The Egoistic Consumer: The Role of Self-Interest and Self-Focused Information on Attitudes and Intentions Regarding Household Food Waste

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Abstract

One quarter of all produced food for human consumption is wasted. Thereby, half of the waste is generated in households. Although consumers commonly dislike the resulting environmental, economic and social consequences, interventions to reduce household-based food waste could not result in large-scale improvements. Previous research shows that consumers adopt a self-interested point of view when considering the implications of self-produced food waste. The aim of this experimental study is to investigate whether addressing consumers' egoistic tendencies by means of a corresponding informational text about food waste consequences has the potential to intrinsically motivate consumers to alter their attitudes and intentions with regard to food waste. A one factor between-subjects design (other-focused vs other- & self-focused) was used with self-interest as moderator. In this context, the extent to which participants are considered as self-interested was also taken into account using a correlational design. Next to self-interest, attitudes towards food waste and the intention to reduce food waste were measured after the manipulation took place using an online survey of 199 consumers. About self-interest, the results show a significant association with attitudes and intention. Less self-interested consumers seem to have a more negative attitude towards food waste and a greater intention to reduce food waste. The results also show that there were no significant effects resulting from the provided extra information. This implies that the additional presentation of self-focused information next to other-focused information about food waste is not persuasive enough to change consumers' attitudes and intentions in this context. A plausible explanation is that textual information (alone) is not effective enough to trigger consumers' intrinsic motivation. Future research is advised to adopt other methods than solely providing information by means of a text to validate the outcomes of the present study.

Keywords: food waste, consumer, self-interest, household, intrinsic motivation

Samenvatting

Een kwart van alle levensmiddelen geproduceerd voor menselijk gebruik wordt verspild. De helft van dit afval wordt gegenereerd in huishoudens. Consumenten keuren de negatieve effecten op het milieu, de economie en de samenleving doorgaans af. Echter is het interventies niet gelukt om grootschalige verbeteringen te bereiken met betrekking tot het verminderen van huishoudelijke voedselverspilling. Uit vorig onderzoek blijkt dat consumenten eigenbelang vertonen als het gaat om het nadenken over mogelijke implicaties van zelfgeproduceerde voedselverspilling. Het doel van deze experimentele studie is om inzicht te krijgen in de vraag of een informatieve tekst, die rekening houdt met egoïstische karaktertrekken, consumenten intrinsiek kan motiveren om hun houdingen en intenties ten opzichte van voedselverspilling te veranderen. Een één-factor *between-subjects design* (ander-gefocust tegenover ander- en zelf-gefocust) werd gebruikt met eigenbelang als moderator. De mate waarin een deelnemer uit eigenbelang handelt werd hierbij ook in ogenschouw genomen met behulp van een correlatief design. Naast het eigenbelang werden de houdingen ten opzichte van voedselverspilling en de intenties om voedselverspilling in de toekomst te verminderen gemeten. Dit gebeurde nadat de manipulatie plaatsvond met behulp van een online survey bestaande uit 199 consumenten. Uit de resultaten blijkt dat er een significant verband is tussen eigenbelang en de attitudes en intentie. Consumenten met een minder groot eigenbelang blijken eerder een negatieve houding te hebben tot voedselverspilling en hebben een grotere intentie om voedselverspilling te verminderen. Uit het onderzoek bleek ook dat de verstrekte extra informatie geen significante verandering veroorzaakte. Deze uitkomst impliceert dat het presenteren van aanvullende zelf-gefocuste informatie, naast ander-gefocuste informatie, niet overtuigend genoeg is om de houdingen en intenties van consumenten ten opzichte van voedselverspilling te veranderen. Een aannemelijke verklaring zou kunnen zijn dat tekstuele informatie (op zijn eentje) ontoereikend is om de intrinsieke motivatie van consumenten te wekken. Verder onderzoek wordt geadviseerd niet alleen tekstuele informatie te verstrekken, maar ook andere methoden toe te passen om het huidige onderzoek te valideren.

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The Egoistic Consumer: The Role of Self-Interest and Self-Focused Information on Attitudes
and Intentions Regarding Household Food Waste

Food waste is a global concern that occurs at all stages of the supply chain and is
accountable for a total wastage of one quarter of all produced food for human consumption
(Kummu et al., 2012). Resulting negative consequences affect the economy, the environment
and society (Aschemann-Witzel, de Hooge, Amani, Bech-Larsen, & Oostindjer, 2015; Stancu,
Haugaard, & Lähteenmäki, 2016). The end of the food supply chain (consumers' households)
represents the main problem (Aschemann-Witzel et al., 2015) because half of the food wasted
occurs at this stage (Kummu et al., 2012). To be more precise, the average European person
wastes around 95kg food per year (inedible parts like peels and bones included) (Stenmarck,
Jensen, Quested, & Moates, 2016) worth over 150 Euro (Aramyan & Valeva, 2016). This is in
line with the food waste definition of EU FUSIONS (2016), a project aimed at reducing food
waste in Europe: "Food waste is any food, and inedible parts of food, removed from the food
supply chain to be recovered or disposed" (Food waste definition, FUSIONS' Definitional
Framework section, para. 2). However, especially edible parts of food are considered
avoidable. Following a study in Germany, it is estimated that each person could avoid
throwing away approximately 62 kg a year (Noleppa & Cartsburg, 2015).

Consumers' food waste behavior is based on several interacting factors, which is why,
unfortunately, behavioural change has hardly been achieved (Aschemann-Witzel et al., 2015;
Parizeau, von Massow, & Martin, 2015). The current empirical research tried to clarify our
understanding of some of these factors. It aimed at the role of consumers' egoistic tendencies
to get insight into the question whether this character tendency has explanatory as well as
persuasive power in the context of household-based food waste. The results of an online
experiment that investigated whether triggering self-focused intrinsic motivation by means of
an informational text can influence consumers' food waste behavior are reported. Besides,
results regarding the direct influence of self-interest are also reported.

In general, the literature shows that both socio-demographic and personal factors play
a major role in the prediction of food waste behavior, with the latter having the greater impact
(Aschemann-Witzel et al., 2015). Personal factors are concepts such as individual motivation,
awareness, knowledge and priorities. Based on previous research, common advice for
interventions is to focus on various ways to improve consumer knowledge regarding the issue
of food waste in general, as well as how to adjust household routines to lessen the amount of
food wastage (e.g. Aschemann-Witzel et al., 2015; Parizeau et al., 2015; Stancu et al., 2016).
Despite various interventions, a substantial food waste reduction has not yet been achieved

(Aramyan & Valeva, 2016) because many factors involved in food waste related decision making still need to be properly understood (Cecere, Mancinelli, & Mazzanti, 2014). In the following, a summary of the literature concerning important determinants of food waste is given to clarify the problem.

