Consumers' assocations with organic food

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Manon Jurgens

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Dr. Margôt Kuttschreuter

Femke Hilverda, MSc

Department of Psychology of Conflict, Risk and Safety

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Summary

We established a framework of the conceptualisations of organic food by consumers with different purchase behaviours in order to increase the ability to respond to the growth of the organic food market by policy makers, advertisers, and food production companies. The current research therefore aimed to investigate what associations consumers with different purchase behaviours have with organic food on the basis of the Construal Level Theory. Specifically, we investigated consumers' associations with organic food as well as organic meat and vegetables, in order to compare more abstract and concrete instances of the concept. We also examined differences in associations with organic food between consumers with different purchase behaviours of organic food to increase understanding of the differences in perceptions of organic food. Furthermore, we examined differences in characteristics between the consumergroups in order to increase understanding of the consumers who always, occasionally, or never purchase organic food.

We carried out a prototype analysis using convenience samples in two studies to investigate what associations consumers have with organic food and what associations are most central. We also explored consumers' psychological distance to organic food, their human-centred, animal-centred and environment-centred values, and their socio-demographic features. Overall, the results showed consumers associate organic food mostly with animal welfare, price, health, pesticides, and naturalness. Associations related to environment, health, honesty, pesticides, and sustainability were deemed most central. The results also showed that consumers who always purchase organic food have a more positive and concrete conceptualisation of organic food than consumers who occasionally and never purchase organic food.

Research into consumers of organic food has largely focused on consumers' motivations to purchase organic food. However, little is known about their associations with organic food, while this is essential to understand different consumer behaviour regarding organic food. In the current research, we established a framework of the conceptualisations of organic food by consumers with different purchase behaviours. We must be cautious to extend the results beyond the boundaries of this study since the results are based on a convenience sample. Further research using a more generalisable sample is therefore necessary. But the research does show that to understand consumer behaviour regarding organic food we must also look beyond elements such as purchase motivations. The insights established in this framework are therefore valuable and crucial to understanding how consumers comprehend organic food.

Contents

1. Introduction

Sales of organic products increase and organic production is evermore in the spotlights. To be able to better adjust to the challenges consumerism poses, research focuses on policy making and consumer motivations to purchase organic food. We now have a working definition of the concepts of "organic" and "organic food" to use in policy making. We now also know that the concern for health and wellbeing appears to be central to consumers' purchase motivations, that consumers differ in their level of experience and expertise, and that consumers with different levels of experience perceive attributes differently. However, it is still unclear what associations consumers have with organic food, while they are of vital importance to develop a coherent framework of the concept of organic food in consumers' minds. The development of such a framework provides new information on how consumers experience organic food and how they make sense of the concept. This, in turn, may serve as a platform for the creative use of consumers' associations in policy making and marketing communications. The consumers' minds may be (nearly) clean slates with hardly any associations with the concept; associations may be traced to different levels of experience and expertise which left different impressions in the consumers' minds; and consumers' associations may be mixed in valence, leaving open the question whether positive or negative associations are more prevalent in the consumers' minds.

This study principally investigates what associations consumers have with organic food, how these associations differ in amount and valence, how these assocations differ according to the framing of organic food, and how these associations differ between different consumergroups. Furthermore, this study investigates how consumers make sense of the concept of organic food by using the Construal Level Theory (CLT). This theory is used to analyse how concrete the concept is in consumers' minds by measuring the consumers' psychological distance to the concept, using temporal, spatial, social, hypothetical, informational and affective distance. Additionally, this study investigates how consumers differ on their values, and what characteristics distinguish consumers who always, occasionally, and never purchase organic food.

1.1 Organic food history

Organic agriculture emerged in the 1930s and 1940s in the major industrial countries as an alternative to the increasing intensification of the usual agriculture (Lotter, 2003). The first use of the term "organic farming" appeared in 1940 in the book Look to the Land by Lord Northbourne (Paull, 2006, 2010). This book was a manifesto of organic agriculture in which he contested organic versus chemical farming. This terminology of 'organic' appeared thereafter as a differentiated mode of agriculture, with "organic farming" as designing and managing the farm as a whole system that

integrates soil, crops, animals, and society (Lotter, 2003; Paull, 2006, 2010). This approach is fundamental to understanding the decisions of the organic agriculture community regarding its practices (or its opposition to certain 'regular' practices), its discomfort with mainstream commercialisation and its inclusion of ethical and social issues (Lotter, 2003).

The organic food market is growing at a rapid rate with production and sales of organic food increasing profoundly (Soil Association, 2014; Willer, Lemoud, & Kilcher, 2013). According to the European Commission, the farming of organic food relies on a number of objectives, principles, and common practices designed to minimise the human impact on the environment, with the agricultural system operating in a way more closely resembling and respecting nature (European Commission, n.d.-b). The resulting organic food is defined by how it is produced, and rather by how it cannot be made than how it can be made, which means that it must be produced without the use of sewer-sludge or (most) synthetic fertilisers and pesticides, genetic engineering, growth hormones, irradiation, food additives, processing aids, and livestock antibiotics (Ahmad & Juhdi, 2010; European Commission, n.d.-b; Soil Association, 2014). The process of organic farming is aimed at combining the best environmental practices, and does so through responsible use of energy and natural resources, maintaining biodiversity, water quality and ecological balance, enhancing soil fertility, and respecting animals by promoting animal health and welfare (European Commission, n.d.-a, n.d.-b).

There is thus a working definition of the concept of “organic food” in policy making, but this definition is not wide-spread knowledge among the general public of consumers. The findings of Harper and Makatouni (2002) showed that consumers often confuse organic and free-range products because they believe that “organic” is equivalent to “free-range” food. While “free-range” is part of the definition of the term “organic”, it is not the same. In line with these findings, Eden (2011) showed that labels on organic and functional foods were given very different meanings by regulators and consumers, especially with reference to technological modification.The term “organic” is defined through European Regulation 834/2007 as “coming from or related to organic production” (Council of the European Union, 2007, p. 4), with the latter involving the use of the production method that is compliant with the rules established in the Regulation, at all stages of production, preparation and distribution. In the Regulation, organic production is described in terms of allowable production practices; organic production should combine best environmental practices with a high level of biodiversity and the preservation of natural resources. It also includes a reference to the application of animal welfare standards and the permissibility of certain inputs and treatments, refering to the preference of certain consumers for products that are produced using natural substances and processes (Council of the European Union, 2007).

This is only the political conceptualisation of organic food and explains only what production methods and products may count as organic food. However, this may not be in line with the way consumers

perceive organic food. To understand how consumers conceptualise organic food it is important to understand what they associate with the concept and what they to be its vital aspects. Furthermore, it is important to know whether, and if so, how, the way consumers perceive organic food differs between consumers with different purchase behaviours regarding organic food.

1.2 Making sense of organic food

Construal Level Theory, as explained by Trope and Liberman (2010), propopes that we transcend the present to include distal entities by forming an abstract mental construal of these distal entities. In that way we can plan for the distant future, take someone else's perspective, speculate about what might have been and imagine hypothetical alternatives to reality – all mental constructions that are different from immediate experience. These constructions are predictions, memories, or speculations that represent psychologically distant entities. The basic premise of the theory is that the distance of an entity is linked to the level of mental construal in a dual manner, with increasingly higher levels of construal bringing to mind more distant entities and vice versa. As the psychological distance increases, the mental construals thus become more abstract. Increasing levels of abstractness, in turn, increase the psychological distance, meanwhile retaining central features of the entity and omitting features that are increasingly incidental.

Even though the concept of psychological distance is a fully subjective experience, there are different ways in which an entity might be removed from the individual in the present time (Trope & Liberman, 2010). The psychological distance may be, for instance, temporal, spatial, social, hypothetical, informational, or affective. When an entity, for example an organic zucchini, is removed from the self in the here and now on the temporal dimension, the zucchini is in the past or the future. The psychological distance increases as the zucchini is further away in time. For instance, "I will purchase an organic zucchini next week" is more temporally distal than "I purchase an organic zucchini now". A difference on the spatial dimension may be expressed as the difference between an organic zucchini being only available for purchase in the store an hour away or being readily available in your fridge. The social dimension may be on an interpersonal or group level with the more you feel related to someone else or another group, the smaller the social distance becomes. Imagine for example the difference between your distant cousin twice removed and best friend purchasing organic zucchinis. The hypothetical distance is the likelihood of an imaginary entity becoming reality, thus whether a consumer sees herself (still) purchasing an organic zucchini in a future scenario. The informational distance is expressed as the amount of information a consumer has about decision options, with the more dense the information the lesser the distance (Fiedler, 2007). The affective distance is the 'warm' or 'cold' feeling reactions towards organic food (Fiedler, 2007).

