into the motivational effects of two emotions, guilt and anticipated pride, while more emotions could be of influence on consumers decision making. A few other (basic) emotions were measured, however not studied as no motivational effects were expected. Similarly, only the emotion of disgust was studied for a possible moderating effect, however other emotions, such as for example fear (Laros, 2006), could have influenced the consumer's restaurant choice.

Not only other emotions could have been important to study, also other consumer characteristics could have been influential for their restaurant choice and their attitude towards the anti-food waste restaurant. Consumers can for example differ in their concern for the environment or in their knowledge and expectations of a restaurant visit. Consumers that are very much concerned about the environment might choose the sustainable restaurant regardless any of the other factors present, while a food enthusiast might base his decision solely on the quality of the food. Also, because emotions are responses to events that are important to people (Frijda, 1988), consumers with high concerns about the environment might experience much more guilt or anticipated pride.

Furthermore, as described in the literature review, choosing a restaurant includes considering more factors than solely the sustainability of the restaurant. Often the factors such as price, quality, cuisine and atmosphere are of importance for the consumer. However, to be able to study the effects on the sustainability concern of the restaurant, all other factors were held constant. However, for actual restaurants, other factors will always be present and of higher importance for the consumer (Lorenzoni & Pidgeon, 2006).

Finally, this research studied a possible solution for reducing the amount of food waste, the anti-food waste restaurant, while according to the "Ladder of Moerman" (Soethoudt & Timmermans, 2013) a better solution is to find a way to prevent the food from being wasted. However, completely preventing food waste from happening is very hard to reach and therefore this research studied the second-best option, reusing the food waste for human consumption.

Methodological limitations

First of all, both studies did not include a measurement for determining if the respondents already took part in the first study. Therefore, it could be possible that respondents took part in both study 1 and study 2. The participation in study 1 might have influenced their answers in study 2 because they were already aware of the topic under study. However, the possibility of the respondents participating in both studies was minimized because the respondents were approached via different ways by the researcher.

A limitation for study 1 occurred as all respondents indicated that they experienced more anticipated pride than guilt, regardless the condition they were in. This could be explained by the overall positive tone of the online experiment, which might evoke more positive feelings then negative. Finding a solution for the food waste problem, could have been experienced as inherently positive and pride inducing as it is about reaching goals with positive outcomes (Tracy & Robins, 2007). Additionally, the experienced anticipated pride in all conditions could also be explained since people often imagine future behaviour (i.e. their intentions) as positive rather than negative. Therefore, their restaurant choice will probably be guided by a positive emotion (anticipated pride) instead of by a negative emotion (guilt).

Furthermore, the manipulation in study 1 did not result in different emotions experienced for the different conditions. This could be explained since it has been shown that people pay more attention to images than to words (Castelhano, Wieth & Henderson, 2007). Since the different advertisements, per design, used the same image for all three conditions, people might not have paid much attention to the text. Another explanation could be given since emotions only occur for events that are important to people (Frijda, 1988), which might indicate that the majority of the respondents in study 1 did not find the food waste issue important and therefore no emotions were evoked.

A final methodological limitation lays in the measurement of the restaurant choice. The online experiment only measured the behavioural intention of the respondents and not their actual behaviour. Therefore, the expected positive effect of the experience at the anti-food waste restaurant on the consumer's attitude could not be studied. Furthermore, the intended restaurant choice was measured

simultaneously with the consumer's attitude towards the anti-food waste restaurant, which did not allow for concluding any causal relationships. However, a positive connection between them is supported.

5.4.2 Future research

For the applicability of the results of this research it is important to test the motivational functions of guilt and anticipated pride on actual behaviour. This research only studied the behavioural intention, following the reasoning of existing research that actual behaviour can be predicted from intentions, if these behaviours pose no serious problems of control (Ajzen, 1988; Sheppard, Hartwick, & Warshaw, 1988; Zeithaml, Berry & Parasuraman, 1996). However, it has also been shown that the consumer's positive intentions about sustainable consumption behaviour are often dominated by other factors (with more direct visible results), when the actual behaviour is performed (Lorenzoni & Pidgeon, 2006). Therefore, it is recommended to test the motivational function of guilt and anticipated pride in the context of two existing restaurants. In line with this, the attitude towards the anti-food waste restaurant must also be measured after the actual behaviour, to be able to conclude any causal relationships. This will give interesting insights to the existing research on attitude-behaviour relationships that often show an opposite relationship; attitude influencing behavioural intentions and actual behaviour (Ajzen, 1991).

Finally, the emotion of disgust has shown to have a large negative influence on the consumer's restaurant choice and on their attitude towards he anti-food waste restaurant. It is recommended that future research looks into the effects of the emotion of disgust, to prevent it in the future from causing these negative effects. It would be helpful if it was studied how this emotion could be disconnected, in the mind of the consumer, from the consumption of food waste and thus from the anti-food waste restaurants. In line with this, it is important to study the positioning of anti-food waste restaurants. How should these restaurants be seen by the consumer; as a sustainable restaurant that uses food waste, or as a restaurant that serves delicious food but also acts in a sustainable manner?

5.5 Conclusion

Taken together, guilt and pride are both considered as self-conscious emotions being able to motivate pro-social behaviour. When looking at pro-environmental behaviour, specifically for a sustainable restaurant choice, only pride seems to be able to motivate consumers to make a sustainable choice. In current society, were consumers are the largest contributor to the food waste problem, it is important that consumers behave in a more environmentally friendly manner to help reduce the amount of food that is wasted. Choosing a more sustainable restaurant is one of the many possible behaviours that would help solving this problem. This research concludes that consumers can be motivated best by encouraging them with the positive feeling of pride they will experience by choosing for the sustainable restaurant.

References

Ajzen, I. (1985). From intentions to actions: A theory of planned behavior. In *Action control* (pp. 11-39). Springer Berlin Heidelberg.

Ajzen, I. (1988). Attitudes, personality, and behavior. Chicago: Dorsey Press.

Ajzen, I. (1991). The theory of planned behavior. *Organizational behavior and human decision processes*, *50*(2), 179-211.

Ajzen, I. (2001). Nature and operation of attitudes. *Annual review of psychology*, *52*(1), 27-58.

Allen, C. T., Machleit, R. A., Kleine, S. S., & Notani, A. S. (2003). A place for emotion in attitude models. *Journal of Business Research, 56*(1), 1–6.