Direct determinants of household food waste behavior

Given the severe and complex nature of consumer-based food waste, a great deal of research has already focused on variables involved in the occurrence of food waste (Aschemann-Witzel et al., 2015). Several studies used the theory of planned behavior to predict direct factors related to consumer-based food waste behavior. The theory states that a behavioral intention is primary and directly determined by the subjective norm, the perceived behavioral control and individual attitudes formed around a given behavior (Ajzen, 1991).

Subjective norm. Subjective norm refers to "the perceived social pressure to perform or not perform the behavior" (Ajzen, 1991, p. 188). In connection with food waste, behavioral intentions can be shaped by the direct social networks (e.g. colleagues) of a consumer as well as by current trends or tendencies displayed in the media or the physical environment (Aschemann-Witzel et al., 2015). Despite the proven effectiveness of subjective norms in the explanation of behavioral intentions, research in the food waste domain lessens the extent to which the concept is considered crucial when it comes to domestic food management. For example, Cecere et al (2014) mention that internal motivations rather than external pressures can have a noticeable influence on behavior. Aschemann-Witzel et al. (2015) came to the same conclusion when they investigated possible effects of social norms. Furthermore, Stefan, Van Herpen, Tudoran, Ana, & Lähteenmäki (2013) could not support the assumption that subjective norm (disapproval of food waste) serves as a strong predictor for intentions not to waste food.

Perceived behavioral control. When the perceived behavioral control, also referred to as self-efficacy is high, a consumer feels self-confident about performing behaviors that reduce the personal waste of food. Thus, this control factor refers to the own perceived capability to act in a certain way (Ajzen, 1991). Two different studies show that perceived behavioral control did not have a significant effect on intentions to prevent food waste (Stancu et al., 2016; Stefan et al., 2013). Instead, both studies report a relationship with personal routines in the context of purchase and consumption.

Attitude towards a behavior. Attitudes in the food waste domain are formed through the individual assessment of certain behaviors by using personal beliefs to estimate its possible positive or negative outcomes (Ajzen, 1991). In comparison with the other two

determinants in the theory of planned behavior, attitudes have the greatest influence on intention forming. This is in line with the fact that the study of Stancu et al. (2016) revealed that attitudes had an impact on the intention not to waste food while perceived behavioral control and moral norms did not. Besides, many other factors (e.g. income) which contribute to certain attitudes, have been studied and found to be highly important for intention forming.

Indirect determinants of household food waste behavior

More recently, several studies started to approach the food waste problem with the aid of more indirect factors (e.g. knowledge, values, routines, socio-demographics, personality, motivation). Indirect, because it is assumed that they influence behavior via direct determinants (e.g. those in the theory of planned behavior). Both, indirect and direct determinants have predictive value for behavior (Peters et al., 2009).

Knowledge and values. Indirect but important determinants of behavior are knowledge and values (Peters et al., 2009). Aschemann-Witzel et al. (2015) conducted a literature review along with expert interviews and found that poor planning and management resulting from insufficient knowledge, for example about date-labelling or packaging sizes, are seen as key aspects of the consumer-based food waste problem. Self-reports in the study of Graham-Rowe et al. (2014) also show a relationship between knowledge related to food management and the amount of food wasted. Next to knowledge, there are values (e.g. only buying food that looks tasty). With regard to food waste, these values can be shaped by factors such as prices, quality, taste, appearance, acceptance and safety concerns linked to food (Aschemann-Witzel et al., 2015).

Habits and routines. The previously mentioned link between perceived behavioral control and routines is in line with the chain of thought, that food waste related behavior manifests itself mainly subconsciously and is to a great extent driven by habits (Aschemann-Witzel et al., 2015; Stefan et al., 2013). In fact, the study of Stefan et al. (2013) weakens the considered importance of planned behavior eminently by showing that intentions had no impact on food waste behavior. Instead, certain routines were predictive. Further evidence for the habituated nature of food waste behavior is given by Stancu et al. (2016). They found, that taking food-related routines into account when studying food waste determinants in the household contributes to a more comprehensive picture of the issue's causation. To sum up, although intentions seem less predictive when compared to routines or habits, intentions "that link habitual contexts with intended responses can help people to realize their goal intentions to modify unwanted habits" (Webb, Sheeran, & Luszczynska, 2009, p. 519).

Socio-demographics and personality. More stable factors like socio-demographic variables and personality traits (Peters et al., 2009) have also proven their usefulness in the prediction of behaviors related to food waste (Swami, Chamorro-premuzic, Snelgar, & Furnham, 2011). Examples of socio-demographic factors are gender, age, education, and income (Stancu et al., 2016). In general, several studies report that the older the individual, the lower the income, and the less members a household counts, the less food is wasted (Cox & Downing, 2007; Stancu et al., 2016). Apart from this, characteristics can influence the behavior and thus the food waste management of consumers as well (Aschemann-Witzel et al., 2015). Unfortunately, research about the influence of character traits on food waste management is scarce. The study of Swami et al. (2011) shows an indirect relationship stating that consumers scoring low on Machiavellianism, a trait associated with self-interest, report a better waste management.

Motivation. The concept of motivation is considered crucial when it comes to the adoption of pro-environmental behaviors (e.g. Aschemann-Witzel et al., 2015; Cecere et al., 2014; Graham-Rowe et al., 2014). Extrinsic motivation is an often applied concept. Most of the time, legal obligations are used to put pressure onto, for example, consumers. These policies represent a powerful stimulation to promote pro-environmental behaviors (Cecere et al., 2014). Nevertheless, Cecere et al. (2014) recommend a strong dependence on intrinsic motivations in order to prevent food waste and thus enhance sustainable behavior.

Intrinsic motivations can be seen as personal beliefs (Cecere et al., 2014). Previous literature focuses in this context often on altruistic, other-focused tendencies. For example, Cecere et al. (2014) say "agents driven by intrinsic motivations are interested neither in peer (social) approval nor in primary pecuniary rewards. They obey 'individualistic based altruism' […]" (p.7). Nevertheless, the role of egocentric, self-focused tendencies represents a possible other pathway of intrinsic motivation. Consumers generally fail to apprehend the full severity of environmental and economic consequences of food waste, especially when it comes to their own behaviors. On the contrary, they tend to be more concerned about consequences that can be linked to their personal behaviors and often have direct impacts on their lives (Cox & Downing, 2007). Support is given by several studies indicating that, in general, a preventable waste of money and food seems to bother consumers most when thinking about the food waste issue (e.g. Cox & Downing, 2007; Graham-Rowe et al., 2014; Watson & Meah, 2012). As a result, it can be concluded that consumers tend to be rather self-interested when it comes to appraising household food waste. This assumption is confirmed by the study of Kareklas, Carlson, and Muehling (2014). They tested the role of egoism and

altruism when purchasing organic food and found, that including both concepts in an advertisement lead to more favorable consumer attitudes when compared to an advertisement containing only egoistic or neutral statements. This gives reason to believe that not only altruism but also egoism is a persuasive construct to shape food related attitudes.