The psychological distance may also appear in people's perceptions of organic food and the meaning they attribute to the concept. The dimensions of psychological distance appear to be related and the concept of psychological distance appears to be an aspect of meaning (Trope & Liberman, 2010). With entities differing in levels of abstractness, the conceptualisation of organic food may also include more or less specific features. The higher the level of abstractness, the more inclusive, simple, and coherent the concept is, with more room for alternative interpretations. People may, therefore, attribute different meaning to the concept of "organic food" compared to a less abstract, less inclusive concept like "organic meat" or "organic vegetables".

Apart from forming mental construals about entities, people also make sense of information by actively constructing and interpreting their own ideas. In her study on organic and functional food labelling, Eden (2011) uses the concept of boundary objects to concentrate attention on how a diversity of consumers gives meaning to the same label. She notes the necessity of a theoretical frame for how consumers make sense of food information on labels, in a way that may or may not have been intended by the provider of the product. Eden's study also addresses the concept of organic food as a relational concept. The meaning of the concept is constituted by the different perspectives of consumers with different levels of experience and expertise. The different perspectives of consumers might be, partly, due to different moral attitudes, different perceptions of organic food, and different socio-demographic backgrounds. In the present study these determinants are explored.

1.2.1 Consumers' moral attitudes toward organic food

Makatouni (2002) identified three main broad categories of life values that correspond to the key motivating factors for consumers to purchase organic food. These categories are consumers' human, animal, and environment centred values. Although consumers do not necessarily see the purchase of organic food as a moral imperative, the moral aspects related to organic food, like the consequences for animal welfare and the environment, are more likely to elicit a positive response (Arvola et al., 2008). Since an individual's moral norm predicts intentions to act, and since the perceived moral correctness may make it more likely that the intention is translated into action - if the behaviour is construed in moral terms (Godin, Conner, & Sheeran, 2005) - a consumer's values may influence whether or not (s)he purchases organic food.

1.2.1 Consumers' motivating factors to purchase organic food

Consumers' different perspectives of organic food might also be due to differing associations with organic food. According to Hughner, McDonagh, Prothero, Shultz, and Stanton (2007) the decision of a consumer whether or not to purchase organic food is based on the subjective experiences and perceptions of the product. Research into these experiences and perceptions has mainly focused on

people's motivations for purchasing organic food. Central to consumers' motivations related to the consumer are aspects related to health (Harper & Makatouni, 2002; Hughner et al., 2007; Zanoli & Naspetti, 2002), like wellbeing (Hughner et al., 2007; Zanoli & Naspetti, 2002), safety of the product (Harper & Makatouni, 2002; Hughner et al., 2007), and nutritional concern (Hughner et al., 2007).

Consumers' motivations also include concerns for animal welfare (Harper & Makatouni, 2002; Hughner et al., 2007), which are highly prevalent in the definition and agricultural system of organic farming. But while animal welfare may be one of the main reasons to purchase organic food, it is not yet clear what the exact focus is of these ethical concerns. The consumers may be motivated by concern for the welfare of the animal itself, but they may also be concerned with the impact of the quality of life of the animal on the food product they eventually eat (Harper & Makatouni, 2002).

Other concerns that are more peripheral motivations for consumers to purchase organic food are the concern for the environment, the superior taste of organic food, a lack of confidence in the conventional non-organic food industry, its support of the local economy (as organic farming aims for a decrease of transportation of the goods), and its fashionable character (Hughner et al., 2007). Moreover, being free from genetic modifications and food additives are motivations to purchase organic food as well (Makatouni, 2002).

On the other hand, barriers to not purchase organic produce are the costs and lack of availability of organic foods (Lea & Worsley, 2005). Regarding the costs of organic food, Pretty et al. (2000) build a case to defend the higher price. They state that the price of non-organic food is low because the over the counter payment is only one of three ways one pays for the product. While indeed organic food is usually more expensive than non-organic food, because crop rotations, organic animal feed, and other practices result in higher production costs, consumers pay hidden costs for non-organic food. Therefore non-organic food only appears to be cheaper. The first payment is done over the counter, the second via taxation to fund agricultural subsidies, and the third to remedy the environmental pollution that is caused by the conventional intensive farming practices.

Other deterrents to purchase organic produce are poor merchandise, a sceptic view of the consumer of the certification boards and labels, and satisfaction with the current conventional food source and seeing no reason to change (Hughner, 2007). But even if consumers perceive organic products as difficult to find and expensive, most consumers do judge them positively (Zanoli & Naspetti, 2002).

With the purchase motivations of consumers being quite clear, knowing that consumers desire good, tasty and nourishing products because pleasure and wellbeing are their most important values, and knowing that all consumers associate organic products with health at different levels of abstraction (Zanoli & Naspetti, 2002), the question remains what consumers associate with organic food and which are most central for consumers. Furthermore, these associations may be different for the more

abstract concept of food, or more specific instances such as meat and vegetables. These associations may also differ between consumers with different purchase behaviours.

1.2.1 Differences between food, meat, and vegetables

The associations consumers have with organic food as the general concept may be different from associations with meat or vegetables as specific instances of organic food. Animal welfare, for instance, is intuitively strongly related to meat, but has little to do with vegetables. It is therefore important to include in an inquiry into consumers' associations with organic food the possibility that associations are distinctly different when they concern either food, meat, or vegetables.

While concern about health is the primary motivator of consumers to purchase organically produced goods, consumers are also concerned about the environmental impact on intensive farming, and about the welfare of intensively-produced farm animals. Consumer concern about animal welfare has increased in reaction to the intensification of agricultural animal production. However, there is little data available on the meanings consumers attach to "organic" food and "animal welfare" (Harper & Makatouni, 2002).

On the other hand, consumer surveys reveal that fruits and vegetables are the leading categories for organic sales. These consistently are purchased most often and they are the product types that are first purchased by non-regular organic food consumers. In the future, the scale of organic farming is expected to increase, which gives organic food the opportunity to expand beyond its traditional base, with many more mainstream grocery groups going to enter the organic sector to satisfy consumer needs. Meat and cereals have a great deal of potential growth, because the variability is great and organic shoppers prefer the same convenience and range of food they find in the conventional offerings (Aschemann, Hamm, Naspetti, & Zanoli, 2007). But while expectations may be the same for both categories, the meanings and associations connected to the organic variants may not.

It is unclear whether consumers' ethical concerns with animal welfare relate specifically to the welfare of the animal or to the impact the welfare has on the food product that the animal will become (Harper & Makatouni, 2002). If the latter is the case, consumers' concerns with organic meat products would very likely not be any different from consumers' concerns with organic vegetables. If the consumers' concern does concentrate on the welfare of animal in its own right, the question becomes whether associations of consumers are different between the two types of products groups.

1.2.1 Differences between consumers with different purchase behaviours

Associations with organic food, meat, or vegetables may also differ between consumers with different purchase behaviours of organic food. While in theory the account of what organic farming entails is

quite set, however broad, the meaning of the word "organic" is variable with respect to the perspective of consumers. According to Hughner et al., 2007 consumers interpret the term "organic" in a variety of ways and in a multitude of differing contexts. Besides this, consumers of organic food are not homogeneous in demographics or in their beliefs (Hughner et al., 2007). Lea and Worsley (2005), for instance, found that the majority of their participants believed that organic food is healthier, tastier, and better for the environment than conventional (non-organic) food, with women being generally more positive about organic food than men. They found that gender was the second dominant predictor of positive beliefs of organic food, after the universal personal value factor that includes unity with nature, preserving the environment and equal opportunity for all.

Harper and Makatouni (2002) distinguish three different types of consumers, non-organic food consumers, regular organic food consumers, and occasional organic food consumers. The negative aspects of organic food were found to be more relevant for regular consumers than to those occasionally buying organic food. The latter ones were mostly concerned with the lack of availability of organic food. Zanoli and Naspetti (2002) as well found attributes to be perceived differently by different groups of consumers having more or less experience with organic food purchase. They found occasional consumers to be particularly attracted by personal satisfaction resulting from purchasing organic food, while the appearance of the food was experienced as a deterrent from purchase, however tasty the consumers thought the food to be. The occasional consumers also lack transcendental values related to purchasing organic food, like altruism and the realisation of a sustainable future.