Allport, G. W. (1935). Attitudes. In C. Murchison (Ed.), *Handbook of social psychology* (pp.798-844). Worcester, MA: Clark University Press.

Anderson, E. W. & Sullivan, M. W. (1993). The antecedents and consequences of customer satisfaction for firms. *Marketing Science 12*, 125–143.

Antonetti, P., & Maklan, S. (2014). Feelings that make a difference: How guilt and pride convince consumers of the effectiveness of sustainable consumption choices. *Journal of Business Ethics, 124*(1), 117-134.

Argo, J. J., Dahl, D. W., & Morales, A. C. (2006). Consumer contamination: How consumers react to products touched by others. *Journal of Marketing*, *70*(2), 81-94.

Aschemann-Witzel, J., De Hooge, I., Amani, P., Bech-Larsen, T., & Oostindjer, M. (2015). Consumer-related food waste: causes and potential for action. *Sustainability, 7*(6), 6457-6477.

Aschemann-Witzel, J., De Hooge, I. E., Rohm, H., Normann, A., Bossle, M. B., Grønhøj, A., & Oostindjer, M. (2017). Key characteristics and success factors of supply chain initiatives tackling consumer-related food waste–A multiple case study. *Journal of Cleaner Production*, *155*, 33-45.

Auty, S. (1992). Consumer choice and segmentation in the restaurant industry. *Service Industries Journal*, *12*(3), 324-339.

Bagozzi, R. P., Gopinath, M., & Nyer, P. U. (1999). The role of emotions in marketing. *Journal of the academy of marketing science, 27*(2), 184.

Bamberg, S., & Moser, 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, 27*(1), 14-25.

Baumeister, R. F., Stillwell, A. M., & Heatherton, T. F. (1994) Guilt: An interpersonal approach. *Psychological Bulletin, 115*, 243–267.

Baumeister, R. F., Vohs, K. D., DeWall, C. N., & Zhang, L. Q. (2007). How emotion shapes behavior: Feedback, anticipation, and reflection, rather than direct causation. *Personality and Social Psychology Review, 11*, 167–203.

Bio Intelligence Service (2010). Preparatory Study on Food Waste across the EU-27, prepared for the European Commission DG Environment, and UN Food and Agriculture Organization (2011) Global Food Losses and Food Waste. Retrieved from http://ec.europa.eu/environment/eussd/pdf/bio_foodwaste_report.pdf

Bissing-Olson, M. J., Fielding, K. S., & Iyer, A. (2016). Experiences of pride, not guilt, predict pro-environmental behavior when pro-environmental descriptive norms are more positive. *Journal of Environmental Psychology, 45*, 145-153.

Bland. J, & Altman, D. (1997). *Statistics notes: Cronbach's alpha*. BMJ. 1997;314:275. 10.1136/bmj.314.7080.572

Bolton, R. N., & Drew, J. H. (1991). A multistage model of customers' assessments of service quality and value. *Journal of consumer research*, *17*(4), 375-384.

Borg, C., Bosman, R. C., Engelhard, I., Olatunji, B. O., & de Jong, P. J. (2016). Is disgust sensitive to classical conditioning as indexed by facial electromyography and behavioral responses? *Cognition & emotion, 30*(4), 669-686.

Burnett, M. & Lunsford, D. (1994). Conceptualising guilt in the consumer decision-making process. *Journal of Consumer Marketing, 11*(3), 33-43

Buzby, J. C., Wells, H. F., Axtman, B., & Mickey, J. (2009). Supermarket loss estimates for fresh fruit, vegetables, meat, poultry, and seafood and their use in the ERS loss-adjusted food availability data. *Economic Information Bulletin-USDA Economic Research Service*, (44).

Campbell, D. T. (1950). The indirect assessment of social attitudes. *Psychological Bulletin*, *47*(1), 15.

Carmines, E. G., & Zeller, R. A. (1979). *Reliability and validity assessment* (Vol. 17). Sage publications.

Castelhano, M. S., Wieth, M., & Henderson, J. M. (2007, January). I see what you see: Eye movements in real-world scenes are affected by perceived direction of gaze. In *International Workshop on Attention in Cognitive Systems* (pp. 251-262). Springer, Berlin, Heidelberg.

Corral-Verdugo, V. (2012). The positive psychology of sustainability. *Environment, Development and Sustainability, 14*, 651–666.

Cronin, J. J., Taylor, S. A. (1992). Measuring service quality: a reexamination and extension. *Journal of Marketing, 56*, 55–68.

Cutler, B. D., Javalgi, R. G., & Krishna Erramilli, M. (1992). The visual components of print advertising: A five-country cross-cultural analysis. *European Journal of Marketing*, *26*(4), 7-20.

Darwin, C. (1872/1965). *The expression of the emotions in man and animals.* Chicago, IL: University of Chicago Press.

De Hooge, I. E. (2014). Predicting consumer behavior with two emotion appraisal dimensions: Emotion valence and agency in gift giving. *International Journal of Research in Marketing 31,* 380-394.

De Hooge, I. E., Oostindjer, M., Aschemann-Witzel, J., Normann, A., Loose, S. M., & Almli, V. L. (2017). This apple is too ugly for me! Consumer preferences for suboptimal food products in the supermarket and at home. *Food Quality and Preference, 56*, 80-92.

De Hooge, I. E., Zeelenberg, M., & Breugelmans, S. M. (2007). Moral sentiments and cooperation: Differential influences of shame and guilt. *Cognition and Emotion, 21*(5), 1025–1042.

Desmet, P. M., & Schifferstein, H. N. (2008). Sources of positive and negative emotions in food experience. *Appetite, 50*(2), 290-301.

Dubé, L., Cervellon, M. C., & Jingyuan, H. (2003). Should consumer attitudes be reduced to their affective and cognitive bases? Validation of a hierarchical model. *International Journal of Research in Marketing*, *20*(3), 259-272.

Dutch Ministry of Economic Affairs, Agriculture and Innovation (2014). Preventing Food Waste and Optimising Residual Waste Streams. Retrieved from http://no-opportunitywasted.com/images/document/416.pdf

Eagly, A. H., & Chaiken, S. (1993). *The psychology of attitudes*. Harcourt Brace Jovanovich College Publishers.

Eisenberg, N. (2000). Emotion, regulation, and moral development. *Annual review of psychology*, *51*(1), 665-697.