Conclusion literature review

Despite studying factors like those discussed above, attempts to promote a better food management were not as successful as imagined (Aramyan & Valeva, 2016). While Manzocco, Alongi, Sillani, and Nicoli (2016) state that consumers fail to fully apprehend the concept of food prevention, Waarts et al. (2009) stress the necessity to form a consistent image of all the variables involved in food-related behavior in order to implement successful interventions. Aschemann-Witzel et al. (2015) went one step further by emphasizing that consumers' behavior can only change if differing aspects related to one's food waste management are targeted together.

It follows that, although the literature agrees on the intertwined nature of household-based food waste behavior, findings differ to a great extent and practical solutions still need to be developed and formulated. In order to do so, it is crucial to establish clarity about the question what gives rise to domestic food waste. Thus, research aimed at giving more insight into the several factors impacting a consumer's behavior in relation to food waste is needed. Especially factors that have not attracted a lot of attention yet because they seem less direct and/or important at first sight must be investigated, precisely because otherwise the intertwined nature of food waste cannot be understood accurately.

The current study

This study solely concentrated on household-based food waste because the end-user produces the greatest food waste amounts. It aimed at consumers' self-interest in the context of food waste. To test whether this character tendency could be associated with differences in consumers' attitudes and intentions regarding food waste, a self-interest measure was integrated. However, the main goal was to test whether triggering different aspects of intrinsic motivation could account for changes related to food waste behavior. In particular, whether considering consumers' egoistic tendencies when it comes to reasons to prevent household food waste (as described in the section about motivation) could make a difference. Therefore, an online experiment was set up. The sample was randomly split into two groups to explore whether an informational text, containing either other-focused or other- and self-focused negative consequences of food waste, affected consumers' attitudes and intentions about food waste. In other words, one group was solely educated about collective implications resulting

from the European food system as a whole and household-based food waste in particular whereas the other group was furthermore educated about the related personal implications.

According to this approach and the previously described findings in respect of food waste, five hypotheses were formulated. First, the role of self-interest as predictor variable was investigated. As described in the section about socio-demographics and personality, the study of Swami et al. (2011) found a relationship between Machiavellianism and consumers' food waste management. This finding indicates the meaningfulness of self-centered characteristics in the food waste case. This study tried to find support for this assumption, also because the literature review revealed that consumers adapt an egoistic point of view when considering decreasing domestic food waste. It was hypothesized that:

$H1_1$: There is a main effect of level of self-interest – The less self-interested, the less positive the attitude towards wasting food.

$H1_2$: There is a main effect of level of self-interest – The less self-interested, the smaller the intention to waste food at home in the future.
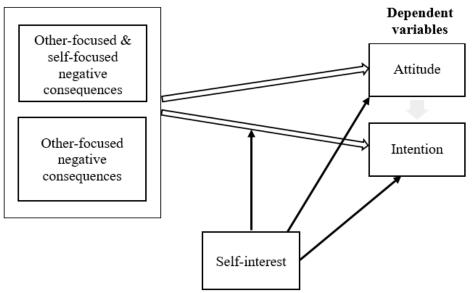
Second, the literature review showed that pro-environmental behavior is most commonly explained using other-focused intrinsic motivation (e.g. protecting the environment). Apart from this, once again, the discussion of previous studies gave also reason to believe that household food waste can be better tackled when consumers' self-interest is taken into account. Therefore, the following hypotheses assumed that including self-focused information has greater potential to motivate consumers than other-focused information by itself. In more precise words, it was expected that raising awareness about self-focused food waste consequences by means of an informational text could motivate and convince consumers to alter their attitudes and might lead to the formation of the intention to waste less food in the future. Based on this argumentation, it was hypothesized that:

$H2_1$: There is a main effect of presentation of information – The text containing both, self- and other-focused consequences, will lead to a more negative attitude towards wasting food, than the text containing only other-focused consequences.

$H2_2$: There is a main effect of presentation of information – The text containing both, self- and other-focused consequences, will lead to a greater intention to prevent food waste in the future, than the text containing only other-focused consequences.

Third, it was expected that self-interest could have a moderating influence on the relationship between the informational texts and the attitude and intention. Being more precise, it was expected that the awareness of self-focused negative consequences of food waste would rather affect consumers who scored high on self-interest. This was hypothesized because people with great self-interest were assumed to be more bothered, hence motivated, by personal disadvantages compared to others (e.g. environmental). Because of this, it was hypothesized that:

> H3: There is an interaction effect between self-interest and the informational text – The main effect of presentation of information ($H2_2$) will be especially pronounced among those with a great self-interest.

Figure 1 illustrates all hypothesized effects of the present study and thereby gives an overview of all involved variables.

Figure 1. The approach of the current study: Each arrow in the model represents a hypothesized effect between the four included variables (= presented information/experimental condition, self-interest, attitude and intention)

Methods

Participants

The eligibility requirements for this study were an age of 18 or older and sufficient knowledge of the English language (at least European B2 level). Convenience sampling was

used to recruit participants. For this purpose, SONA, the psychology test subject pool of the University of Twente, was used as well as Facebook by means of a personal appeal. Only participants who signed up via SONA received a reward, namely 0.25 SONA points. Approval for execution was obtained from the ethics commission of the University of Twente.

Within 5 weeks a total of 199 participants (28% men; 70% women; 2% rather not say) successfully took part in the study. Most of them were young adults because 91% were students (M_{age} = 22, SD = 4.17, minimum = 18, maximum = 46). Others were either (self-) employed or still went to school. 13% lived alone; the remaining 87% lived with others (M = 3.7, SD = 1.83). 59% did not have any financial difficulties, 37% had few financial difficulties and 4% had financial difficulties. 65% were German, 25% Dutch and 10% had other nationalities.

To check whether the participants were evenly distributed among the experimental conditions, a randomisation check was conducted for all demographic variables. For this purpose, independent-samples t-tests (for the variables age and household size) and Chi-square tests (for the variables gender, education, occupation, financial situation, and nationality) were conducted. The significance of all test values was greater than 0.05 (Appendix A). Hence, it could be concluded that participants in the two groups did not significantly differ with respect to any demographic variable.