Such differences between consumers with different organic food purchase behaviours may also show in their associations with organic food. In line with Harper and Makatouni (2002) we therefore distinguish three types of consumers in this research, namely those consumers who (almost) always, occasionally, and seldom or never purchase organic food.

1.3 Research questions

We therefore explore whether associations, mental construals, values, and socio-demographics differ between consumers who always, occasionally or never purchase organic food. This culminates in the following main research question that aims to encapsulate every element: *What associations do consumers with different purchase behaviour have with organic food?* The exploration of the specific elements are expressed in the following subquestions:

RQ-a-1: *What associations do consumers have with organic food?*
RQ-a-2: *What associations with organic food are most central?*
RQ-b: *How do associations with organic food vary between food, meat, and vegetables?*

RQ-c: *How do associations with organic food vary between consumers who always, occasionally, and never purchase organic food?*

RQ-d: *How do consumers who always, occasionally, and never purchase organic food vary with regard to their psychological distance to organic food, their values, and their socio-demographic information?*

The research in order to answer these questions consists of two studies. In the first study the respondents were asked using a digital questionnaire to write down their associations with either 'organic food', or 'organic meat' and 'organic vegetables'. Furthermore the respondents were asked to answer questions about their psychological distance to organic food, their values related to organic food, and their socio-demographics. The associations that were gathered in this first study were then categorised. These categories were in turn assessed on their centrality with organic food by a second group of respondents in Study 2. The processes and results of these two studies are discussed in the next two chapters.

2. Study 1

In this chapter the method and results of the first study are discussed.

2.1 Method

In this first study respondents were approached to fill out a digital questionnaire, the results of which were (in part) later on used for the construction of Study 2.

2.1.1 Respondents

The questionnaire of Study 1 was presented to possible respondents through the social network of the researchers, and blogs and fora that discuss food in general or organic food in particular. The total number of respondents was 154 of whom 113 (73%) were female and 41 (27%) male. Two respondents were deleted, because their responses indicated they had not seriously answered the question (they only referred to feces). The respondents had a mean age of 36 years old (range = 15 - 77 years old). The respondents mainly had a higher education (76%). 19% Of the respondents had a professional education and 6% a secondary education. 52% Of the respondents could live (very) comfortably with their financial situation, 38% could get by, 9% had difficulty or struggled to get by, and 1% does not know. Concerning eating habits, 81% of the respondents ate beef, 60% ate pork, 80% ate fish, 74% ate poultry, 93% ate eggs, and 88% ate dairy products.

The first question of the questionnaire aimed to divide the respondents into three groups based on their purchase behaviour: consumers who (almost) always, occasionnally and (seldom or) never purchase organic food. These consumergroups are throughout this thesis described as ‘always’, ‘occasionally’ and ‘never’. Table 1 shows the number of respondents in the two different conditions (organic food, or organic meat and vegetables) and the three consumergroups.

Table 1
Number of respondents in the three consumer groups and the two food groups

	Consumergroup						Total	
Condition	Always		Occasionally		Never			
Organic food	20	13%	33	21%	27	18%	80	52%
Organic meat and vegetables	26	17%	27	18%	21	14%	74	48%
Total	46	30%	60	39%	48	31%	154	

2.1.2 Measurements

Study 1 consisted of a questionnaire of which the questions related to associations, mental construals, and values concerning organic food, and questions about the respondents' socio-demographic information. In this section these elements are discussed in turn.

2.1.2.1 Associations with organic food

The questionnaire continued with a question to elicit the listing of associations with organic food. A potential source of bias was identified based on the prototypicality analysis by Fehr (1988). Respondents might generate different associations for the broader concept of organic food or specific product types. Therefore, half of the respondents were asked to generate their associations with the (broader) concept of 'organic food' and the other half with the specific product types ('organic meat' and 'organic vegetables'). In the latter case the two product types were counterbalanced. In the instructions it was made explicit that single word associations and short sentences (up to 6 words) were permitted. The example used was chosen for its neutrality and respondents were told "If you were asked to list what comes to mind when you think about *the Netherlands*, you might write…" (or, in Dutch: "Als u bijvoorbeeld zou worden gevraagd om te benoemen waar u aan denkt bij *Nederland*, zou u mogelijk schrijven..."). This was then followed by a list of attributes such as orange, Amsterdam is the capital, friendly people, and so on. In both cases, respondents were instructed to list as many associations with the concept as came to mind and to include even the obvious, though not to take more than about five minutes to list the associations.

2.1.2.2 Psychological distance

The measurement of the psychological distance to organic food was measured by 18 items regarding the temporal, social, spatial, hypothetical, information, and affective distance. Every subscale was measured by three items. The response scales for these items was a sevenpoint Likertscale, ranging from 'strongly disagree' to 'strongly agree'. A factor analysis using Varimax rotation showed five factors. Six items related to hypothetical situations and feelings with organic food to load on the first factor. Although a theoretical relation between these items is self-evident, since choosing for organic food and positive emotions with organic food are both subscales of psychological distance, they concern different aspects of this concept. Therefore, the two subscales were not combined to devise one factor. Subsequently, every three items for the six subscales were analysed to determine their internal consistency. The internal consistency of the respective showed to be sufficient for all subscales (temporal distance $\alpha = .76$, social $\alpha = .82$, spatial $\alpha = .81$, hypothetical $\alpha = .91$, information $\alpha = .90$, and affective distance $\alpha = .92$). Therefore the respective items were used to construct six subscales.

2.1.2.3 Values

The values were measured by 17 items regarding the human-centred, animal-centred, environment-centred, price-centred, and attractiveness-centred values. The price-centred values subscale was measured by five items, all others by three items. The response scales for these items was a sevenpoint Likertscale, ranging from 'strongly disagree' to 'strongly agree'. Factor analysis using Varimax rotation showed the items for price-centred and attractiveness-centred values to load on separate factors. The items concerning animal-centred and environment-centred values, along with two items concerning human-centred values loaded on the same factor. To not lose information due to generalisation, these subscales were kept separate. The third item concerning human-centred values did not load on any factor. Due to a low internal consistency of the three items for human-centred values, this one item was excluded. The correlation between the other two items was sufficient to form a scale, $r(152) = .59$, $p < .00$, which than became human-health-centred. The internal consistency of the other 14 items was (marginally) sufficient for the items representing animal-centred ($\alpha = .86$), environment-centred ($\alpha = .87$), attractiveness-centred ($\alpha = .58$), and price-centred values ($\alpha = .85$). These respective items were therefore used to construct four subscales.

2.1.2.4 Socio-demographics

The measurement of socio-demographic variables included gender, age, level of education, financial situation, family composition, and eating habits. The responent's financial situation was measured by a question whether the respondent could comfortably make a living. The respondent's family composition was measured using seven categories for age and the number of household members into the respective categories (0, 1, 2, or 3 or more). Furthermore, the respondents were asked to answer whether they did or did not eat beef, pork, fish, poultry, eggs, or dairy products.

2.1.3 Procedure

Study 1 consisted of a questionnaire that started out with a question what group described the respondent best in terms of purchase behaviour. The instruction was added that if one never purchases any food products, one should imagine what one would do. This resulted in the three consumergroups. The consumergroup of the respondent had no influence on the respective version of the questionnaire. The next part of the questionnaire was a question with the purpose to elicit the associations of consumers with the concept of organic food, or meat and vegetables. Moreover, the questionnaire included questions to explicate the respondents' mental construals with the concept of organic food, their values concerning organic food, and questions about their socio-demographic information. The respective parts of the questionnaire were arranged in this order to ensure respondents would freely associate without prior cues other than organic food.

2.1.4 Data-analysis

The responses for the presence of associations with each concept were screened and listed. The procedure for coding features was adapted from Rosenberg and Jones (1972). Each subject's responses were categorised by two judges (a graduate and a postgraduate student in psychology). Coding the associations included identification of monolexemic types, such as *lekker* ('tasty'). When a subject used a phrase, a judgement was necessary as to whether it referred to a single feature or could, in fact, be divided into two or more linguistic units (associations). Phrases judged as single units where those in which the association was simply preceded or followed by a modifier or modifying phrase, such as *minder bewerkt* ('less modified'). Phrases judged as more than one linguistic unit were those in which each part could stand alone as a separate association with the concept, such as *puur en zuiver*.