Ekman, P., & Friesen, W. V. (1975). *Unmasking the face*. Englewood Cliffs. NJ Prentice-Hall.

Epstein, S. (1993). Emotion and self-theory. *Handbook of emotions,* 313-326.

Evans, D. (2012). Beyond the throwaway society: ordinary domestic practice and a sociological approach to household food waste. *Sociology, 46*(1), 41–56.

FAO, IFAD & WFP (2014). *The State of Food Insecurity in the World 2014. Strengthening the enabling environment for food security and nutrition.* Rome, FAO. http://www.fao.org/3/a-i4030e.pdf

Fazio, R. H., & Zanna, M. P. (1981). Direct experience and attitude-behavior consistency. *Advances in experimental social psychology*, *14*, 161-202.

Festinger, L., & Carlsmith, J. M. (1959). Cognitive consequences of forced compliance. *The Journal of Abnormal and Social Psychology*, *58*(2), 203.

Filimonau, V., Lemmer, C., Marshall, D., & Bejjani, G. (2017). 'Nudging'as an architect of more responsible consumer choice in food service provision: The role of restaurant menu design. *Journal of Cleaner Production*, *144*, 161-170.

Frijda, N. H. (1988). The laws of emotion. *American psychologist*, *43*(5), 349.

Gardner, M. P., & Vandersteel, M. (1984). The consumer's mood: An important situational variable. *Advances in Consumer Research, 6*, 525–529.

Gifford, A. (2002). Emotion and self-control. Journal of Economic Behavior & Organization, 49, 113–130.

Graham-Rowe, E., Jessop, D. C., & Sparks, P. (2014). Identifying motivations and barriers to minimising household food waste. *Resources, conservation and recycling*, *84*, 15-23.

Green, B. F. Attitude measurement. In G. Lindzey (Ed.), *Handboolc of social psychology* (Vol. 1). Reading, Massachusetts: Addison-Wesley, 1954, pp. 335-369.

Griffin, R. J., Dunwoody, S., & Neuwirth, K. (1999). Proposed model of the relationship of risk information seeking and processing to the development of preventive behaviors. *Environmental Research, 80*(2), 230–245.

Griffin, M., Sobal, J., & Lyson, T. A. (2009). An analysis of a community food waste stream. *Agriculture and Human Values, 26*(1), 67-81.

Gustavsson, J., Cederberg, C., Sonesson, U., Otterdijk, R.v., Meybeck, A. (2011). Global food losses and food waste. Food and agriculture organization of the United Nations, Tech. Rep.

Haidt, J. (2003). The moral emotions. *Handbook of affective sciences*, *11*, 852-870.

Hall, K. D., Guo, J., Dore, M., & Chow, C. C. (2009). The progressive increase of food waste in America and its environmental impact. *PloS one*, *4*(11), e7940.

Halstead, D. (1989). Expectations and disconfirmation beliefs as predictors of consumer satisfaction, repurchase intention, and complaining behavior: an empirical study. *Journal of Consumer Satisfaction, Dissatisfaction and Complaining Behavior, 2*(1), 17-21.

Hamilton, C., Denniss, R., & Baker, D. G. (2005). *Wasteful consumption in Australia*. Canberra: Australia Institute.

Han, H., & Back, K. J. (2007). Investigating the effects of consumption emotions on customer satisfaction and repeat visit intentions in the lodging industry. *Journal of Hospitality & Leisure Marketing, 15*(3), 5-30.

Han, H., Back, K. J., & Barrett, B. (2009). Influencing factors on restaurant customers' revisit intention: The roles of emotions and switching barriers. *International Journal of Hospitality Management, 28*(4), 563-572.

Han, H., & Kim, Y. (2010). An Investigation of Green Hotel Customers' Decision Formation: Developing an Extended Model of the Theory of Planned Behavior. International Journal of Hospitality Management, 29(4). 659-668.

Harrison, G. G., Rathje, W. L., & Hughes, W. W. (1975). Food waste behavior in an urban population. *Journal of nutrition education, 7*(1), 13-16.

Harth, N. S., Leach, C. W., & Kessler, T. (2013). Guilt, anger, and pride about in-group environmental behaviour: Different emotions predict distinct intentions. J*ournal of Environmental Psychology, 34*, 18–26.

Holbrook, M. B., & Batra, R. (1987). Assessing the role of emotions as mediators of consumer responses to advertising. *Journal of consumer research*, *14*(3), 404-420.

Hopper, J. R., & Nielsen, J. M. (1991). Recycling as altruistic behavior: Normative and behavioral strategies to expand participation in a community recycling program. *Environment and behavior*, *23*(2), 195-220.

Kahneman, D. (2003). Maps of bounded rationality: Psychology for behavioral economics. *The American economic review, 93*(5), 1449-1475.

Kelman, H. C. (1974). Attitudes are alive and well and gainfully employed in the sphere of action. *American psychologist*, *29*(5), 310.

Ketelaar, T. & Au, W. T. (2003). The effects of guilt on the behaviour of uncooperative individuals in repeated social bargaining games: An affect-as-information interpretation of the role of emotion in social interaction. *Cognition and Emotion, 17*(3), 429–453.

Kiesler, C. A., Nisbett, R. E., & Zanna, M. P. (1969). On inferring one's beliefs from one's behavior. *Journal of Personality and Social Psychology*, *11*(4), 321.

Kinnear, T. C., Taylor, J. R., & Ahmed, S. A. (1974). Ecologically concerned consumers: who are they? *The Journal of Marketing*, 20-24.

Kivela, J., Inbakaran, R., & Reece, J. (1999). Consumer research in the restaurant environment, Part 1: A conceptual model of dining satisfaction and return patronage. *International Journal of Contemporary Hospitality Management*, *11*(5), 205-222.

Kugler, K. & Jones, W. H. (1992). On conceptualizing and assessing guilt. *Journal of Personality and Social Psychology, 62*(2), 318–327.

Laros, F. J. M. (2006). *Emotions in consumer research: an application to novel food products* (No. 015e43f5-a457-4ad0-8caf-5c704a332115). Tilburg University, School of Economics and Management.

Lazarus, R.S. (1991). *Emotion and Adaptation*. Oxford University Press, New York.

Lerner, J. S., & Keltner, D. (2000). Beyond valence: Toward a model of emotion-specific influences on judgement and choice. *Cognition & Emotion*, *14*(4), 473-493.