Based on the manipulation check outcomes, participants were removed from the sample. While doing so, item 1 was not taken into consideration because it was vaguely formulated and assumingly did not meet its purpose (see discussion). Only those who answered less than two questions correctly were excluded because too many wrong answers were given in both groups to exclude everyone who failed to answer all questions correctly (see Appendix B to see the amount of right answers per participant). However, removing those 52 cases caused the remaining sample to be at risk for a type II error. Therefore, it is important to mention that two separate data analysis were conducted. The main data analysis used the whole sample (N = 199); an additional data analysis used the smaller sample (N = 147). In the results section, it can be seen whether the outcomes differed based on what sample was used. A randomization check revealed that the excluded cases (N = 52) differed from the remaining sample ($N_{other-focused}$ = 67; N_{both} = 80) with regard to nationality. The distribution of Dutch participants ($N_{excluded}$ = 9.6%, N_{main} = 29.6%), German participants ($N_{excluded}$ = 80,8%, N_{main} = 59.9%) and participants with other nationalities ($N_{excluded}$ =

9.6%, N_{main} = 10.2%) was significantly different in the two samples, $\chi^2(2)$= 9.02, p = .011. Differences with regard to other sociodemographic variables were not found ($p > 0.05$).

Design

The research consisted of a true online experiment and a questionnaire. Two different designs were employed. A one factor between-subjects design with self-interest as moderator was used. There was one independent variable (presentation of information) with two levels (other-focused versus self- and other-focused). In addition, a correlational design with self-interest as predictor variable was used. The dependent variables were the attitude towards food waste and the intention to reduce household food waste. After completing the self-interest questionnaire, respondents were randomly assigned to one of the two experimental conditions ($N_{other-focused}$ = 98; N_{both}= 101). Participants' intrinsic motivation was triggered by means of a text containing facts about the food waste issue in Europe, especially household-based food waste and its negative consequences. The two used texts differed with respect to what and how much information they contained.

In the following, the content of both texts is described one by one. The text used in the other-focused condition introduced the food waste problem by stating that the EU is concerned with its food waste issue and therefore "looking for every opportunity to prevent food waste and strengthen sustainability of the food system" (European Commission, 2017, Food Waste section, para. 1). Then, information about the amount of household-based food waste was given (retrieved from Kummu et al.; 2012, Stenmarck et al., 2016; Noleppa & Cartsburg, 2015). In the following, the most important negative consequences of the ineffective food system in Europe, thus consumers' food waste behavior included, were given in bullet points. Listed were implications for the environment, the economy and the society (other-focused consequences). An example is: "More than 20% of all cultivated land, 30% of forests and 10% of grasslands are undergoing degradation" (Appendix C). These statements were (in some cases literally) adopted from the website of Think.Eat.Save (http://www.thinkeatsave.org/index.php/about/save-tips).

The text used in the other- and self-focused condition was identical but contained additional information and was therefore longer. In particular, next to the information described above, it indicated that household-based food waste can also have personal implications by presenting negative food waste consequences that affect oneself (self-focused consequences). An example is: "A waste of money – each of us wastes more than 150€ per year; an average household approximately 340€" (Appendix C). The additional information

was retrieved from Neff, Spiker, and Truant (2015), as well as from Aramyan and Valeva (2016).

Measures

The software Qualtrics was used to design and conduct the study. The online survey was in English and measured the extent of self-interest in participants, their attitude towards food waste and their intention to waste food in the future. These three constructs were all measured on a 7-point Likert scale (from 1= strongly disagree to 7= strongly agree). Besides, a manipulation check and standard demographic questions (gender, age, nationality, education, occupation, members in household, and income) to consider socio-demographic backgrounds were included.

Self-interest. To assess participants' self-interest, a scale consisting of 12 statements was used (adopted from Gerbasi & Prentice, 2013) ($\alpha = 0.73$). The scale comprised 4 subscales which respectively assessed a prosocial relation (e.g. "It is the total amount of benefit that everyone receives that matters most"), a self-prioritizing relation (e.g. "I am happy to help others as long as I know that I am doing okay first"), a self-comparative relation (e.g. "I am concerned about doing as well as or better than those around me"), and a self-maximizing relation (e.g. "I look out for my own outcomes and don't concern myself with what happens to other people"; see table D1 in Appendix D for all items). Item 9 ("I think people should take care of themselves") was excluded from further analysis based on the results of a reliability analysis and the fact that the item in question showed poor inter-item correlations (see Appendix E). The mean score of the remaining 11 items was calculated in order to create an overall self-interest score. For this purpose, the prosocial items were reversed because Gerbasi and Prentice (2013) state that they expect self-interested persons to have low prosocial scores. It follows that the higher the score, the more self-interested a participant was expected to be.

Attitude towards food waste. Participants' general attitude towards household-based food waste was assessed using seven self-composed items ($\alpha = 0.75$). The scale was created based on the information that was given in the motivational texts and was furthermore inspired by the research Cox and Downing (2007). Hereby, three items addressed negative consequences of food waste for others (e.g. "Household-based food waste causes great problems for the environment") and three items addressed negative consequences of food waste for oneself (e.g. "When I throw food away, I waste my money"). The remaining item was asking about participant's overall opinion on household-based food waste (see table D2 in Appendix D). The scores were reversed after the data collection so that the higher the

score, the more positive the attitude towards food waste (= toleration of food waste). A mean attitude score was computed using all seven item scores.

Intention to waste less food. The intention to reduce food waste in the future was measured with a self-created scale that was also inspired by the questionnaires used by Cox & Downing (2007). The intention was assessed using five items ($\alpha = 0.84$). Participants stated their intentions while thinking about the near future and their households. Examples of items are: "I intend to buy only as much food as I need" and "Overall, I will try to throw less food away" (see table D3 in Appendix D). Eventually, the scores of this scale were reversed as well; a low score indicated the intention to waste little or no food in the near future whereas a high score indicated having no particular intention. The item scores were used to compute a mean intention score for the data analysis.

Manipulation-check. Four self-composed questions about the content of the motivational texts were used to find out whether the participants read the text carefully and thus understood it or not. Participants had to indicate whether statements about the text were true or false. An example is: "One of the stated food waste consequences was that it indicates an inefficient management of the household" (see table D4 in Appendix D, also for the expected and given answers per group). Participants in the other-focused condition were expected to answer the first three items with false and the last on with true whereas participants in the other- and self-focused were expected to answer all questions with true.