The coded associations were listed and compared according to the three different types of consumers to discern which associations were different between the three groups. A χ^2-test, with the consumergroups as an independent variable and the frequencies of associations (adjusted to account for the difference in sample size per consumergroup) as a dependent variable, was used to assess whether certain associations were more prevalent in a consumergroup. Likewise, the coded associations were listed and compared according to the three different types of product to discern which associations were limited to meat or to vegetables (if any). A χ^2-test, with the foodgroups as an independent variable and the frequencies of associations (adjusted to account for the difference in sample size per food group) as a dependent variable, was used to assess whether certain associations were more prevalent in a consumergroup.

Furthermore the consumer characteristics were examined to elucidate which characteristics were more prevalent in number in one (or two) of the consumer types, or limited to one group of consumers. A Pearson's χ^2-test was conducted on the respondents' gender, an ANOVA on the respondents' age, and Kruskal-Wallis H tests on the respondents' level of education and financial situation.

2.2 Results

The results of Study 1 provide insight into consumers' associations and their variations between different consumergroups and foodgroups, and consumers' psychological distance to organic food, values, and socio-demographic information. These results are discussed in turn in the following section.

2.2.1 Consumers' associations

The questionnaire resulted in a total of 1088 associations of which 22 associations were deleted from the sample. These deleted associations concerned comments, synonyms or associations unrelated to

any other. This resulted in 1066 working associations. The total number of associations per consumergroup and per foodgroup are shown in table 2.

Table 2
Number of associations in the three consumergroups and the two foodgroups

	Consumergroup						Total	
Condition	Always		Occasionally		Never			
Organic food	103	10%	165	15%	110	10%	378	35%
Organic meat	131	12%	119	11%	83	8%	333	31%
Organic vegetables	151	14%	127	12%	77	7%	355	33%
Total	385	36%	411	39%	270	25%	1066	100%

The analysis of the associations resulted in a total of 30 categories. The absolute frequencies of the associations in these categories are shown in table 3. This table also shows the number of associations in each consumergroup as well as each foodgroup. Hereby the total set of associations is separated twice according to the consumergroup of the respondent who mentions the association and the foodgroup-cue that elicited the association. The total number of associations in each respective group is therefore equal to the overall number of associations. The original Dutch name of the categories and their descriptions are shown in table 10 in Appendix A. Overall, respondents mentioned associations concerning animal welfare, price, health, pesticides and natural most often.

2.2.1.1 Assessment of variations in associations between food, meat, and vegetables

The frequencies of associations between foodgroups were analysed using a χ^2-goodness-of-fit test. The most prominent differences are discussed here, table 4 shows all significant results of this analysis. Of the associations that were overall mentioned most often the analysis showed no significant differences between foodgroups on price. Associations related to animal welfare were considerably more often mentioned when cued by organic meat than when cued by organic food or organic vegetables. In the latter case animal welfare was hardly ever mentioned. The cue organic food resulted in the highest frequency for natural-related associations. Organic meat resulted in the lowest frequency for natural-related, pesticides-related and health-related associations, while organic vegetables showed the highest frequency for pesticides-related associations.

Regarding the associations that were generally mentioned less often additives were mentioned most often when the cue was organic food. Respondents least often mentioned the environment when cued by organic meat in comparison to organic food and organic vegetables, and significantly more often

Table 3
The absolute frequencies of the associations in every category overall, per consumergroup, and per foodgroup

	Overall	Consumergroup			Foodgroup		
Category		Always	Occasionally	Never	Food	Meat	Vegetables
Animal welfare	138	49	50	39	31	104	3
Price	106	15	40	51	41	27	38
Health	101	35	43	23	43	21	37
Pesticides	77	25	33	19	28	4	45
Natural	71	36	23	12	35	10	26
Environment	60	22	28	10	27	7	26
Taste	57	27	25	5	16	18	23
Origin	51	20	13	18	15	8	28
Products	42	6	21	15	22	6	14
Medicine	39	16	16	7	8	31	0
Scepticism	31	16	3	12	2	21	8
Honest	30	12	14	4	15	6	9
Raw	27	12	12	3	11	7	9
Additives	27	8	15	4	15	10	2
Quality	22	12	9	1	5	9	8
Sustainability	20	9	7	4	5	8	7
Safety	19	9	3	7	5	3	11
Appearance	18	6	10	2	2	1	15
Nutrition	18	10	5	3	5	2	11
Lifestyle	16	7	2	7	7	6	3
Obtainability	16	7	8	3	7	3	8
Emotions	14	7	6	1	6	2	6
Shops/brands	13	5	7	1	8	1	4
Quantity	12	6	3	3	3	2	7
Presentation	10	2	5	3	2	5	3
Trend	9	1	3	5	6	0	3
Certification	8	4	2	2	2	5	1
Check-up	6	1	3	2	4	2	0
Animals	6	0	2	4	2	4	0

medicine and sceptical remarks. Respondents most often mentioned the appearance of food, nutritition and safety in relation to organic vegetables, and this cue resulted in significantly less remarks about use of medicine.

Table 4
The significant results of χ^2-goodness-of-fit test to determine whether observed frequencies of associations (per category; adjusted for sample size) differ significantly from expected frequencies between three foodgroups

	Adjusted frequencies			X^2 (2)	*p*
Assocation	Food (*N* = 80)	Meat (*N* = 74)	Vegetables (*N* = 74)		
Animal welfare	39[a]	141[a]	4[a]	165.21	< .001
Health	54	28[a]	50	8.91	.012
Pesticides	35	5[a]	61[a]	46.65	< .001
Natural	44[a]	14[a]	35	15.29	< .001
Environment	34	9[a]	35	16.69	< .001
Origin	19	11[a]	38[a]	16.97	< .001
Products	28[a]	8[a]	19	10.95	.004
Medicine	10[a]	42[a]	1[a]	52.57	< .001
Scepticism	3[a]	28[a]	11	23.29	< .001
Additives	19[a]	14	3[a]	11.17	.004
Safety	6	4	15[a]	8.24	.016
Appearance	3	1[a]	20[a]	27.25	< .001
Nutrition	6	3	15[a]	9.75	.008
Shops/brands	10[a]	1[a]	5	7.63	.022

Note: "a" denotes a significant difference in the proportion of associations from the expected proportion (33%)
Note: The frequencies of associations are adjusted to equal sample sizes (*N* = 100) by dividing the original frequency by the original sample size times 100.

2.2.1.2 Assessment of variations in associations between consumergroups

The frequencies of associations between consumergroups were analysed using a χ^2-goodness-of-fit test. The most prominent differences are discussed here, table 5 shows all significant results of this analysis. Of the associations that overall were mentioned most often the analysis showed no significant differences between consumergroups on the frequencies of associations with animal welfare and pesticides. On the other hand, consumers who always buy organic food mention natural significantly more often than the other consumergroups and price less often. Health-related associations were significantly less often mentioned by consumers who never buy organic food.

Regarding the associations that were overall mentioned less often, consumers who always buy organic food most often relate organic food to a lack of medicine use and nutrition, while they less often mention examples of products. Consumers who occasionally buy organic food significantly less often mention associations concerning lifestyle, safety and origin. Consumers, then, who never buy organic food mentioned associations concerning taste, environment, additives, as well as associations related to organic food being raw and honest significantly less often than respondents in the other consumergroups.