Lewis, H. B. (1971). Shame and guilt in neurosis. *Psychoanalytic review*, *58*(3), 419.

Lewis, M. A. (1993). Self-conscious emotions: Embarrassment, pride, shame, and guilt. In M.L.J.M. Haviland (Eds.), Handbook of emotions. New York: Guilford Press.

Lewis, M. (2000). Self-conscious emotions: Embarrassment, pride, shame, and guilt. In M. Lewis & J. M. Haviland-Jones (Eds.), *Handbook of emotions* (2nd ed., pp. 623– 636). New York: Guilford Press.

Lewis, M., Whitler, K. A., & Hoegg, J. (2013). Customer relationship stage and the use of picture-dominant versus text-dominant advertising: A field study. *Journal of Retailing*, *89*(3), 263-280.

Lin, C. H., Yen, H. R., & Chuang, S. C. (2006). The effects of emotion and need for cognition on consumer choice involving risk. *Marketing Letters, 17*(1), 47-60.

Lipinski, B., Hanson, C., Lomax, J., Kitinoja, L., Waite, R. & Searchinger, T. (2013). Reducing Food Loss and Waste, Installment 2 of Creating a Sustainable Food Future [Working paper]. *Washington, DC: World Resources Institute.* Retrieved from http://staging.unep.org/wed/2013/docs/WRI-UNEP-Reducing-Food-Loss-and-Waste.pdf

Lorenzoni, I., & Pidgeon, N. F. (2006). Public views on climate change: European and USA perspectives. *Climatic change, 77*(1), 73-95.

Lyman, B. (2012). *A psychology of food: More than a matter of taste.* Springer Science & Business Media.

Lynch, J., & Schuler, D. (1994). The matchup effect of spokesperson and product congruency: A schema theory interpretation. *Psychology & Marketing*, *11*(5), 417-445.

Manning, C. (2009). *The Psychology of Sustainable Behavior*. Ph.D. dissertation.

Mascolo, M. F., & Fischer, K. W. (1995). Developmental transformations in appraisals for pride, shame, and guilt.

Mehrabian, A., & Russell, J. A. (1974). *An approach to environmental psychology*. the MIT Press.

Mena, C., Adenso-Diaz, B., & Yurt, O. (2011). The causes of food waste in the supplier–retailer interface: Evidences from the UK and Spain. *Resources, Conservation and Recycling, 55*(6), 648-658.

Michie, S. (2009). Pride and gratitude: How positive emotions influence the prosocial behaviors of organizational leaders. *Journal of Leadership and Organizational Studies, 15*(4), 393–403.

Mittal, V., & Kamakura, W. A. (2001). Satisfaction, repurchase intent, and repurchase behavior: Investigating the moderating effect of customer characteristics. *Journal of marketing research, 38*(1), 131-142.

Morgan, T., R., Rapp, A., Glenn Richey, Jr, R., & Ellinger, E., A. (2014). Marketing culture to service climate: the influence of employee control and flexibility. *Journal of Services Marketing, 28*(6), 498-508.

Nabi, R. L. (1999). A cognitive-functional model for the effects of discrete negative emotions on information processing, attitude change, and recall. *Communication theory*, *9*(3), 292-320.

Namkung, Y., & Jang, S. (2007). Does food quality really matter in restaurants? Its impact on customer satisfaction and behavioral intentions. *Journal of Hospitality & Tourism Research*, *31*(3), 387-409.

Netherlands Nutrition Centre (2014). Consumer food waste [fact sheet]. Retrieved from https://ec.europa.eu/food/sites/food/files/safety/docs/fw_lib_vc_sheet_voedselverspilling_en.pdf

Norman, P., & Smith, L. (1995). The theory of planned behaviour and exercise: An investigation into the role of prior behaviour, behavioural intentions and attitude variability. *European Journal of Social Psychology*, *25*(4), 403-415.

Okeiyi, E., Finley, D., & Postel, R. T. (1994). Food and beverage management competencies: Educator, industry, and student perspectives. *Hospitality & Tourism Educator*, *6*(4), 37-40.

Oliver, R. L. (1980). A cognitive model of the antecedents and consequences of satisfaction decisions. *Journal of marketing research*, 460-469.

Oliver, R. L. (2014). *Satisfaction: A behavioral perspective on the consumer*. Routledge.

Onwezen, M. C. (2014). *How pride and guilt guide pro-environmental behaviour*. Wageningen University.

Özdemir, T., & Eyduran, E. (2005). Comparison of Chi-Square and likelihood ratio Chi-Square tests: Power of test. *Journal of Applied Sciences Research*, *1*(2), 242-244.

Papargyropoulou, E., Lozano, R., Steinberger, J. K., Wright, N., & bin Ujang, Z. (2014). The food waste hierarchy as a framework for the management of food surplus and food waste. *Journal of Cleaner Production, 76*, 106-115.

Parfitt, J., Barthel, M., & Macnaughton, S. (2010). Food waste within food supply chains: quantification and potential for change to 2050. *Philosophical Transactions of the Royal Society of London B: Biological Sciences*, *365*(1554), 3065-3081.

Pelletier, L. G., Tuson, K. M., Green-Demers, I., Noels, K., & Beaton, A. M. (1998). Why are you doing things for the environment? The motivation toward the environment scale (MTES). *Journal of applied social psychology, 28*(5), 437-468.

Petty, R. E., & Cacioppo, J. T. (1986). The elaboration likelihood model of persuasion. *Advances in experimental social psychology*, *19*, 123-205.

Phillips, D. M., & Baumgartner, H. (2002). The role of consumption emotions in the satisfaction response. *Journal of Consumer Psychology, 12*(3), 243-252.

Pirani, S. I., & Arafat, H. A. (2016). Reduction of food waste generation in the hospitality industry. *Journal of cleaner production, 132*, 129-145.

Priester, J. R., & Petty, R. E. (2003). The influence of spokesperson trustworthiness on message elaboration, attitude strength, and advertising effectiveness. *Journal of Consumer Psychology*, *13*(4), 408-421.

Quested, T. E., Marsh, E., Stunell, D., & Parry, A. D. (2013). Spaghetti soup: The complex world of food waste behaviours. *Resources, Conservation and Recycling*, *79*, 43-51.

Regan, D. T., & Fazio, R. (1977). On the consistency between attitudes and behavior: Look to the method of attitude formation. *Journal of Experimental Social Psychology*, *13*(1), 28-45.