Procedure

The participants filled in the online experiment by use of the software Qualtrics. They were directed to the questionnaire by means of a link and first presented with an introductory text containing information about the purpose, confidentiality, voluntary participation and restrictions of the survey. Furthermore, they were told that participating would take approximately ten minutes. Agreeing with these terms allowed all participants to continue and start with the first part of the survey – the self-interest questionnaire. They were told that the statements regard personal viewpoints in life and asked to read each one to indicate whether they agree or disagree. After completion, participants were presented with a text about food waste and instructed to read the text carefully and try to understand and think about the content of it before continuing. The software automatically allocated participants to either the other-focused or the self- and other-focused condition by means of randomization.

In the following, the attitude of both groups was measured. They were instructed to state their opinion about household-based food waste by agreeing or disagreeing with the seven statements in this scale. Next, both groups were asked to state intention to waste food in

the near future by indicating their agreement with the stated items. Then, the manipulation check followed. In the final part of the questionnaire demographic variables (gender, age, nationality, education, occupation, members in household, and income) had to be answered. Eventually, participants were thanked for their participation and informed about the objectives of the study by means of a debriefing. Moreover, by reporting the email address of the researcher, the opportunity to receive a more detailed debriefing, get insight into the results of the study or ask any other questions was given.

Data analysis. The program IBM SPSS Statistics 22 was used to assess the data. For this purpose, the data was downloaded from the Qualtrics program and then analyzed. To examine whether the informational text was read, Chi-Square tests were computed for each item of the manipulation check. With regard to the experiment, a Shapiro-Wilk test was employed to test normality and Levene's test was employed to test homogeneity of variance for the dependent variables. To assess the socio-demographic background of the sample, descriptive summaries were computed. To assess whether the most important demographic variables as well as the independent and dependent variables were related to each other, correlations were computed. A one-way MANCOVA was conducted to test all hypothesized effects (one for the main sample (N = 199) and one for the secondary sample (N = 147). If necessary, the effect size and statistical power was examined: Partial eta squared was computed and in turn used to calculate eta squared by hand. With the aid of the program G*Power (Version 3.1.9.2), Cohen's f and the statistical power was determined.

Results

Manipulation check

To investigate whether the given answers within both groups differed or more precisely whether they could be explained by the manipulation, Chi-Square Tests for each item were conducted. The results revealed that an association between experimental condition and the given answers was observed for the items two, $\chi^2(1) = 13.07$, $p < .001$, three, $\chi^2(1) = 60.31$, $p < .001$ and four, $\chi^2(1) = 6.30$, $p = .012$ (for the items see table D4 in Appendix D). This means that participants in the two conditions gave significantly different answers which is positive because, except for item 4, participants' right answers (either true or false; table D4 in Appendix D) were opposed based on the experimental condition. Regarding item 4, significant different answers were given in the groups although the whole sample was expected to give the same answer (=true). Nonetheless, the relatively low Pearson Chi-Square value indicates only little association between the two variables. Against expectations, there

was no association between the conditions and the given answers for the first item. The fact that no association was found for this item although one was found for the other three items supported the in the participants section described concerns with respect to item 1.

Normality and Variance testing

With regard to the informational texts, a Shapiro-Wilk test of normality was conducted for the dependent variables. For both, attitude and intention, significances below 0.05 were observed (see Appendix F for all test results). This finding indicated that the scores on the two dependent variables were not normally distributed among both experimental conditions. Besides, the points of the normal Q-Q plots for intention followed a slightly nonlinear pattern (they rather formed a curve), suggesting that the data were not perfectly normally distributed. The normal Q-Q plots for attitude showed a similar pattern but less extreme. The plots for both variables also depicted that the sample had outliers because the points on both ends of the graph were rather extreme, especially for intention. However, both graphs depicted a reasonable linear pattern, so one could assume that the dependent variables were distributed close to normal. Besides, ANOVA analyses are robust tests, meaning violations concerning the normality of data could be tolerated (Khan & Rayner, 2003). Levene's Test showed homogeneity of variance for the dependent variables, $F_{attitude}(1/197) = 0.47, p = .493$; $F_{intention}(1/197) = 0.18, p = .669$. With the outcomes of both tests, the assumptions for a MANCOVA analysis were met.

Main analyses

Descriptive statistics. In table 1 an overview of the means and standard deviations of the two dependent variables and the self-interest scale is given per experimental group. The mean scores for all three variables were similar for both groups – relatively low. First, this meant that the average participant thought negatively about food waste and had a low intention to waste food in his/her household. The mean self-interest score was higher in comparison to the two other variables, but was still below the midpoint of the scale which meant that the average participant rather disagreed with statements that indicated a great self-interest.

Table 1

Means and Standard Deviations of the used Constructs for both Experimental Conditions
(N=199)

	Other-focused (N=98)		Self- & other-focused (N=101)	
	Mean	SD	Mean	SD
Attitude	2.37	0.75	2.50	0.77
Intention	2.00	0.85	2.14	0.84
Self-interest	3.38	0.66	3.43	0.67

Note. SD = standard deviation; all constructs were measured on a 7-point Likert scale from 1=
strongly disagree to 7= strongly agree

Correlation. Table 2 depicts the correlations between all variables from the tested
model (intention, attitude, presented information and self-interest). In addition, the
correlations of three demographic variables (members per household, financial situation and
age) were included since these have often been found to be important when it comes to
preventing consumer household food waste. The table shows that self-interest significantly
correlated with attitude and intention, thus with the two dependent variables. This
underpinned the approach and the hypotheses of the present study.

Table 2

Correlations of all Important Variables (N = 199)

	Attitude	Intention	Info Text	SI	Size hh.	Finances	Age
Attitude	1						
Intention	.46**	1					
Info Text	.08	.08	1				
SI	.21**	.19**	.03	1			
Size hh.	.03	-.08	.08	-.09	1		
Finances	.09	.08	.07	.14	.08	1	
Age	-.01	-.02	-.01	-.01	-.22**	-.09	1

Note. Info Text = informational text; SI = self-interest; Size hh. = Members per household; Finances =
financial situation
** Significant at the 0.01 level (2-tailed)

Hypothesis testing. A one-way MANCOVA was conducted to examine all
hypotheses. The model considered main effects with regard to self-interest on the one hand

and the informational texts on the other hand. Furthermore, the model tested whether there is an interaction effect between self-interest and the presented information.