Table 5
The significant results of χ^2-goodness-of-fit test to determine whether observed frequencies of associations (per category; adjusted for sample size) differ significantly from expected frequencies between three consumergroups

	Adjusted frequencies			X^2 (2)	*p*
Association	Always	Occasionally	Never		
Price	32[a]	67	106[a]	40.11	< .001
Health	76	72	48[a]	7.02	.030
Natural	78[a]	38	25[a]	32.47	< .001
Environment	48	47	21[a]	12.12	.002
Taste	59[a]	42	10[a]	33.46	< .001
Origin	43	22[a]	38	7.01	.030
Products	13[a]	35	31	10.43	.005
Medicine	35[a]	10[a]	15	17.50	< .001
Scepticism	35[a]	5[a]	25	21.54	< .001
Honest	26	23	8[a]	9.79	.007
Raw	26[a]	20	6[a]	12.15	.002
Additives	17	25[a]	8[a]	8.68	.013
Quality	26[a]	15	2[a]	20.14	< .001
Safety	20	5[a]	15	8.75	.013
Appearance	13	17	4[a]	7.82	.020
Nutrition	22[a]	8	6	12.67	.002
Lifestyle	15	3[a]	15	8.73	.013
Emotions	15[a]	10	2[a]	9.56	.008
Shops/brands	11	12	2[a]	7.28	.026

Note: "a" denotes a significant difference in the proportion of associations from the expected proportion (33%)
Note: The frequencies of associations are adjusted to equal sample sizes (N = 100) by dividing the original frequency by the original sample size times 100

2.2.2 Assessment of variations in traits between consumergroups

2.2.2.1 Psychological distance

Table 6 shows descriptive statistics of the six different subscales of psychological distance. In line with what one would expect, the results show that the distance to organic food is smallest for the always consumergroup on all subscales and greatest for the never consumergroup. Overall, the results showed that all respondents perceive their spatial and temporal distance to organic food to be rather small, since the mean scores are below average with only small differences between the three groups. This indicates that organic food is quite easy to come by, while organic food is not very prevalent in the respondents' social environment.

A MANOVA was conducted on the six subscales of psychological distance with the consumergroups as independent variable. Using Wilks's lambda, there was a significant effect of the consumergroups

on psychological distance, Λ = .20, $F(12, 292) = 30.62$, $p < .001$, $\eta^2 = .58$. This significant effect shows that the three consumergroups differ on their psychological distance to the concept of organic food.

The MANOVA was followed up by six univariate ANOVAs for each of the subscales of psychological distance (table 6). The results of these analyses showed that there was a significant effect of the consumergroups on the social, hypothetical, informational, and affective distance subscales. There was no effect of the consumergroups found on the temporal and spatial distance to organic food. Bonferroni post-hoc analysis showed that the distance to organic food for the always consumergroup is smallest on the hypothetical and affective distance dimensions, and increase for the occasional and never consumergroups, respectively. The distance to organic food is greatest for the never consumergroup on the social and informational dimensions.

Table 6
Descriptive statistics and the results of the ANOVAs on the effect of the consumergroups on the subscales of psychological distance

Psychological distance subscale	M (SD) (N = 154)	M (SD) consumergroup			F (2, 151)	Sig.
		Always (N = 46)	Occasionally (N = 60)	Never (N = 48)		
Social distance	4.51 (1.41)	3.70 (1.36)[a]	4.32 (1.12)[b]	5.55 (1.16)[a,b]	28.96	<.001
Hypothetical distance	3.90 (1.80)	1.94 (.63)[a]	3.76 (1.00)[a]	5.97 (.87)[a]	257.53	<.001
Informational distance	3.48 (1.62)	2.78 (1.48)[a]	3.30 (1.28)[b]	4.37 (1.74)[a, b]	13.97	<.001
Affective distance	3.45 (1.81)	1.73 (.76)[a]	3.10 (1.05)[a]	5.52 (1.15)[a]	172.63	<.001
Spatial distance	3.06 (1.36)	2.67 (1.42)	3.08 (1.14)	3.42 (1.48)	3.68	.027
Temporal distance	2.16 (1.11)	1.87 (.88)	2.13 (1.05)	2.46 (1.31)	3.42	.035

Note: Low scores indicate a small distance and high scores a great distance to organic food on the respective subscale
Note: "a" Denotes a significant difference between the mean scores of the consumergroups on the respective subscale

2.2.2.2 Values

Table 7 shows descriptive statistics of the five different scales of values. The overall mean scores show that all consumergroups attribute great value to human health and score a little below average on the animal-centred value subscale. The mean score on the price-centred value is overall fairly low, with all consumergroups scoring below average on this subscale. The scores on environmental values were all quite low, which may be influenced by the items being compared to the price. Surprisingly, the scores on environmental-centred values were lowest for the always consumergroup and highest for the never consumergroup. The scores on the attractiveness-centred value subscale are slightly below average, which indicates that consumers do not care much about whether the product looks good if it has to be more expensive or sprayed to achieve this.

A MANOVA was conducted on the five subscales of values with the consumergroups as independent variable. Using Wilks's lambda, there was a significant effect of the consumergroups on the values, Λ = .46, $F(10, 294)$ = 13.99, p < .001, η^2 = .98. This significant effect shows that the three consumergroups differ on their values related to the concept of organic food.

The MANOVA was followed up by five univariate ANOVAs for each of the subscales of the values. The results of these analyses showed that there was a significant effect of the consumergroups on their human health-centred, animal-centred, and price-centred values (table 7). For the environment-centred and attractiveness-centred values no significant effects were found. Bonferroni post-hoc analysis showed that the respondents in the always consumergroup value their health and the living conditions of animals highest. They attribute the least value to the price of organic food. There was no difference found between the always and occasionally consumergroups on animal-centred values, but the latter group attributes less value to human health and more value to price. The never consumergroup attributes least value to human health and animals, and most to price.

Table 7
Descriptive statistics and the results of the ANOVAs on the effect of the consumergroups on the subscales of values

	M (SD)	M (SD) consumergroup			F (2, 151)	Sig.
	(*N* = 154)	Always	Occasionally	Never		
Values subscale		(N = 46)	(N = 60)	(N = 48)		
Human health	5.49 (1.27)	6.34 (.80)[a]	5.58 (.96)[a]	4.58 (1.40)[a]	31.34	< .001
Animal	3.48 (1.41)	4.30 (1.36)[a]	3.68 (1.12)[b]	2.45 (1.16)[a, b]	28.96	< .001
Price	2.80 (1.17)	1.84 (.82)[a]	2.88 (.90)[a]	3.61 (1.11)[a]	41.32	<.001
Environmental	2.16 (1.11)	1.87 (.88)	2.13 (1.05)	2.46 (1.31)	3.42	.35
Attractiveness	3.07 (1.05)	3.04 (.82)	3.04 (1.09)	3.14 (1.21)	.13	.876

Note: Low scores indicate little attributed value and high scores great attributed value to the respective subscale
Note: "a" Denotes a significant difference between the mean scores of the consumergroups on the respective subscale

2.2.2.3 Socio-demographics

This section discusses the socio-demograhic information and the differences between the consumergroups in this regard. The results of a Pearson's χ^2-test on the consumergroups and the respondents' gender showed that the percentages of men and women in the respective consumergroups are significantly different from an equal division across the consumergroups, $\chi^2(2) = 14.78$, $p = .001$. Post-hoc analysis using standardised residuals with a critical value of +/- 1.96 showed that significantly less males (than one would expect based on equal division across the consumergroups) always purchase organic food (z = -2.4) and significantly more males than expected never purchase organic food (z = 2.3). For females the standardised residual was not significant for the three groups (z = 1.4 for always, z = .0 for occasionally, and z = -1.4 for never). This indicates that the

consumergroups differ foremost on their male population. Table 8 shows the observed and expected frequencies of males and females in each consumergroup.

Table 8
Observed and expected frequencies of males and females in the consumergroups

	Total	Observed frequency			Expected frequency		
Gender		Always	Occasionally	Never	Always	Occasionally	Never
Male	41	4	16	21	12	16	13
Female	113	42	44	27	34	44	35
Total	154	46	60	48	46	60	48

The results of an ANOVA on the age of the respondents showed a significant difference between the three consumer groups (p = .02). Bonferroni post-hoc analysis showed that this difference (p = .03) can be attributed to consumers who always purchase organic food (M = 39) to be older than those who never purchase organic food (M = 32).

Kruskal-Wallis H tests were conducted to analyse whether the consumergroups differed on the level of education and financial situation. For both level of education $\chi^2(2) = .37$, $p = .83$ and financial situation $\chi^2(2) = 2.44$, $p = .30$ the tests showed no significant differences between the consumer groups.

2.2.3 Conclusion of Study 1

Overall, respondents mentioned associations concerning animal welfare, price, health, pesticides, and natural most often. The frequency of associations varied between the cues ‘food’, ‘meat’, and ‘vegetables’. Organic food was mostly associated with health, natural and animal welfare. Organic meat was by far mostly associated with animal welfare, while respondents also often mentioned medicine, scepticism, and health, although they mentioned health less often than when prompted by food or vegetables. Organic vegetables prompted pesticides, health, and origin. The frequency of associations also varied between the three consumergroups. The always consumergroup mostly stated associations related to natural, health and taste. The occasionally consumergroup mostly mentioned health (on a par with the always consumergroup), price, and environment. The never consumergroup mentioned associations concerning price most often, considerably more often than the other groups and more often than other associations. They also often mentioned health, although considerably less often than the other groups, and origin.