Roberts, J. A. (1996). Green consumers in the 1990s: Profile and implications for advertising. *Journal of Business Research, 36*(3), 217–231.

Royzman, E. B., & Sabini, J. (2001). Something it takes to be an emotion: The interesting case of disgust. *Journal for the Theory of Social Behaviour*, *31*(1), 29-59.

Rozin, P., & Fallon, A. E. (1987). A perspective on disgust. *Psychological review, 94*(1), 23.

Rozin, P., Haidt, J., & McCauley, C. R. (1999). Disgust: The body and soul emotion. *Handbook of cognition and emotion*, 429-445.

Rice, G. (2006). Pro-environmental behavior in Egypt: Is there a role for Islamic environmental ethics? J*ournal of Business Ethics, 65*(4), 373–390.

Russell, S. V., Young, C. W., Unsworth, K. L., & Robinson, C. (2017). Bringing habits and emotions into food waste behaviour. *Resources, Conservation and Recycling, 125*, 107-114.

Secondi, L., Principato, L., & Laureti, T. (2015). Household food waste behaviour in EU-27 countries: A multilevel analysis. *Food Policy, 56*, 25-40.

Shaver, P., Schwartz, J., Kirson, D., & O'connor, C. (1987). Emotion knowledge: further exploration of a prototype approach. *Journal of personality and social psychology*, *52*(6), 1061.

Sheppard, B. H., Hartwick, J., & Warshaw, P. R. (1988). The theory of reasoned action: A meta-analysis of past research with recommendations for modifications and future research. *Journal of consumer research*, *15*(3), 325-343.

Shiv, B., & Fedorikhin, A. (1999). Heart and mind in conflict: The interplay of affect and cognition in consumer decision making. *Journal of consumer Research, 26*(3), 278-292.

Smil, V. (2004). Improving efficiency and reducing waste in our food system. *Environmental Science, 1*(1), 17-26.

Smith, C. A., & Lazarus, R. S. (1990). Emotion and adaptation. *Handbook of personality: Theory and research*, 609-637.

Soethoudt, J. M., & Timmermans, A. J. M. (2013). Monitor voedselverspilling: mid-term rapportage (No. 1372). Wageningen UR Food & Biobased Research.

Steptoe, A., Pollard, T. M., & Wardle, J. (1995). Development of a measure of the motives underlying the selection of food: the food choice questionnaire. *Appetite*, *25*(3), 267-284.

Storm, C., & Storm, T. (1987). A taxonomic study of the vocabulary of emotions. *Journal of personality and social psychology*, *53*(4), 805.

Sundt, P. (2012). *Prevention of food waste in restaurants, hotels, canteens and catering*. Nordic Council of Ministers.

Tan, B. C., & Yeap, P. F. (2012). What drives green restaurant patronage intention? *International Journal of Business and Management*, *7*(2), 215.

Tangney, J. P. (1999). The self-conscious emotions: Shame, guilt, embarrassment and pride. In T. Dalgleish & M. J. Power (Eds.), Handbook of cognition and emotion (pp. 541–568). New York: Willey.

Tangney, J. P., & Dearing, R. L. (2002). *Shame and guilt*. New York: Guilford.

Tangney, J. P., & Fischer, K. W. (1995) Self-conscious emotions: The psychology of shame, guilt, embarrassment, and pride. New York: Guilford

Thonissen, R. (2010). Fact Sheet: Food Waste in the Netherlands. Ministry of Agriculture, Nature and Food Quality. Report in Ministry of Agriculture, Nature and Food Quality.

Thøgersen, J. (2014). Unsustainable consumption: basic causes and implications for policy. *European Psychologist, 19*, 84-95.

Tracy, J. L. & Robins, R. W. (2004). Putting the self into self-conscious emotions: A theoretical model. Psychological Inquiry, 15(2), 103–125.

Tracy, J. L. & Robins, R. W. (2007). The psychological structure of pride: A tale of two facets. Journal of Personality and Social Psychology, 92(3), 506–525.

Tracy, J. L., Shariff, A. F., & Cheng, J. T. (2010). A naturalist's view of pride. *Emotion Review, 2*, 163–177.

Triandis, H. C. (1977). *Interpersonal behavior*. Brooks/Cole Pub. Co..

Vermeir, I., & Verbeke, W. (2006). Sustainable food consumption: Exploring the consumer "attitude–behavioral intention" gap. *Journal of Agricultural and Environmental Ethics, 19*(2), 169–194.

Wallington, S. A. (1973). Consequences of transgression: self-punishment and depression. *Journal of personality and social psychology*, *28*(1), 1.

Watson, M., & Meah, A. (2012). Food, waste and safety: negotiating conflicting social anxieties into the practices of domestic provisioning. *The Sociological Review*, *60*(S2), 102-120.

Weiss, H. M., & Beal, D. J. (2005). Reflections on affective events theory. In *The effect of affect in organizational settings* (pp. 1-21). Emerald Group Publishing Limited.

Weinberg, P., & Gottwald, W. (1982). Impulsive consumer buying as a result of emotions. *Journal of Business Research, 10*, 43–57.

Westbrook, R. A. (1980). Intrapersonal affective influences upon consumer satisfaction with products. J*ournal of Consumer Research, 7*, 49–54.

WRAP (2017). Estimates of Food Surplus and Waste Arisings in the UK. Retrieved from http://www.wrap.org.uk/content/uk-handy-waste-factsand-figures-retail-sector

Zeelenberg, M., Nelissen, R. M., Breugelmans, S. M., & Pieters, R. (2008). On emotion specificity in decision making: Why feeling is for doing. *Judgment and Decision making, 3*(1), 18.

Zeithaml, V.A., Berry, L.L., & Parasuraman, A. (1996). The Behavioural Consequences of Service Quality. *Journal of Marketing, 60*, 31-46.

Appendix 1 – Experiment study 1

Q1 Welcome to this research!
This survey is part of my MSc thesis for the Wageningen University and is about a new type of sustainable restaurant that uses food waste to cook their dishes with. This new type of restaurant is called an **anti-food waste restaurant**. In this survey, you will be shown an advertisement and several questions will follow. It will take approximately 10 minutes to complete the survey.