   Self-interest. Regarding the first and second hypothesis, a main effect of the level of self-interest on intention and attitude was found, $F_{attitude}(1/199) = 8.57$, $p = .004$, $\eta^2 = .042$.; $F_{intention}(1/199) = 6.77$, $p = .010$, $\eta^2 = .042$. These results indicated that participants hold different attitudes and intentions towards food waste depending on their self-interest score. The mean scores specified that the less self-interest, the less positive the attitude towards food waste and the smaller the intention to waste food. As a result, hypothesis 1_1 and hypothesis 1_2 could be accepted. This decision was supported by a statistical power of 0.84 (attitude) and 0.75 (intention). 4.2% of the variance in attitude and intention could be explained by the self-interest measurement. Cohen's f was 0.21 for attitude and 0.19 for intention. Using the standard provided by Cohen, these are small effect sizes (f=0.10, small; f=0.25, medium; f=0.40, large) (Faul, Erdfelder, Lang, & Buchner, 2007). To sum up, the extent to which consumers are self-interested had a significant but small effect on attitude and intention.

   Informational text. All other hypothesized effects were non-significant. First, the additional presentation of information had neither a significant effect on the attitude towards food waste, $F(1/199) = 0.47$, $p = .496$, nor on the intention to waste food, $F(1/199) = 0.82$, $p = .367$. Therefore, hypothesis 2_1, which assumed that participant's attitude towards food waste is influenced by the sort of information they were presented with, and hypothesis 2_2, which assumed that participant's intentions to waste food is influenced by the information, had to be rejected. Second, no interaction effect was found between the presented information and self-interest for the dependent variables, $F_{attitude}(1/199) = 0.08$, $p = .773$; $F_{intention}(1/199) = 0.29$, $p = .592$. The last hypothesis predicted such an interaction and since this effect could not be observed, hypothesis 3 also had to be rejected.

   Secondary data analysis. The same one-way MANCOVA was conducted using the smaller sample (N = 147) that was created based on the manipulation check analysis. For this sample, all hypothesized effects were non-significant with significances greater than 0.05 (Appendix G). This meant that the exclusion of participants based on the assumption that the text was not read/understood sufficiently did not lead to a significant effect, also not when self-interest was controlled for. Apart from this, the outcomes with respect to self-interest for this sample were nonsignificant although they were significant in the main sample. The results concerning eta squared in this sample showed that much less variance in the dependent variables was accounted for by self-interest (1.2% in attitude & 1.3% in intention; Appendix G). Correspondingly, Cohen's f indicated a small effect ($f_{attitude/intention}$=0.11).

However, a statistical power of 0.26 (attitude) and 0.28 (intention) meant a small probability of approximately one quarter to correctly assume that self-interest could not be linked to the measured attitudes and intentions based on the found nonsignificant results for this sample. This finding verified the assumption that was made in the methods section concerning the risk for a Type II Error. As a result, the observed differences between the MANCOVA analyses were most likely due to the differing sample sizes.

Discussion

Tremendous amounts of food are being wasted every day by us consumers. Therefore, it is crucial to find ways and means to reduce household-based food waste or better said to motivate and convince end-users to alter their inefficient food management. The global focus was on the role of consumers' self-interest in household food waste. For this purpose, self-interest was directly as well as indirectly examined. First, it was investigated whether the extent to which a consumer is self-interested could influence attitudes and intentions regarding food waste. Second, two different informational texts were used to raise awareness about negative consequences of food waste. Specifically, an online experiment was conducted to examine whether triggering other-focused intrinsic motivation in combination with self-focused intrinsic motivation could instigate changes in food waste related attitudes and behavioral intentions. This was compared to triggering only other-focused intrinsic motivation. Third, it was tested whether the extent to which participants are self-interested could have a moderating influence on the assumed influence of the presented information on attitudes and intentions.

Self-interest

The extent to which people employ a self-interested point of view in life was significantly associated with their attitudes and intentions with regard to food waste. This observed relation between self-interest and constructs that, following the theory of planned behavior, are assumed to have a determining influence on behavior forming, underpins the assumption that personality can work for and against attempts to stimulate pro-environmental behavior. For this reason, researchers should keep certain character tendencies, such as self-interest, in mind in the design process of interventions.

Informational texts

The additional presentation of self-focused consequences next to other-focused negative consequences of food waste neither significantly altered attitudes towards food waste nor significantly motivated respondents to waste less in the future. In other words, the

distinction that was made between triggering either one or two different aspects of intrinsic motivation did not appear meaningful in this research. This insight was unexpected precisely because literature showed that consumers mainly worry about personal, self-focused negative consequences of household food waste such as a waste of money when reflecting upon their poor waste management (e.g. Cox & Downing, 2007; Graham-Rowe et al., 2014; Watson & Meah, 2012).

This discrepancy between the theoretical framework and the results of the current study raised the question whether the provided textual information was persuasive enough to motivate consumers and in turn instigate behavioral change. Frewer (2004) as well as Verbeke, Frewer, Scholderer, and De Brabander (2007) argue that addressing people's concerns so that personal relevancy is assured is crucial to effectively reach a consumer. Although this is a point in favor of the used texts, especially the included self-focused information, personal relevancy was apparently no guarantee for behavioral change in this sample. An explanation might be that more specific differing needs between people have not been taken into account. This is due to the fact that the scope of this Bachelor thesis restricted the recruitment possibilities to the use of convenience sampling. It is likely that not targeting a specific group of consumers, thus specific needs, negatively influenced the efficiency of the used texts (Verbeke et al., 2007). This is in line with the observed relevancy of character traits in general and self-interest in particular.

With regard to the used content, it is also possible that the provided information was incomplete and therefore did not have a significant influence. The fact is that solely information about the negative consequences of food waste was provided. Aschemann-Witzel et al. (2015) state that solely focusing on a consumer's motivation (as it was intended by the used texts) might have less potential to change household food waste behavior than a combination of raising motivation and offering practical solutions. Thus, a lack of information about how people could actually improve their food waste management behavior in real life might have impaired the meaningfulness of the manipulation. This point stresses the intertwined nature of food waste determinants once again.

Another point to look at is the fact that the texts differed with regard to their length. However, the question whether this difference could have impaired the effectiveness of the presented information is answered by research that could not find an influence of text length on reading comprehension (Jalilehvand, 2012). In contrast, pictures have been found to positively affect reading comprehension (Jalilehvand, 2012). Thus, it is conceivable that the inclusion of pictures in the text could have worked in favor of the intervention's message.

Especially given the complexity of consumer food waste behavior, using more than one communication tool seems beneficial (Gupta, 2016) and thus might have been more persuasive.

Assuming that the manipulation did not work properly also serves as a plausible explanation for the finding that self-interest in combination with the informational texts did not influence attitudes and intentions whereas self-interest by itself did. Apart from the concerns about the persuasiveness of the used texts, a more comprehensive picture of interacting effects assumed to influence domestic food waste could have been gained if more factors were included in the tested model. For example, Bolderdijk, Gorsira, Keizer, and Steg (2013) emphasize the inclusion of personal values by showing that whether participants valued the protection of the environment or not mediated the success of their informational intervention to enhance pro-environmental behavior. In this context, including 'problem awareness' also seems to be valuable because it makes sense that taking actions against food waste is based on the perception of a problem.