Furthermore, the results show that all consumergroups experience organic food in general to be available for purchase in their environment. Compared to the other consumergroups, the always consumergroup experiences organic food to be most prevalent in their social environment. They would

most often choose for organic food, they most often desire more information, and experience most positive affect. In short, the psychological distance of the always consumergroup to organic food is small. This distance is greater for the occasional consumergroup, and even greater for the never consumergroup as the distance on the respective subscales of psychological distance increases.

The results additionally show that all consumergroups greatly value their health. They value animals, price, and attractiveness somewhat less, and attribute little value to the environment. The always consumergroup greatly values their health and animal welfare, while they do not attribute much value to price. The occasionally consumergroup attributes less value to health and animals, and more to price. This is even more strongly the case for the never consumergroup. These relations are also reflected in the associations.

The consumergroups also differ on their age and gender, indicating that consumers who never purchase organic food are more likely to be young and men. There are no apparent difference between women, indicating that all women are equally likely to be or not be consumers of organic food.

Important is it here to note that some respondents found it difficult to choose a category based on purchase behaviour in which they felt comfortable. They argued that the middle group, occasional consumers of organic food, is very diverse and may include consumers with a wide variety of purchase behaviours. We made the decision to create three consumergroups based on the idea that two groups, for instance always and never, would not suffice for all those people that, for instance, try to buy organic food regularly, but cannot financially justify doing that. Creating more than three consumergroups on the other hand would result in unclarity, in analysis as well as results.

3. Study 2

3.1 Method

In Study 2 another group of respondents analysed the categories of associations obtained in Study 1 on their prototypicality. The purpose of this study was to discover which associations are considered to be central and typical to the concept and what associations to be more peripheral.

3.1.1 Respondents

Respondents of the questionnaire for Study 2 were attracted by bringing the questionnaire to the attention of the social network of the researchers. Respondents of Study 1 and Study 2 did not overlap and were comparable, although the respondents in Study 1 were somewhat higher educated. The total number of respondents was 52 of whom 26 were in the organic food condition and 26 in the organic meat and vegetables condition. 26 (50%) Respondents were female and 23 (44%) male (3 missing responses). The respondents had a mean age of 39 years old (range = 19 - 71 years old). The respondents mainly had a higher education (60%). 31% Of the respondents had a professional education and 4% a secondary education. 46% Of the respondents could live (very) comfortably with their financial situation, 39% could get by, 6% had difficulty or struggled to get by, and 4% does not know. 19% Of the respondents always eats organic food, 42% occasionally, and 33% never.

3.1.2 Measurements

Study 2 was a questionnaire consisting of questions with the purpose to elucidate the centrality of the associations with organic food, which were obtained through Study 1. The respondents were asked to rate the categories of associations on how typical they thought them to be for organic food, or meat and vegetables (in Dutch: “In hoeverre vindt u de volgende kenmerken passen bij *biologische voeding*?”). Two versions of the latter were constructed to counterbalance the order in which respondents were presented with organic meat and organic vegetables.The response scales for these items was a sevenpoint Likertscale, ranging from ‘not fitting’ to ‘very fitting’. The measurement of socio-demographic variables included gender, age, level of education, financial situation, family composition, and purchase behaviour. The responent’s financial situation was measured by a question whether the respondent could comfortably make a living. Their purchase behaviour was measured by a question whether they (nearly) always, occasionally or (nearly) never purchase organic food.

3.1.3 Procedure

Study 2 consisted of a paper questionnaire that started with the items to assess the centrality of the associations to organic food, meat, or vegetables. The association ‘medicine’ was erroneously left out

of this study, and because ‘readily obtainable’ and ‘difficult to obtain’ are two extremes of the same continuum they were measured using just the former. A low result then indicates that ‘difficult to obtain’ is deemed more central to ‘organic food’. Moreover, the questionnaire included questions about the respondents’ socio-demographic information.

3.1.4 Data-analysis

For every association the mean centrality rating was calculated per foodgroup (organic food / organic meat / organic vegetables) and over all three groups. These are compared by means of a descriptive analysis across the groups on the centrality of the associations in general and on what associations are most central and most peripheral.

3.2 Results

Table 9 shows the mean centrality ratings of the associations per foodgroup. The associations are sorted in this table along the mean centrality ratings per foodgroup. To assess which associations are most central and which should be regarded as peripheral to organic food, we follow Fehr (1988) in using the median split of the centrality ratings as the basis of the division. The median split of the centrality ratings of ‘food’ is 5.08, of ‘meat’ 5.77, and of ‘vegetables’ 5.74, meaning that all associations with a higher centrality rating on the 7-point scale are considered central[1]. The remaining halfs are considered peripheral.

The results show that associations related to the environment, health, honesty, pesticides, sustainability, quality, natural, additives, origin, certification, and taste were deemed most central to organic food over all foodgroups. Interestingly, associations were generally rated lower on the centrality scale when they concerned ‘organic food’ than associations that concerned ‘organic meat’ and ‘organic vegetables’. The main difference between the general conception ‘food’ and the more specific instances ‘meat’ and ‘vegetables’ was that the centrality ratings were much lower for food than for meat and vegetables, which resulted in a much lower median split. Consequently, lifestyle is central to food and not to meat and vegetables, even though the centrality rating was lower in the case of food. Price, on the other hand, was rated considerably more central to food than to meat and vegetables. Animal welfare was not deemed central to vegetables in line with what one would expect. Associations that were central to meat and vegetables, though not to food, were check-up and raw. Nutrition was rated central only to vegetables.

[1] Fehr (1988) hereby notes that it is important to take into account that all associations are to some extent related to the concept. Consequently, centrality ratings are expected to be somewhat higher than the midpoint of the scale. This in turn result in the median split to be higher than the midpoint of the scale.

Comparing the centrality ratings for the foodgroups with the frequency of the associations (table 9) no surprising effects were found for associations with organic food. The associations with organic food that are mentioned most often in Study 1, thus, also have high centrality ratings. Interestingly, this relation does not hold for the associations with organic meat and vegetables. As for assocations with organic meat, associations concerning the environment, sustainability, honesty and check-up had the highest centrality ratings, though they were mentioned only a few times and check-up hardly at all. Health was the only association for which the centrality rating corresponded to its frequency. For organic vegetables pesticides, origin, environment and health were mentioned most often, and their centrality ratings are quite high. The ratings are only higher for check-up, additives, sustainability and honest. Assocations concerning the latter two were, however, not mentioned often, and associations concerning the former two hardly and not at all.

3.3 Conclusion of Study 2

The associations concerning sustainability, environment, honesty and health are according to consumers generally most central to the concept of organic food. The results of this analysis into the prototypicality of the associations show that there is not much diversity in centrality ratings between different organic food as the broader concept or specific instances of meat and vegetables. Additionally, there is hardly any variation between the associations that are central to organic meat and the associations that are central to organic vegetables. Remarkably, the centrality ratings of the associations with organic meat and organic vegetables do not fully correspond to the frequency of the associations.