Please note that your answers will be handled completely confidentially and anonymously. This means that your name will not appear anywhere and that your answers will never be linked to your name. You can stop the survey at any time, however your answers will not be valuable to the research anymore**.**

When you click 'I AGREE', you confirm that you have read this text, that you have no further questions concerning participating in the survey, and that you are 18 years or older. Click on >> at the bottom of the page to start the survey.

◯ I AGREE (1)

◯ I DO NOT AGREE (2)

Skip To: End of Survey If Welcome to this research!   This survey is part of my MSc thesis for the Wageningen University a... = I DO NOT AGREE

Page Break

Q2
The anti-food waste restaurant

In this research you will be asked to evaluate the advertisement of a new restaurant called Soupy.

Soupy is different from normal restaurants as it is an anti-food waste restaurant. This means that they make use of (food) waste streams to create their dishes. These are foods thrown away by supermarkets, bakeries, butchers etc. They have been thrown away because of their deviating looks or are surplus, but are not harmful for human consumption.

By using these foods as their main ingredients, **Soupy** is able to save a lot of food from otherwise being wasted. Normal restaurants on the other hand, do not make use of these waste streams, but only use newly purchased products to create their dishes.

Q3

Q4 Below you see the advertisement for the anti-food waste restaurant Soupy. Please take a good look at it. All following questions will be about this advertisement.

Q5 Below you see the advertisement for the anti-food waste restaurant Soupy. Please take a good look at it. All following questions will be about this advertisement.

Q6 Below you see the advertisement for the anti-food waste restaurant Soupy. Please take a good look at it. All following questions will be about this advertisement.

Q7 Below you see the advertisement for the anti-food waste restaurant Soupy. Please take a good look at it. All following questions will be about this advertisement.

Q8 Below you see the advertisement for the anti-food waste restaurant Soupy. Please take a good look at it. All following questions will be about this advertisement.

Q9 Below you see the advertisement for the anti-food waste restaurant Soupy. Please take a good look at it. All following questions will be about this advertisement.

Q10 **After seeing the advertisement, please indicate how much you agree on the following statements.**

Visiting a normal restaurant would make me...

	Strongly disagree (6)	Disagree (7)	Somewhat disagree (8)	Neither disagree nor agree (9)	Somewhat agree (10)	Agree (11)	Strongly agree (12)
Feel guilty (1)	○	○	○	○	○	○	○
Feel remorseful (2)	○	○	○	○	○	○	○
Feel responsible for all the food that is wasted (18)	○	○	○	○	○	○	○
Feel like I am doing the wrong thing (19)	○	○	○	○	○	○	○
Have a bad conscience (3)	○	○	○	○	○	○	○

Page Break

Q11 After seeing the advertisement, please indicate how much you agree on the following statements.

Visiting the anti-food waste restaurant Soupy...

	Strongly disagree (6)	Disagree (7)	Somewhat disagree (8)	Neither disagree nor agree (9)	Somewhat agree (10)	Agree (11)	Strongly agree (12)
Would make me feel proud (1)	○	○	○	○	○	○	○
Would make me feel worthy (2)	○	○	○	○	○	○	○
would make me feel superior (3)	○	○	○	○	○	○	○
Would make me feel good about myself (5)	○	○	○	○	○	○	○
Is something I would like to tell other people about (4)	○	○	○	○	○	○	○

End of Block: Measuring guilt & pride

Start of Block: DV's attitude & choice

Q12 We are very interested in your opinion about the new anti-food waste restaurant Soupy. Please rate the restaurant using the following descriptions.

In my view, the anti-food waste restaurant Soupy is...

	1 (0)	2 (1)	3 (2)	4 (3)	(4)	(5)		
Bad (1)	○	○	○	○	○	○	○	Good
Unpleasant (2)	○	○	○	○	○	○	○	Pleasant
Unfavorable (3)	○	○	○	○	○	○	○	Favorable
Unlikeable (11)	○	○	○	○	○	○	○	Likeable
Negative (12)	○	○	○	○	○	○	○	Positive
Dissatisfying (13)	○	○	○	○	○	○	○	Satisfying

Page Break

Q13
Imagine that it is Saturday night and you want to go out for dinner with your friends. There is a table available for you at "Soupy" (the anti-food waste restaurant).

How likely is it that you would decide to have dinner at the anti-food waste restaurant "Soupy"?

	Extremely unlikely (11)	Moderately unlikely (12)	Slightly unlikely (13)	Neither unlikely nor likely (14)	Slightly likely (15)	Moderately likely (16)	Extremely likely (17)
. (3)	○	○	○	○	○	○	○

Page Break

Q14 Again, imagine that it is Saturday night and you want to go out for dinner with your friends. Now there is a table available for you at "The Soup Kitchen" (a normal restaurant).

How likely is it that you would decide to have dinner at the normal restaurant "The Soup Kitchen"?

	Extremely unlikely (11)	Moderately unlikely (12)	Slightly unlikely (13)	Neither unlikely nor likely (14)	Slightly likely (15)	Moderately likely (16)	Extremely likely (17)
. (2)	○	○	○	○	○	○	○

Page Break

Q15
If both "Soupy" (the anti-food waste restaurant) and "The Soup kitchen" (the normal restaurant) have a table available for you, which restaurant would you choose?

Note: the two restaurants have similar atmosphere, price-range, location and interior.

○ Soupy (anti-food waste restaurant) (1)

○ The Soup Kitchen (normal restaurant) (2)

Q16
Please answer the following general questions.

What is your gender?

○ Male (1)

○ Female (2)

Page Break

Q17 **What is your age?**

_____

Q18

If you have any questions or comments regarding this survey, please mail them to: eva.vanbruinessen@wur.nl or leave them in the text box below.

_____

_____

_____

_____

_____

Q19
Click on >> to submit your answers.

This is the end of this survey. Thank you very much for your participation!

Appendix 2 – Experiment study 2

Q1 Welcome to this research!
This survey is part of my MSc thesis for the Wageningen University and is about Food
Waste. It will take approximately 10 minutes to complete the survey.

**Please note that your answers will be handled completely confidentially and
anonymously. This means that your name will not appear anywhere and that your
answers will never be linked to your name. You can stop the survey at any time,
however your answers will not be valuable to the research** anymore**.**

When you click 'I AGREE', you confirm that you have read this text, that you have no further
questions concerning participating in the survey, and that you are 18 years or older. Click on
>> at the bottom of the page to start the survey.