Limitations

Some points about the structure of this study must be kept in mind in the evaluation of the present outcomes. To begin with, no control group was included. The goal of the current experiment was to investigate whether adding self-focused information could make a difference in comparison with only other-focused information. However, including a control group would have been useful to rule out the possibility that both texts evenly influenced the measured attitude and intention or that the informational texts had no influence at all. In this context, it is also important to bear in mind that the instruments used to measure the attitude and intention constructs were self-constructed. Although both instruments showed acceptable to good reliability, they were merely composed for this study and might have had deficiencies, for example concerning their validity.

The sample itself could, to some extent, also have been responsible for the fact that the informational texts did not appear effective. Based on the outcomes concerning the manipulation, it seemed as if the majority of the sample did read the text but did not paid enough attention to pass the manipulation check. For example, it is conceivable that participants speed-read the text. This assumption is supported by the fact that most participants were recruited via the psychology test subject pool of the University of Twente, which obliges psychology students to take part in studies. This could have undermined the extent to which participants took the current study serious, did their best in taking part and eventually were attentive when reading the text.

Given the fact that not all people who failed to evaluate all four manipulation check items correctly were excluded from the secondary analysis might have impaired the meaningfulness of the found results with regard to the smaller sample. Not all participants who failed the check were excluded because there were too many. The latter might have been caused by the design of the manipulation check. Participants could only evaluate the used statements with true or false. Hence, if they did not remember or adequately read the information presented in the text, they had no opportunity to indicate this by means of their answers. This enabled the risk of bias through guessing and represents a point of criticism for this study. Besides, a closer look at item 1 showed that it was a compound item, meaning that it comprised more than one question. As a result, confusion could have occurred for the reader, because they were forced to answer several questions at once.

Future research

This study could not find any relationship between the presentation of certain information about the negative consequences of food waste and differences in related attitudes and intentions. However, the used content was adequately derived from findings of previous studies about consumer household food waste. Several reasons have been discussed which might have been responsible for the fact that the manipulation did not lead to any meaningful outcomes. Future research should consider the following points:

First of all, a control group to test the assumption that the presentation of information is a successful approach to instigate behavioral change concerning consumers' food waste management should definitely be included. Second, the present study purposely primed either other- or other- and self-focused intrinsic motivation by means of a text. Concerns regarding the persuasiveness of the manipulated information in the texts were discussed. Future research is advised to experiment with the method used to convey the message to test whether different implementations could lead to different outcomes (e.g. using pictures).

Furthermore, it is advised to validate the used scales or create more appropriate scales to measure the variables included in this study. Last but not least, the present study supported the assumption that differences regarding one's food waste behavior can stem from egoistic tendencies. However, given that little research to date has focused on this relationship, confirmation by further research is highly needed.

Conclusion

In general, this work extends previous research in relation to the examination of underlying processes that may drive consumer decision making in the context of personal food waste. It is important and valuable because although egoistic tendencies appear in

research, little, if any previous research has addressed self-interest and self-focused information within the scope of pro-environmental behaviors in a detailed manner. The fact that the used intervention lacked persuasive power illustrates once more the difficulties researchers face when trying to change consumer food waste behavior. Apart from this, the acquired insight with regard to self-interest is especially relevant because it emphasizes the role of character traits in household food waste and thus brings along prospects for further research.

Conflict of interest. The author declares that there was no conflict of interest.

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Appendix A

Table A1

T-test Values, Chi-Square Test Values and Significances for all Demographic Variables

	t	χ^2	p-Value
Age	-	0.09	.926
Size household	-	-1.11	.267
Gender	3.06	-	.217
Nationality	2.22	-	.330
Education	3.48	-	.626
Occupation	3.31	-	.347
Financial situation	1.10	-	.577

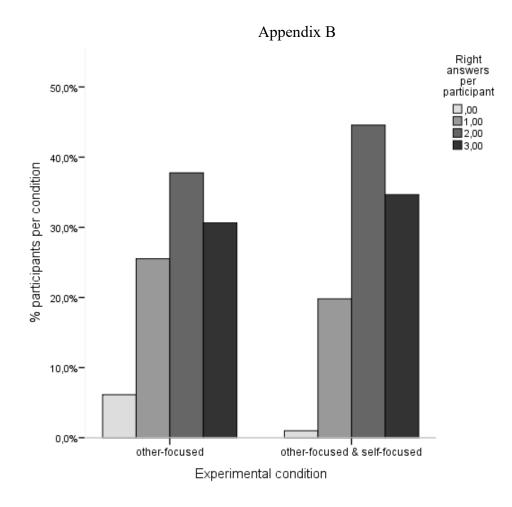*Note.* T = T-test statistic; χ^2 = Chi-Square test statistic

Appendix B

Figure 2. Amount of correctly answered questions of the manipulation check per experimental condition. The y-ax represents the distribution of the participants within each condition in percent

Appendix C
Informational texts

Given instructions for both texts: In the following section, you will be presented with a text about food waste. Please read the text carefully and try to understand what is said before you continue with the next part of this survey. You are free to think about the content of the text for a minute or two before you continue.

The text participants in the other-focused condition were presented with:

The EU is deeply concerned with its food waste issue. Therefore, they "are looking for every opportunity to prevent food waste and strengthen sustainability of the food system." One possibility is raising awareness. For example, did you know that 1/3 of our produced food is lost or wasted? Thereby, we, as consumers, produce more than 50% of the total food waste amount in Europe in our households. Specifically, it is estimated that each of us could avoid a waste of approximately 65kg per year. Generally speaking, our global food system contributes to staggering and constantly growing economic, social and environmental implications. Examples are the following:

- More than 20% of all cultivated land, 30% of forests and 10% of grasslands are undergoing degradation
- 9% of the freshwater resources are globally withdrawn, 70% of this by irrigated agriculture
- More than 30% of total global greenhouse gas emissions are related to food production
- Globally, the agri-food system accounts for nearly 30% of end-user available energy
- 30% of marine fish stocks are already considered over-exploited
- Worldwide, one in every seven people go to bed hungry
- More than 20.000 people die of hunger every day
- Food waste causes tremendous costs – about €185 billion annually in industrialized regions

Household-based food waste thus has negative consequences for the environment, the economy, and the society.