Table 9
Mean centrality ratings and frequencies (from Study 1) of the associations with organic food, meat and vegetables

Food			Meat			Vegetables		
Category	Mean	Freq	Category	Mean	Freq	Category	Mean	Freq
Animal welfare	6,04	31	Environment	6,42	7	Check-up	6,56	0
Environment	5,88	27	Sustainability	6,36	8	Sustainability	6,46	7
Health	5,85	43	Check-up	6,32	2	Honest	6,31	9
Price	5,85	41	Honest	6,32	6	Additives	6,27	2
Honest	5,81	15	Health	6,29	21	Pesticides	6,27	45
Pesticides	5,81	28	Certification	6,29	5	Origin	6,17	28
Sustainability	5,65	5	Quality	6,25	9	Environment	6,16	26
Quality	5,58	5	Additives	6,21	10	Health	6,15	37
Natural	5,52	35	Raw	6,17	7	Certification	6,15	1
Additives	5,50	15	Natural	6,00	10	Natural	6,12	26
Origin	5,42	15	Animal welfare	5,96	104	Raw	6,00	9
Certification	5,38	2	Origin	5,86	8	Quality	5,92	8
Lifestyle	5,27	7	Pesticides	5,83	4	Taste	5,88	23
Taste	5,23	16	Taste	5,79	18	Nutrition	5,80	11
Check-up	4,92	4	Lifestyle	5,74	6	Lifestyle	5,68	3
Nutrition	4,81	5	Safety	5,70	3	Readily obtainable	5,60	8
Presentation	4,81	2	Nutrition	5,70	2	Price	5,44	38
Emotions	4,69	6	Price	5,54	27	Safety	5,44	11
Products	4,65	22	Readily obtainable	5,27	3	Shops/brands	5,35	4
Raw	4,62	11	Shops/brands	5,12	1	Animal welfare	5,20	3
Shops/brands	4,50	8	Scepticism	5,00	21	Presentation	5,04	3
Safety	4,50	5	Animals	4,87	4	Products	4,92	14
Quantity	4,38	3	Presentation	4,87	5	Appearance	4,72	15
Appearance	4,35	2	Emotions	4,86	2	Scepticism	4,68	8
Trend	4,23	6	Products	4,82	5	Emotions	4,58	6
Scepticism	4,15	2	Quantity	4,70	2	Quantity	4,44	7
Readily obtainable	4,15	7	Appearance	4,59	1	Trend	3,72	3
Animals	3,77	2	Trend	4,23	0	Animals	3,63	0

4. Discussion

Research into consumers of organic food has largely focused on consumers' motivations to purchase organic food. However, little is known about their associations with organic food, while this is essential to be able to properly respond to the growth of the organic food market. The identification of associations and an understanding of the differences between consumers is essential to properly adapt policy making and advertising to consumers' perceptions of organic food. Comprehension of the associations is important in order to understand consumers' conceptualisations of organic food, regardless of whether it is a reason to purchase the product. How these conceptualisations differ between consumers with different purchase behaviours of organic food leads to an increased understanding of the differences in perception of organic food. Furthermore, to increase this understanding it is important to compare the perceptions of organic food between consumers with different purchase behaviours.

The current research therefore aimed to investigate what associations consumers with different purchase behaviours have with organic food. Specifically, we investigated consumers' associations with organic food as well as organic meat and vegetables, in order to compare more abstract and concrete instances of the concept. We also examined differences in associations with organic food between consumers with different purchase behaviours of organic food to increase understanding of the differences in perceptions of organic food. Furthermore, we examined differences in characteristics between the consumergroups in order to increase understanding of the consumers who do or do not (often) purchase organic food.

4.1 Consumers' associations

We carried out a prototype analysis using convenience samples in two studies to investigate what associations consumers have with organic food and what associations are most central. We also explored consumers' psychological distance to organic food, their human-centred, animal-centred and environment-centred values, and their socio-demographic features. Overall, the results showed consumers associate organic food mostly with animal welfare, price, health, pesticides, and naturalness. Associations related to environment, health, honesty, pesticides, and sustainability were deemed most central. This perception of organic food is also apparent in the motivations of consumers to purchase organic food. Recall from the introduction that central to consumers' motivations are aspects related to health, such as wellbeing, safety and nutrition, and concern for animal welfare (see e.g. Harper & Makatouni, 2002; Hughner et al., 2007; Zanoli & Naspetti, 2002). More peripheral motivations include concern for the environment, superior taste, a lack of confidence in the non-organic food industry, support of the local economy, its fashionable character, and the lack of genetic modification and food additives. Consumers' motivations show similarities with the associations in

this regard. Interestingly, while health is a very prevalent association and safety and nutrition are quite prevalent, wellbeing was not mentioned at all as an association with organic food. These discrepancies might exist because these motivations are not directly associated with organic food itself, but are more concerned with a certain lifestyle in which people are conscious consumers of food.

Unlike the research into motivations, consumers in the current research hardly ever mentioned associations regarding a lack of confidence in the non-organic food industry or organic food to be local. Scepticism was addressed mainly towards organic meat. They did not mention at all that organic food supports the local economy. These motivations may not be associated with organic food as such, but instead concern the overall practice of organic food production.

Furthermore, barriers to not purchase organic food that appear from the research into consumers' motivations are the costs and lack of availability of organic foods. While price is indeed a prevalent association with regard to the number of times it was mentioned, it was perceived as a peripheral association with organic meat and vegetables. Consumers also did not greatly value price, though always consumers thought it to be of value even less than never consumers. The relation, therefore, between the costs of organic food and its purchase might be more complex and dependent on additional factors. The lack of availability of organic food appears to be a motivation of consumers not to purchase it. Consumers would have to go to great lenghts to make the purchase and it is understandable that consumers would not want to make such an effort. However, it is appears from the associations as well as the spatial distance that organic food is quite prevalent in the physical environment.

Among the more peripheral motivations is also concern for the environment. Interestingly, environmental concern scored high on the mean centrality ratings. Regarding values, however, scores on environmental values were all low, possibly because the statements used to assess environment-centred values were posed in comparison to the price. What was most surprising was that the scores of the always consumergroup was lowest and the never consumergroup highest. This difference showed not to be significant in this study, but we might still explore the idea that consumers with different purchase behaviour have different takes on environmental concern. The difference might be explained by the possibly greater negative influence of organic meat production on the environment than 'regular' meat production, which was addressed by several respondents. Consumers who always purchase organic food may value the animal-centred values more highly than environment-centred values, while this difference does not exist in consumers who never purchase organic food. Both animal-centred and environment-centred values were measured by comparing them to the price. A different comparison, for instance to each other or a different value such as one's health, might have resulted in higher or lower scores for these values.

4.2 Differences between foodgroups

The results showed an interesting difference between different foodgroups. Consumers do not particularly associate meat with healthiness and the environment, and, instead, are more sceptical about meat than vegetables. The reason for this might be that consumers do not find organic meat more healthy or environment-friendly. Instead, their associations might be mainly focused on the animal, which also shows in the prominance of animal welfare. Vegetables, on the other hand, are more associated with appearance, nutrition, and safety, which indicates that consumers are mostly concerned with their own health in relation to vegetables.

Interestingly, the frequency of the associations with organic food corresponds with the centrality ratings in the case of organic food, but there is inconsistency in the cases of organic meat and organic vegetables. The associations that were mentioned most often in the first study in relation to organic meat or vegetables do not fully correspond with the centrality ratings for the respective assocations. A possible reason for this discrepancy may be that the association is such an obvious aspect of or inherent to organic food that it simply does not come to one's mind. Furthermore, respondents possibly noted associations that they may not have found directly related to the specific food type, but which they nonetheless wrote down because they found it at least related to the general topic of the study.

Then, to make sense of organic food and how more and less specific instances relate to each other by incorporating the information gathered we return to the Construal Level Theory. Following CLT we would predict that 'organic food' should bring to mind more abstract and distant entities than 'organic meat' and 'organic vegetables'. Such a distinct difference was not found in this research as the associations were considerably analogue. However, there was distinct dissimilarity in the general centrality ratings. These ratings were overall considerably lower for associations with organic food than meat and vegetables. Organic food as a general concept thus possibly brought to mind more abstract associations that were deemed more distant. This would in turn result in a low centrality rating, since these associations are then not necessarily perceived to be very central and prototypical for the concept.

4.3 Differences between consumergroups

We looked deeper into the abstractness of the conceptualisations of organic food by different consumers by measuring their psychological distance to organic food. The results of this inquiry showed that this distance is smallest for consumers who always purchase organic food and greatest for consumers who never purchase organic food. The relatively low scores on novelty and proximity indicate that the concept has permeated into the immediate physical environment of all consumers.

There is, however, a difference between the consumers in the presence of organic food in the social environment, indicating that people might be influenced by their friends and family to purchase organic food, or that they themselves influence their social environment. The presence of organic food in the social environment might also influence consumers by creating a positive association, precisely because consumers are more often exposed to the concept, the concept becoming a more customary notion in the mind of the consumer.