○ I AGREE (1)

○ I DO NOT AGREE (2)

*Skip To: End of Survey If Welcome to this research!   This survey is part of my MSc thesis for the Wageningen
University... = I DO NOT AGREE*

Page Break

Q2
The Food Waste Problem

The amount of food that we waste is becoming highly problematic. **One third** of all the food we produce for human consumption is **never eaten**.

This has enormous **negative consequences for the environment** such as the depletion of natural resources (water, energy and land), and the production of unnecessary extra greenhouse gas emissions. Moreover, it has **negative economical and social consequences** such as costs for overproduction and **diseases** related to overconsumption.
 Above all, the food waste issue is extremely unfair as there are worldwide still **800 million** people suffering from **food shortage**. Most of the food is wasted by us, **the consumer**. On average, every person throws away **50kg** of food per year. However, the contribution of **supermarkets and restaurants** must not be underestimated.

Q3

Q4 **A possible solution; the anti food waste restaurant**

This study investigates one of the possible solutions for the food waste problem in the restaurant industry; **the anti food waste restaurant.**

This new type of restaurant aims to reduce the amount of food waste by making use of **waste streams** to create their dishes. Waste streams are foods that are thrown away by others (supermarkets, bakeries, butchers etc.) because of their deviating looks or size, or are surplus, but not harmful for human consumption.

A large benefit of the anti food waste restaurants is that they are able to **save a lot of food** from otherwise being wasted, by using these waste streams as their main ingredient.
 On the other side, the **consumption of imperfect or wasted food** in a restaurant environment could be seen as a disadvantage for the consumer.

- -

Page Break ———————————————————————————————————

Q5 As mentioned on the previous page, anti-food waste restaurants cook with foods that would otherwise have been thrown away by supermarkets etc. How would you feel about the consumption of food waste? Please indicate on the scale below.

I think that the consumption of food waste is...

	Strongly disagree (1)	Disagree (2)	Somewhat disagree (3)	Neither agree nor disagree (4)	Somewhat agree (5)	Agree (6)	Strongly agree (7)
Disgusting (2)	○	○	○	○	○	○	○
Delicious (3)	○	○	○	○	○	○	○
Gross (8)	○	○	○	○	○	○	○
Tasty (9)	○	○	○	○	○	○	○
Dirty (10)	○	○	○	○	○	○	○
Enjoyable (11)	○	○	○	○	○	○	○

End of Block: Introduction

Start of Block: Manipulation 1; Guilt

Q6 The negative consequences of Food Waste

Most of the food waste is produced by **the consumer**. However, the negative consequences of food waste are often **not directly visible** for the consumer.

The food that consumers throw away in their garbage bin does not disappear, but ends up in **landfill**. The large amount of methane that landfills produce makes food waste **the third largest producer of greenhouse gas emissions**, after the USA and China, which causes global warming.

Moreover, the **wastage of natural resources** during the production process of food is also invisible for the consumer. However, resulting in a large impact on the environment. The same accounts for the **pollution of fresh water** as a result of using pesticides during food production.

As the consumer is the largest contributor to food waste, it is important to **reconsider our own behaviour related to buying, preparing and throwing away food**, given the impact on the world we live in.

- -

Q7

- -

Page Break

Q8 For the following question we want you to remember (or imagine) a situation that makes you feel guilty about your own behaviour related to food waste (e.g. at home, in the supermarket or in a restaurant). Then, describe the situation that you have in mind below and mention why this specific food waste related situation makes you feel guilty.

Try to put yourself in the situation as if you are experiencing the situation at this very moment. Take your time. Try to remember the details of the situation and of the emotion that you felt at that time. It could help to think about:
 - the cause of the situation
 - towards whom or what you feel guilty
 - what you thought, did and felt

_____

_____

_____

_____

Q9 Now you are aware of the food waste problem, please indicate how you feel about the food waste problem.

It makes me feel ...

	Not at all (1)	2 (2)	3 (3)	4 (4)	5 (5)	6 (6)	Very strongly (7)
Afraid (1)	○	○	○	○	○	○	○
Hopeful (27)	○	○	○	○	○	○	○
Guilty (10)	○	○	○	○	○	○	○
Surprised (32)	○	○	○	○	○	○	○
Ashamed (4)	○	○	○	○	○	○	○
Proud (28)	○	○	○	○	○	○	○
Angry (5)	○	○	○	○	○	○	○
Enthusiastic (30)	○	○	○	○	○	○	○
Sad (12)	○	○	○	○	○	○	○
Happy (31)	○	○	○	○	○	○	○

Q10 Now you are aware of a possible solution for the food waste problem, the anti food-waste restaurant, please indicate how you feel about visiting an anti food waste restaurant.

It would make me feel ...

	Not at all (1)	2 (2)	3 (3)	4 (4)	5 (5)	6 (6)	Very strongly (7)
Afraid (1)	○	○	○	○	○	○	○
Hopeful (27)	○	○	○	○	○	○	○
Guilty (10)	○	○	○	○	○	○	○
Surprised (32)	○	○	○	○	○	○	○
Ashamed (4)	○	○	○	○	○	○	○
Proud (28)	○	○	○	○	○	○	○
Angry (5)	○	○	○	○	○	○	○
Enthusiastic (30)	○	○	○	○	○	○	○
Sad (12)	○	○	○	○	○	○	○
Happy (31)	○	○	○	○	○	○	○

End of Block: Manipulation 1; Guilt

Start of Block: Manipulation 1; Pride

Q11 **Consumers can help reducing food waste**

As consumers play such a large role in the food waste issue, it is important that they help reducing the amount of food that is thrown away.

Within the household consumers are able to reduce their food waste in many possible ways, such as; making use of **leftovers**, **meal planning**, better **storage, preservation** and judging the quality of the food yourself, instead of following **best before dates**.

- -

Q12

- -

Page Break ———————————————————————————————————————

Q13 For the following question we want you to remember (or imagine) a specific situation that makes you <u>feel proud about your own behaviour related to reducing food waste</u> (e.g. at home, in the supermarket or in a restaurant).

Then, describe the situation that you have in mind below and mention why this specific situation related to reducing food waste makes you feel <u>proud</u>.

Try to put yourself in the situation as if you are experiencing the situation at this very moment. Take your time. Try to remember the details of the situation and of the emotion that you felt at that time. It could help to think about:
 - the cause of the situation
 - the specific behaviour that makes you feel proud
 - your thoughts, feelings and actions

_____

_____

_____

_____

_____

- -

Page Break ———————————————————————————————————————

Q14 Now you are aware of the food waste problem, please indicate how you feel about the food waste problem.