The text participants in the other- & self-focused condition were presented with:

The EU is deeply concerned with its food waste issue. Therefore, they "are looking for every opportunity to prevent food waste and strengthen sustainability of the food system." One possibility is raising awareness. For example, did you know that 1/3 of our produced food is lost or wasted? Thereby, we, as consumers, produce more than 50% of the total food waste amount in Europe in our households. Specifically, it is estimated that each of us could avoid a waste of approximately 65kg per year. Generally speaking, our global food system contributes to staggering and constantly growing economic, social and environmental implications. Examples are the following:

- More than 20% of all cultivated land, 30% of forests and 10% of grasslands are undergoing degradation
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- 30% of marine fish stocks are already considered over-exploited
- Worldwide, one in every seven people go to bed hungry
- More than 20.000 people die of hunger every day
- Food waste causes tremendous costs – about €185 billion annually in industrialized regions

You might ask yourself whether this information is relevant for you as a consumer. Have you ever considered the fact that throwing food away has personal implications, too? The following examples indicate what household-based food waste means to us consumers:

- A waste of money – each of us wastes more than 150€ per year; an average household up to 340€
- Feelings of guilt because we waste food that still could have been eaten
- Setting a bad example for others in our social environment (e.g. our children, friends, family...)
- It indicates an inefficient management of our households (e.g. planning, preparing...)
- To others, it can make the impression that we only care about ourselves

Household-based food waste thus has negative consequences for the environment, the economy, and the society, but also for yourself as a consumer.

Appendix D

The Self-Interest Questionnaire

Given instructions: Below are a number of statements regarding personal viewpoints in life. Please read each one and indicate to what extent you agree or disagree with each statement. Don't think too much about your answers; there are no right or wrong answers.

Table D1

Item numbers, Statements and Corresponding Subscales of the Self-interest Construct

Item number	Statement	Subscale
1	I am concerned about doing as well or better than those around me.	SC
2	It is the total amount of benefit that everyone receives that matters most.	PS
3	I make sure that what I am getting is better than what other people are getting.	SC
4	I am concerned with overall best interest for everyone.	PS
5	I am happy to help others as long as I know that I am doing okay first.	SP
6	I try to make sure I stay ahead of the curve.	SC
7	I look out for myself first, and then I try to make sure others are doing okay.	SP
8	When I'm not doing well, I can't be expected to try to take care of other people.	SP
9	I think people should take care of themselves.	SM
10	I would be happy to give up a little of something that I wanted if it meant that everyone is better off in the long run.	PS
11	I look out for my own outcomes and don't concern myself with what happens to other people.	SM
12	I only care about my interests.	SM

Note. SC=self-comparative relation; PS=prosocial subscale; SP=self-prioritizing relation; SM=self-maximizing relation; measured on a 7-point Likert scale from 1=strongly disagree to 7=strongly agree

Attitude Questionnaire

Given instructions: In this part, we would like to know how you think about household-based food waste. Please indicate your opinion by completing the following statements. Don't think too much about your answers; there are no right or wrong answers.

Table D2

Item Numbers and Statements of the Attitude Construct

Item number	Statement
1	Household-based food waste causes great problems for the environment.
2	If consumers would waste less food, there would be less hunger in the world.
3	Household-based food waste causes others great costs.
4	When I throw food away, I waste my money.
5	Wasting edible food makes me feel guilty.
6	The less food I waste, the more efficient the management of my household is.
7	Overall, I think household-based food waste should be prevented.

Note. Measured on a 7-point Likert scale from 1= strongly disagree to 7= strongly agree

Intention Questionnaire

Given instructions: The following statements deal with food waste behavior. While answering, think about the near future (e.g. next one/two weeks) and your household. Don't think too much about your answers; there are no right or wrong answers.

Table D3

Item Numbers and Statements of the Intention Construct

Item number	Question
1	I intend to buy only as much food as I need.
2	I intend to cook only as much food as I need.
3	I intend to eat up my leftovers before they will be inedible.
4	I intend to store my food in a way that prolongs its edibility.
5	Overall, I will try to throw less food away.

Note. Measured on a 7-point Likert scale from 1= strongly disagree to 7= strongly agree

Manipulation Check

Given instructions: These statements are about the text you have been presented with previously. Please indicate whether the statements are true or false.

Table D4

Manipulation Check Items and Answers, Means and Standard Deviations for Both Experimental Conditions

Item	Other-focused group (N=98)				Other- & self-focused group (N=101)			
	True	False	Mean	SD	True	False	Mean	SD
The text contained environmental, social, economic, and personal consequences of food waste.	86	**12**	1.12	0.33	**92**	9	1.09	0.29
One of the stated food waste consequences was that it indicates an inefficient management of the household.	42	**56**	1.57	0.50	**69**	32	1.32	0.47
The text contained information about how much money each person wastes every year due to food waste.	18	**80**	1.82	0.40	**74**	27	1.27	0.45
One part of the text indicated what household-based food waste means to consumers.	**53**	45	1.46	0.50	**72**	29	1.29	0.45

Note. SD = standard deviation; the questions could be answered with 1 = true or 2 = false; the right answers are depicted boldfaced

Appendix E

Table E1

Inter-item Correlations for all Items of the Self-Interest Construct

	1	2	3	4	5	6	7	8	9	10	11	12
1	1											
2	.04	1										
3	.30	.18	1									
4	.15	.01	.28	1								
5	.09	.09	.42	.51	1							
6	.35	.08	.45	.24	.34	1						
7	.08	.31	-.15	-.04	-.14	-.10	1					
8	.14	.02	.25	.23	.50	.31	-.08	1				
9	**.13**	**-.03**	**.20**	**.11**	**.26**	**.10**	**-.11**	**.17**	1			
10	.00	-.08	.26	.25	.37	.22	-.30	.30	**.14**	1		
11	-.01	-.04	.23	.17	.41	.16	-.23	.39	**.08**	.66	1	
12	-.04	.13	-.18	-.07	-.24	-.18	.46	-.19	**-.03**	-.33	-.36	1

Note. Items 2, 7 and 12 were negatively formulated (prosocial relation)

Appendix F

Table F1

Shapiro-Wilk Test Results for Normality

	Other-focused			Other- & self-focused		
	Statistic	df	*p*-Value	Statistic	df	*p*-Value
Attitude	0.97	98	.028	0.97	101	.044
Intention	0.86	98	.00	0.91	101	.00

Note. df = degrees of freedom; test is significant at *p* < .05

Appendix G

Table G1

Results of the One-Way MANCOVA for each Construct and Proportion of Explained Variance for Self-Interest (N = 147)

	Attitude			Intention		
	F	*p*-Value	η^2	F	*p*-Value	η^2
Text	0.01	.926	-	0.12	.732	-
Self-interest	1.74	.190	.012	1.95	.165	.013
Text*self-interest	1.02	.363	-	0.98	.378	-

Note. η^2 = effect size eta squared