Always consumers seem to regard organic food as natural, with a pleasant taste, and of high quality. They find it important that in the production of organic food (or meat) less medicine is used and that the food is more nutritious. The price is for them less relevant. This relation is also apparent in the assessment of their values. They seem to attribute little value to price, which indicates that they are inclined to pay a higher price for what they find important. As they attribute great value to human health and animal welfare, it appears that they associate naturalness, tastiness, high quality, nutritiousness, and little medicine use to human health and animal welfare. Overall, always and occasional consumers have a similar stance towards organic food, though always consumers express this stance and the accompanying associations more strongly. The choice of occasional consumers whether to purchase organic food might be more context dependent, and influenced by the importance of certain values in certain contexts. They, for instance, might find their health important and see organic food as healthier, but still choose to purchase non-organic food, because the increase in healthiness is not enough to warrant spending more money. Never consumers have less positive associations with the concept. In line with the occasional consumers, they associate rawness and a lack of additives quite strongly to organic food, which indicates that they relate organic food to health. They, however, attribute the least value of all consumergroups to health. They do associate organic food strongly with a high price and they attribute more value to price than the other consumergroups. This, together with the lack of positive associations and a great psychological distance, shows good reasons why these consumers never purchase organic food.

The results of the assessment of the socio-demographic characteristics of consumers show that there is no difference in education and financial situation between the consumers, but these results might be distorted due to skewness in the data. The consumergroups do, however, differ on their age and gender, indicating that older people are more likely to be consumers of organic food and men are not. Since financial situation did not appear to influence consumer behaviour, the aforementioned difference might be due to a different prioritisation in how to spend money between different agegroups. Moreover, it might be that men less often do grocery shopping for the household than women and are therefore less concerned with or less informed about their food options.

According to CLT, the always consumergroup's small psychological distance to organic food results in a lower mental construal of organic food. The concept is therefore more concrete in the mind and

more prone to incorporate incidental aspects, while this is the other way around for consumers who never purchase organic food. The mental construal of organic food for occasional consumers appears to be somewhere in the middle between always and never consumers. Overall, always consumers seem to have a more positive attitude towards the concept and seem to be less concerned about negative aspects. For occasional consumers these attitudes and concerns are less prominent, but for the consumers who never purchase organic food the relation appears to be the other way around. These differences have certain implications for both the presentation (in a broad sense) of organic food and the dealing with different types of consumers. Preferences in consumer decision making often reflect movements on a psychological-distance dimension (Fiedler, 2007). This distance alters the mental representation of inputs and weight given to high-level and low-level criteria (Lynch Jr & Zauberman, 2007). For the consumer, this means that in the decision making process where one has the choice between two options, the attractiveness of both options depends on distance to them. It is here that desirability and feasibility come into play. If the one option is superior in desirability attributes, whereas the other option is superior in terms of feasibility, it is the first option that should be preferred from a large distance according to CLT. The preference for the other increases as the distance decreases (Fiedler, 2007; Trope, Liberman, & Wakslak, 2007). This implies for purchase intentions, as for the temporal dimension, that feasibility-related information has greater influence for the near future, whereas desirability information should more strongly increase purchase intentions for the distant future. The results of this study in light of CLT therefore imply that consumers with different purchase behaviours concerning organic food construe the concept of organic food differently. Policy makers or advertising agencies, for instance, therefore have to approach these consumers differently to influence purchase behaviour. Policy makers for organic consumption are more in need to address consumers who do not buy organic food and should therefore focus more on desirability aspects, thereby addressing the higher level, abstract mental construal of organic food. Advertising agencies, on the other hand, would need to focus more on the feasibility aspects.

4.4 Limitations and further research

Nevertheless, due to the limited scope of this research, differences between consumergroups on the centrality ratings of the associations were not explored in the second study. To be able to sketch an even more in-depth framework of consumers' associations with organic food future research should focus on differences between centrality ratings of associations among consumergroups. Related to this point is another remark, which is that this study shows that health, the use of pesticides and additives, quality and quality check-up, and certification are important aspects related to organic food, and consumers differ on their perception of these aspects. These aspects all have a strong relation to risk and its perception. Further research into this relationship and its relationship with different consumers can shed more light on differences in risk perception between consumers, possibly further explaining

their different purchase behaviours. This in turn can add to the understanding of consumers that do (not) purchase organic food and their reasons to do so.

Furthermore, Trope, Liberman, and Wakslak (2007) discuss the relation between idealistic values and pragmatic concerns in light of CLT. They hereby juxtapose these values and concerns, and conclude that idealistic values appear to be more considered when one has a distal perspective of the purchase, whereas one considers pragmatic concerns from a more proximate perspective. Along the lines of this interesting relation one could say that consumers who always purchase organic food and have a more proximal perspective on organic food experience more pragmatic concerns, instead of idealistic values. This relation should be explored further to determine the extend of the pragmatic perspective of consumers who always purchase organic food, as it seems at first sight to be more idealistic than pragmatic. The relation between idealistic values and pragmatic concerns and their conceptualisations seem, according to CLT, not as straightforward as one would initially think.

Nonetheless, in this research project, we established a framework of the conceptualisations of organic food by consumers with different purchase behaviours. We must be cautious to extend the results beyond the boundaries of this study since the results are based on a convenience sample. Further research using a more generalisable sample is therefore necessary. But the research does show that to understand consumer behaviour regarding organic food we must look at more involved elements than only motivations. The insights established in this framework are therefore valuable and crucial to understanding how consumers comprehend organic food.

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Appendix A

Table 10
Descriptions of the categories of associations

Category		Description
Dutch	English	
Bestrijdingsmiddelen	Pesticides	References to a lack or less of use of pesticides in the production process, and the use of natural sprays.
Controle	Check-up	References to check-ups, verification difficulties, quality control, legislation and demands.
Dieren	Animals	References to specific types of animals.
Dierenwelzijn	Animal welfare	References to good treatment of animals.
Duurzaamheid[2]	Sustainability	References to sustainability, agricultural cycle, and less future risks.
Eerlijk	Honest	References to responsibility, fairness, ethics, conscientiousness, and honesty.
Emoties	Emotions	References to positive emotions, like happiness, friendliness, positive feelings, good, and production with love.
Geneesmiddelen	Medicine	References to the lack or less use of antibiotics, medicine or hormones.
Gezondheid[3]	Health	References to organic food being healthy or healthier in general, for humans, themselves, everything and everyone.
Goed te verkrijgen	Readily obtainable	Refers to variation in the offer of organic food and the ease with which it can be obtained.
Keurmerk[4]	Certification	Refers to specific forms of certification or presentation of certification.
Kwaliteit[5]	Quality	Refers to quality of food, organic food being better in general, better preserving, more fresh, and one gets more for the money.
Kwantiteit	Quantity	Refers to the quantity of food being consumed, mostly less meat and more vegetables. Also the smaller size of the production establishments, more loss of harvest and smaller profit.
Lifestyle	Lifestyle	References to the normality of eating organic food and the type of people that eat organic food.
Milieu[6]	Environment	References to organic food being better for the environment, the earth, and animals. It also includes healthy soil and attention to nature.

[2] One association refers to organic produce being not always sustainable.
[3] One association refers to organic produce not being healthier than non-organic food.
[4] One association refers to fake certificates.
[5] Two associations refer to organic produce being more likely to spoil.
[6] One association refers to organic meat putting a greater demand on the environment.

Category		Description
Dutch	English	
Moeilijk te verkrijgen	Difficult to obtain	References to small assortment in shops, takes more effort to buy organic food, less shops that offer organic food, exclusiveness and seasonal selection.
Natuurlijk	Natural	References to natural, pure, clean, green, fresh and real.
Onbewerkt	Raw	References to unprocessed food, not manipulated and not modified.
Oorsprong	Origin	References to farms or gardens, agricultural references, soil, place of production, and cultivation in line with natural processes.
Presentatie van product	(Product) presentation	Reference to packaging, marketing and presentation in the media.
Prijs[7]	Price	References to organic food being expensive or more expensive than 'regular' food.
Producten	Products	References to specific types of organic meat, vegetables, etcetera.
Sceptisch	Scepticism	References to doubts whether organic food is better or healthier, questions whether it is really different or trustworthy, or negative aspects to organic food.
Smaak	Taste	References to organic food being tasty or tastier, having more flavour and being more enjoyable.
Toevoegingen	Additions	References to less or no chemical or artificial additives, added e-numbers, artificial flavouring, and no added sugar.
Trend	Trend	References to popularity, organic food being hot and trending.
Uiterlijk	Appearance	References to organic food being more colourful, but also with weird, imperfect shapes.
Veiligheid	Safety	References to organic food being safer, not or less full of poisonous substances.
Voedzaamheid	Nutrition	References to organic food being (more) nutritious, containing more vitamins, minerals and other nutrients.
Winkels/merken	Shops/brands	References to specific brands that focus on organic foods, and (web)shops or places.

[7] One association refers to organic food being affordable.