It makes me feel ...

	Not at all (1)	2 (2)	3 (3)	4 (4)	5 (5)	6 (6)	Very strongly (7)
Afraid (1)	○	○	○	○	○	○	○
Hopeful (27)	○	○	○	○	○	○	○
Guilty (10)	○	○	○	○	○	○	○
Surprised (32)	○	○	○	○	○	○	○
Ashamed (4)	○	○	○	○	○	○	○
Proud (28)	○	○	○	○	○	○	○
Angry (5)	○	○	○	○	○	○	○
Enthusiastic (30)	○	○	○	○	○	○	○
Sad (12)	○	○	○	○	○	○	○
Happy (31)	○	○	○	○	○	○	○

Page Break

Q15 Now you are aware of a possible solution for the food waste problem, the anti food-waste restaurant, please indicate how you feel about visiting an anti food waste restaurant.

It would make me feel ...

	Not at all (1)	2 (2)	3 (3)	4 (4)	5 (5)	6 (6)	Very strongly (7)
Afraid (1)	○	○	○	○	○	○	○
Hopeful (27)	○	○	○	○	○	○	○
Guilty (10)	○	○	○	○	○	○	○
Surprised (32)	○	○	○	○	○	○	○
Ashamed (4)	○	○	○	○	○	○	○
Proud (28)	○	○	○	○	○	○	○
Angry (5)	○	○	○	○	○	○	○
Enthusiastic (30)	○	○	○	○	○	○	○
Sad (12)	○	○	○	○	○	○	○
Happy (31)	○	○	○	○	○	○	○

End of Block: Manipulation 1; Pride

Start of Block: Manipulation 1; Neutral

Q16 **Food waste in your daily life**

The amount of food consumers waste can be related to their daily habits and routine.
Depending on your daily activities you can be throwing away more or less food.

Therefore, we would like you to give a description of what a normal weekday for you looks
like. Most important, try to mention what you eat on a day like this.

Put yourself into the day as if you are experiencing it at this very moment. Take your time
and try to remember as many details of the day and of the events on that as possible. It could
help to think about:
- what events happened
- how the day developed
- how the day ended

_____

_____

_____

_____

_____

Page Break

Q17 Now you are aware of the food waste problem, please indicate how you feel about the food waste problem.

It makes me feel ...

	Not at all (1)	2 (2)	3 (3)	4 (4)	5 (5)	6 (6)	Very strongly (7)
Afraid (1)	○	○	○	○	○	○	○
Hopeful (27)	○	○	○	○	○	○	○
Guilty (10)	○	○	○	○	○	○	○
Surprised (32)	○	○	○	○	○	○	○
Ashamed (4)	○	○	○	○	○	○	○
Proud (28)	○	○	○	○	○	○	○
Angry (5)	○	○	○	○	○	○	○
Enthusiastic (30)	○	○	○	○	○	○	○
Sad (12)	○	○	○	○	○	○	○
Happy (31)	○	○	○	○	○	○	○

Page Break

Q18 Now you are aware of a possible solution for the food waste problem, the anti food-waste restaurant, please indicate how you feel about visiting an anti food waste restaurant.

It would make me feel ...

	Not at all (1)	2 (2)	3 (3)	4 (4)	5 (5)	6 (6)	Very strongly (7)
Afraid (1)	○	○	○	○	○	○	○
Hopeful (27)	○	○	○	○	○	○	○
Guilty (10)	○	○	○	○	○	○	○
Surprised (32)	○	○	○	○	○	○	○
Ashamed (4)	○	○	○	○	○	○	○
Proud (28)	○	○	○	○	○	○	○
Angry (5)	○	○	○	○	○	○	○
Enthusiastic (30)	○	○	○	○	○	○	○
Sad (12)	○	○	○	○	○	○	○
Happy (31)	○	○	○	○	○	○	○

End of Block: Manipulation 1; Neutral

Start of Block: DV's attitude & choice

Q19 We are very interested in your opinion about the new type of restaurant; the anti food waste restaurant. Please rate the restaurant using the following descriptions.

In my view, the anti-food waste restaurant is...

	1 (0)	2 (1)	3 (2)	4 (3)	(4)	(5)		
Bad (1)	○	○	○	○	○	○	○	Good
Unpleasant (2)	○	○	○	○	○	○	○	Pleasant
Unfavorable (3)	○	○	○	○	○	○	○	Favorable
Unlikeable (11)	○	○	○	○	○	○	○	Likeable
Negative (12)	○	○	○	○	○	○	○	Positive
Dissatisfying (13)	○	○	○	○	○	○	○	Satisfying

Page Break

Q20
Imagine that it is Saturday night and you want to go out for dinner with your friends. There is a table available for you at an anti food waste restaurant.

How likely is it that you would decide to have dinner there?

	Extremely unlikely (11)	Moderately unlikely (12)	Slightly unlikely (13)	Neither unlikely nor likely (14)	Slightly likely (15)	Moderately likely (16)	Extremely likely (17)
. (3)	○	○	○	○	○	○	○

Page Break

Q21 Again, imagine that it is Saturday night and you want to go out for dinner with your friends. Now there is a table available for you at <u>a restaurant that does not take the food waste issue into account.</u>

How likely is it that you would decide to have dinner there?

	Extremely unlikely (11)	Moderately unlikely (12)	Slightly unlikely (13)	Neither unlikely nor likely (14)	Slightly likely (15)	Moderately likely (16)	Extremely likely (17)
. (2)	○	○	○	○	○	○	○

Page Break

Q22
If both the anti food waste restaurant and a normal restaurant that does not take into account the food waste issue have a table available for you, which restaurant would you choose?

Note: the two restaurants have similar atmosphere, price-range, location and interior.

○ Anti food waste restaurant (3)

○ Normal restaurant (4)

End of Block: DV's attitude & choice

Start of Block: Demographic information

Q23
Please answer the following general questions.

What is your gender?

○ Male (1)

○ Female (2)

Page Break

Q24 **What is your age?**

_____

Q25
This is the end of this survey. Thank you very much for your participation!

Click on >> to submit your answers.

If you have any questions or comments regarding this survey, please mail them to:
eva.vanbruinessen@wur.nl or leave them in the text box below.

_____

_____

_____

_____

_____

End of Block: Demographic information